NISSHINBO

Electronic Devices
Product Catalog

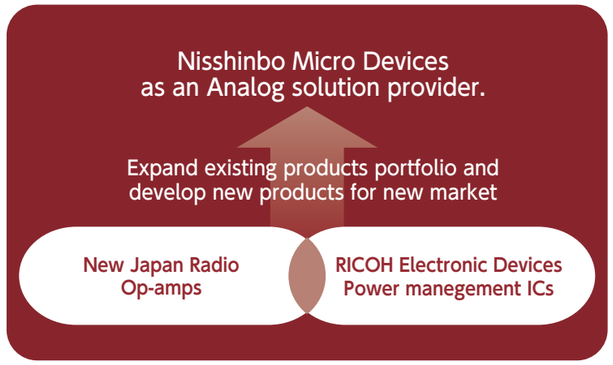
2024

Nisshinbo Micro Devices Inc.

Company Profile

About Nisshinbo Micro Devices Inc.

Nisshinbo Micro Devices Inc. is the result of the integration of former New Japan Radio Co., Ltd. and former RICOH Electronic Devices Co., Ltd. Both companies, having contributed to expanding the Nisshinbo Group's microdevices business so far, will further grow as an "Analog Solution Provider" for growing markets by strengthening our structure and achieving synergies through business integration.
Nisshinbo Micro Devices will provide analog solutions through electronic devices and microwave products based on the strength of analog technology in accordance with the Nisshinbo Group's corporate philosophy of "Change and Challenge! For the creation of the future of Earth and People". We will contribute to developing connected society, and aim to be a company with value and presence that is expected by customers around the world.



Supporting the development of the automotive industry with reliable automotive ICs

The automotive industry is currently going through a period of extraordinary transformation thanks to the developing of electric vehicles, the demonstration of practical applications for autonomous driving, and the appearance of new mobility services. Nisshinbo Micro Devices provides fine services that satisfy customer's needs based on the experiences and results of two former companies which have contributed to the development of car electronics for long years.
Furthermore, we contribute to the changes of automotive industry by two core competences as Signal Processing and Energy Management that correspond to progressive requirements of automotive sensors and V2X.

Contributing to the evolution of industrial equipment with analog technology to satisfy needs

In industrial equipment, the introduction of centralized controls is accelerated with new technologies such as automation and IoT technology. Nisshinbo Micro Devices contributes to the evolution of industrial equipment through providing solution proposals taking full advantage of synergy through business integration, high reliability supporting long term operation, and our product longevity program.

Providing new technologies that corresponds to more diverse needs in consumer equipment.

Consumer devices are diversifying and most of them include sensors and communication functions. Nisshinbo Micro Devices contributes to the improvement of convenience for customers and end users by providing new technologies and/or products not only for conventional home appliances but also for healthcare and IoT devices.

About Nisshinbo Micro Devices Inc.

Nisshinbo Micro Devices Inc. is the result of an integration former new Japan Radio Co., Ltd. and former RICOH Electronic Devices Co., Ltd.
New Japan Radio Co., Ltd. As famous as Op-amp supplier and RICOH Electronic Devices as known as Power Management IC supplier integrated. We further grow as an "Analog Solution Provider".

At a Glance: Nisshinbo Micro Devices Inc.
https://www.nisshinbo-microdevices.co.jp/en/about/hayawakari/

Contents

Product Longevity Program

For lifecycle-focused applications [PRODUCT LONGEVITY PROGRAM]

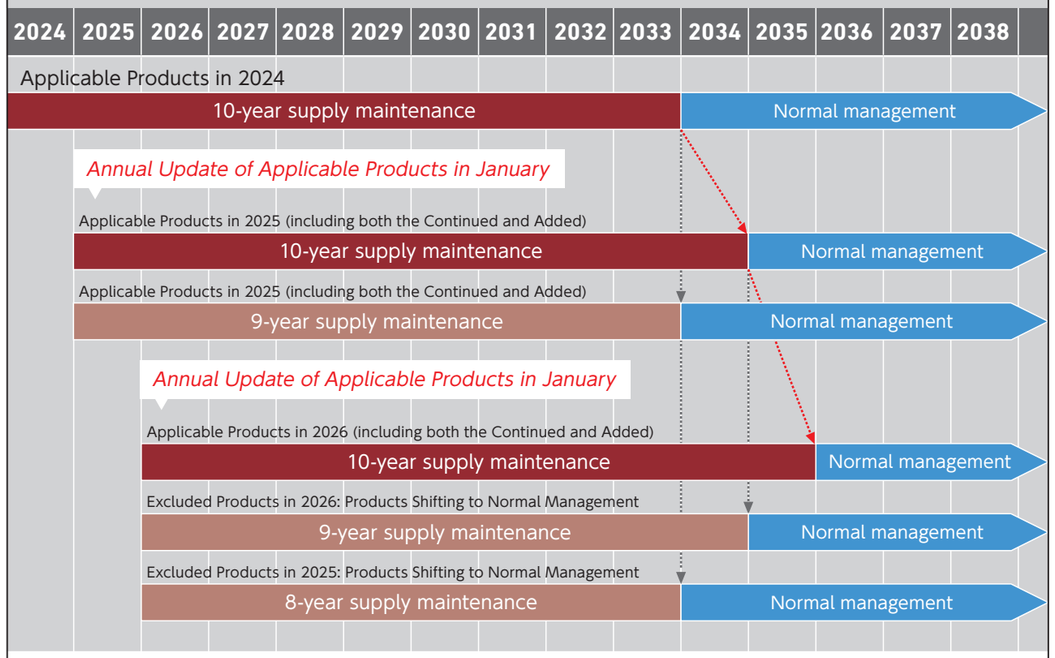
For long life applications, sudden production end of parts can have a critical impact on the continuity of equipment's production. It also brings costly steps such as investigation/procurement of alternative parts and redesign of the board due to parts change. We are operating PLP (Product Longevity Program) to minimize the risk of customers. PLP maintains the products supply for at least 10 years. Customers receive one year advanced notice when PLP product finally becomes EOL after 10 years. PLP prodcut list is updated in January every year by checking each condition of related product line and material supply. By using products under PLP, customers can make a long-term production plan.

PRODUCT LONGEVITY PROGRAM

Overview

1. Applicable Products : We announce the Product List for the Program on this page of our website.
   The heart mark ♡ shows applicable products.
2. Supply Period : We maintain supply of the Applicable Products for ten years from January, 2024.
3. Update : We update the Product List in January every year.
4. EOL : We provide you one year or more advanced notice when Applicable Products become EOL.

Figure of Product longevity Program



New Products Line-up

Part No.	Main Function	Page
Operational Amplifiers & Comparators		
NL6012	Low power, Zero-Drift, High EMC Performance Rail-to-Rail I/O, Operational Amplifier	7,11,16,20,26
NL8802	High Quality Sound Dual Operational Amplifier	12,14,17,30
NJU77210	Ultra Low Power, Excellent EMI Immunity, Rail-to-Rail Input, CMOS Comparator	37
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NA2100	Voltage to Frequency Converter	38
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NA2202	Analog Front End with High Precision 16-Bit A-D Converter	38
NA2203	Analog Front End with High Precision 20-Bit A-D Converter	38
NA2204	Analog Front End with High Precision 24-Bit A-D Converter	38
Power Management ICs		
NR1620	150mA 0.4V Output & Ultra-Low Supply Current Voltage Regulator	41
NR1641	1A Equipped with Low Power Mode Ultra-Low Noise Low Dropout Voltage Regulator	43
NR1700	42V Input Externally Adjustable 200mA Voltage Regulator	48
NP4271	LDO + WDT +RESET, CLK Timeout	49
NJW4250	45V IOUT = 50mA Voltage Tracker	50
NC2700MA	28V Synchronous Buck 20A Switching Regulator with Built-in Inductor/MOSFET	56
NC2701MA	28V Synchronous Buck 10A Switching Regulator with Built-in Inductor/MOSFET	56
NC2702MA	28V Synchronous Buck 6A Switching Regulator with Built-in Inductor/MOSFET	56
NC2780	Synchronous 34V Input Buck Switching Regulator (Controller)	58
NJW1871A	MOSFET Drive Switching Regulator IC for Boost / Fly-Back Converter	63
NJW4760	12ch. Combination Regulator with LDO	67
NV3600	CMOS Output, Voltage Detector with High Withstand of SENSE Pin	74
NV3601	CMOS Output, Window Voltage Detector with High Withstand of SENSE Pin	74
NB7142	1-Cell Li-ion Battery Protection IC with High-accuracy Overcurrent Detection	77
NB7143	1-Cell Li-ion Battery Protection IC with High-accuracy Overcurrent Detection	77
R5668	1-Cell Li-ion Battery Protection IC with Temperature Protection	78
R5460N5	2-Cell Li-ion Battery Protection IC	78
Audio & Video ICs		
MUSES8920A	High-Quality Sound, J-FET Input Dual Operational Amplifier	81
NL8802	High Quality Sound Dual Operational Amplifier	81
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NSNJ2023	769.5 MHz / 860.5 MHz band Dual SAW Filter	96
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NM2101	Acoustic Sensor (Ultrasonic sensors for environmentally resistant industrial applications)	98

What is myNISD?

What is myNISD ?

https://www.nisshinbo-microdevices.co.jp/en/mynisd/benefit.html

"myNISD" provides electronic component users with a variety of information and services, including technical documents and exclusive tools. It is available free of charge with only account registration.

Welcome to myNISD

Download SPICE Models to streamline your circuit design

Nisshinbo Micro Device offers free use of Macromodel for easy circuit design. Before using this service, please agree with the terms of use listed below. Tools covered by this service are OrCAD Capture® and OrCAD PSpice®.

Prime Designer

"Prime Designer" is a free online design tool for search, design of external components' value, and simulations of DC/DC switching regulators.

Based on spcifications of customers' applications, it can search for appropriate ICs and automatically design recommended components' values.

In addition, by registering with myNISD, you can perform transient analysis such as load transient response, and simulations such as AC analysis, which will contribute to reducing customers' design time.

Download Members-only Contents

Design Tips for Engineers:

This page provides some useful hints and examples of circuits to help circuit designers when they are in trouble.

Product Features Quick Reference Sheet:

You can download materials organized by category that show product functions, features, and how to solve problems in accordance with products' concept at a glance.

Calculation Support Tools

These useful tools not only provide simple calculations such as resistance divider, composite resistance, and power unit conversion, but also simplify complicated calculations such as the maximum inductor current of a DC/DC switching regulator.

Nisshinbo Micro Devices Inc.

Nisshinbo Micro Devices Website

OFFICIAL SNS

Follow us!

E-mail Newstetter Subscribe Request

You will receive new product release, seminar/event information and technology tips from Nisshinbo Micro Devices Inc.

Website Featured Contents

Nisshinbo Micro Devices provides a clue as to the technical solution for customer's needs.

Packge List

Package Information incl. dimensions and recommended land pattern.

Application Manuals

Characteristics, glossary, application blocks by product category

FAQ

Technical Information on our products

[Example]Trouble Shooting

The circuit itself seems to be OK, but something is wrong with it!

Thermal Design Support

You can analyze thermal characteristics at concept design stage

Prime Designer

Online design tool of DC/DC switching regulators

Electromagnetic Noise: Problems and Perspectives

Countermeasures on noise from EMS perspective

Power Management IC Basics

What are PMICs? How to they work? An easy to understand basic course.

Blog+

"Blog+" provides useful inforamtion, such as basic knowledge and troubleshooting.

Operational Amplifiers & Comparators

U.D. : Under Development　NEW : New product　♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡ XXXX : Products available in PRODUCT LONGEVITY PROGRAM with time limit
In/Out : Rail to Rail Input/Output Amplifier　Out : Rail to Rail Output Amplifier　Zero Drift : Zero-Drift Operational Amplifier

Rail to Rail

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V] min.	Supply Voltage [V] max.	Icc/ch. [mA] typ.	VIO [mV] max.	IB [nA] typ.	IIO [nA] typ.	SR [V/μsec] typ.	GBW [MHz] typ.	fT [MHz] typ.	Noise typ. VNI [μVrms]	Noise typ. en [nV/√Hz]	Operating Tempera-ture [°C] min.	Operating Tempera-ture [°C] max.	Package Outline	Notes
U.D. NL6002	—	2	Single	1.6	5.5	0.015	0.15	0.001	0.001	0.04	0.12	—	—	65	-40	125	EMP-8-AN, DFN3030-8-GF	In/Out
U.D. NL6010	—	1	Single	2.1	5.5	0.017	0.01	0.03	0.06	0.11	0.26	—	—	60	-40	125	SOT-23-5-DC	In/Out Zero Drift
U.D. NL6011	—	1	Single	2.1	5.5	0.017	0.01	0.03	0.06	0.11	0.26	—	—	60	-40	125	SC-88A-DB	In/Out Zero Drift
NEW NL6012 ♡	—	2	Single	2.1	5.5	0.015	0.01	0.03	0.06	0.11	0.26	—	—	60	-40	125	VSP-8-AF	In/Out Zero Drift
NJM2100	—	2	Dual	± 1	± 3.5	1.75	6	100	—	4	12	—	0.6	—	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SOP8	Out
NJM2115	—	2	Dual	± 1	± 7	1.75	6	100	—	4	12	—	0.5	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8)	Out
NJM2140	—	2	Dual	± 1	± 7	1.75	6	100	10	4	12	12	—	—	-40	85	MSOP8(TVSP8), MSOP8(VSP8)	Out
NJM2716	—	1	Single	2.7	12	4.2	10	1000	200	40	30	30	—	—	-40	85	SOT-23-5	Out
NJM2717	—	2	Single	2.7	12	4	11	2000	200	40	20	20	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8)	Out
NJM2719	—	2	Dual	± 2.25	± 5	7	9	2900	200	60	90	100	—	2.5	-40	85	SSOP8, MSOP8(TVSP8)	Out
NJM2730 ♡	✓	1	Single	1.8	5	0.32	5	50	5	0.4	1	—	—	10	-40	85	SOT-23-5	In/Out
NJM2732 ♡	✓	2	Single	1.8	6	0.29	5	50	5	0.4	1	1	—	10	-40	85	DIP8, DMP8, SOP8 JEDEC150mil(EMP8), SSOP8, MSOP8(TVSP8)♡, PCSP20-CC	In/Out
NJM2734 ♡	—	4	Single	1.8	6	0.3	5	50	5	0.4	1	1	—	10	-40	85	DMP14, SSOP14♡, PCSP20-CC	In/Out
NJM2737	—	2	Single	1.8	6	0.6	5	200	5	0.7	3.1	—	—	5	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8)	In/Out
NJM2740	—	2	Dual	± 1.1	± 3.5	1.75	6	100	5	4	12	—	—	—	-40	125	DMP8, SSOP8, MSOP8(TVSP8)	Out
NJM2741	✓	1	Single	2.5	14	2.2	6	100	5	3.5	10	10	—	10	-40	85	SC-88A, SOT-23-5	Out
NJM2746 ♡	✓	2	Single	2.5	14	2	6	100	5	3.5	10	10	—	10	-40	85	DMP8,SOP8 JEDEC 150mil(EMP8), DFN8-U1(ESON8-U1), SSOP8, MSOP8(TVSP8)♡	Out
NJM2747	✓	4	Single	2.5	14	2	6	100	5	3.5	10	10	—	10	-40	85	DMP14, PCSP20-CC, SSOP14	Out
NJM8202 ♡	✓	2	Single	2.5	14	2	6	100	5	3.5	10	10	—	10	-40	85	DMP8♡, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJM8204 ♡	✓	4	Single	2.5	14	2	6	100	5	3.5	10	—	—	10	-40	125	SSOP14	Out
NJM8207 ♡	✓	2	Single	4	35	0.7	0.45	120	5	0.15	0.3	0.3	—	—	-40	125	DMP8	Out
NJM8208 ♡	✓	2	Single	3	35	0.45	0.8	55	5	0.2	0.35	0.35	—	—	-40	125	DMP8♡, MSOP8(VSP8)	Out
NJM8212 ♡	✓	2	Single	2.5	14	3	6	900	30	3.5	6	—	—	18	-40	125	DMP8	Out
NJM8524	—	4	Single	3	36	0.025	1.8	3	0.5	0.04	0.1	0.1	—	60	-40	85	SSOP14	Out
NJM8530 ♡	✓	1	Single	1.8	14	0.32	4	50	5	0.4	1	1	—	10	-40	125	SOT-23-5	In/Out
NJM8532 ♡	✓	2	Single	1.8	14	0.29	4	50	5	0.4	1	1	—	10	-40	125	DMP8, SSOP8, MSOP8(TVSP8)♡, MSOP8(VSP8)♡	In/Out
NJM8534	—	4	Single	1.8	14	0.3	4	50	5	0.4	1	1	—	10	-40	125	SSOP14	In/Out
NJM8830 ♡	—	2	Dual	± 2	± 5.25	3.25	2	150	10	30	90	60	0.34	2.5	-40	125	HSOP-M1, DFN8-W1(ESON8-W1)♡	Out
NJU7001	—	1	Single	1	16	0.015	10	0.001	0.001	0.05	—	0.1	—	—	-20	75	DIP8, DMP8, SSOP8	Out
NJU7002	—	2	Single	1	16	0.015	10	0.001	0.001	0.05	0.1	0.1	—	—	-20	75	DIP8, DMP8	Out
NJU7004	—	4	Single	1	16	0.015	10	0.001	0.001	0.05	0.1	0.1	—	—	-20	75	DMP14, SSOP14	Out
NJU7006	—	1	Single	1.8	3.6	0.003	2	0.001	0.001	0.04	0.095	0.095	—	—	-40	85	SOT-23-5	Out
NJU7007	—	1	Single	1	5.5	0.015	4	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	SC-88A	Out
NJU7008	—	1	Single	1	5.5	0.2	4	0.001	0.001	2.4	1	1	—	—	-40	85	SC-88A	Out
NJU7009	—	1	Single	2.2	5.5	0.45	5	0.001	0.001	1	3	3	1.7	13	-40	85	SC-88A	Out
NJU7011	—	1	Single	1	5.5	0.015	10	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	SOT-23-5	Out
NJU7012	—	1	Single	1	5.5	0.08	10	0.001	0.001	1	1	1	—	—	-40	85	SOT-23-5	Out
NJU7013	—	1	Single	1	5.5	0.2	10	0.001	0.001	2.4	1	1	—	—	-40	85	SOT-23-5	Out
NJU7014	—	2	Single	1	5.5	0.015	10	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7015	—	2	Single	1	5.5	0.08	10	0.001	0.001	1	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7016	—	2	Single	1	5.5	0.2	10	0.001	0.001	2.4	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7017	—	1	Single	1	5.5	0.75	10	0.001	0.001	3.7	1	1	—	—	-40	85	SOT-23-5	Out
NJU7018	—	2	Single	1	5.5	0.75	10	0.001	0.001	3.7	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7019	—	2	Single	1	5.5	0.02	10	0.001	0.001	0.25	0.4	0.4	—	—	-40	85	MSOP8(VSP8)	Out
NJU7021	—	1	Single	3	16	0.15	10	0.001	0.001	0.4	0.4	0.4	—	27	-20	75	DMP8, SSOP8	Out
NJU7022	—	2	Single	3	16	0.15	10	0.001	0.001	0.4	0.4	0.4	—	27	-20	75	DIP8, DMP8	Out
NJU7024	—	4	Single	3	16	0.15	10	0.001	0.001	0.4	0.4	0.4	—	27	-20	75	DMP14, SSOP14	Out
NJU7026 ♡ 2031	—	1	Single	1.8	5.5	0.013	4	0.001	0.001	0.05	0.16	0.16	—	50	-40	125	SC-88A	Out
NJU7026 ♡																	SOT-23-5	
NJU7027 ♡	—	2	Single	1.8	5.5	0.013	4	0.001	0.001	0.05	0.16	0.16	—	50	-40	125	DFN8-U1(ESON8-U1), MSOP8(TVSP8)	Out
NJU7028 ♡	—	4	Single	1.8	5.5	0.012	4	0.001	0.001	0.05	0.16	0.16	—	50	-40	125	SSOP14	Out
NJU7029	—	2	Single	2.2	5.5	0.425	5	0.001	0.001	1	3	3	1.7	13	-40	85	DFN8-U1(ESON8-U1), SSOP8, MSOP8(TVSP8)	Out
NJU7031	—	1	Single	3	16	1	10	0.001	0.001	3.5	1.5	1.5	—	20	-40	85	DIP8, DMP8, SSOP8	Out
NJU7032	—	2	Single	3	16	1	10	0.001	0.001	3.5	1.5	1.5	—	20	-40	85	DIP8, DMP8	Out
NJU7034	—	4	Single	3	16	1	10	0.001	0.001	3.5	1.5	1.5	—	20	-40	85	DMP14, SSOP14	Out
NJU7036	—	2	Single	2.7	5.5	1.75	10	0.001	0.001	0.7	0.4	0.4	—	60	-40	85	PCSP20-E3	Out
NJU7040	—	1	Single	2.2	5.5	0.45	10	0.001	0.001	0.85	0.8	0.8	—	40	-40	85	SOT-23-5	In/Out

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Operational Amplifiers & Comparators

U.D. : Under Development　NEW : New product　♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡XXXX : Products available in PRODUCT LONGEVITY PROGRAM with time limit
In/Out : Rail to Rail Input/Output Amplifier　Out : Rail to Rail Output Amplifier　Zero Drift : Zero-Drift Operational Amplifier

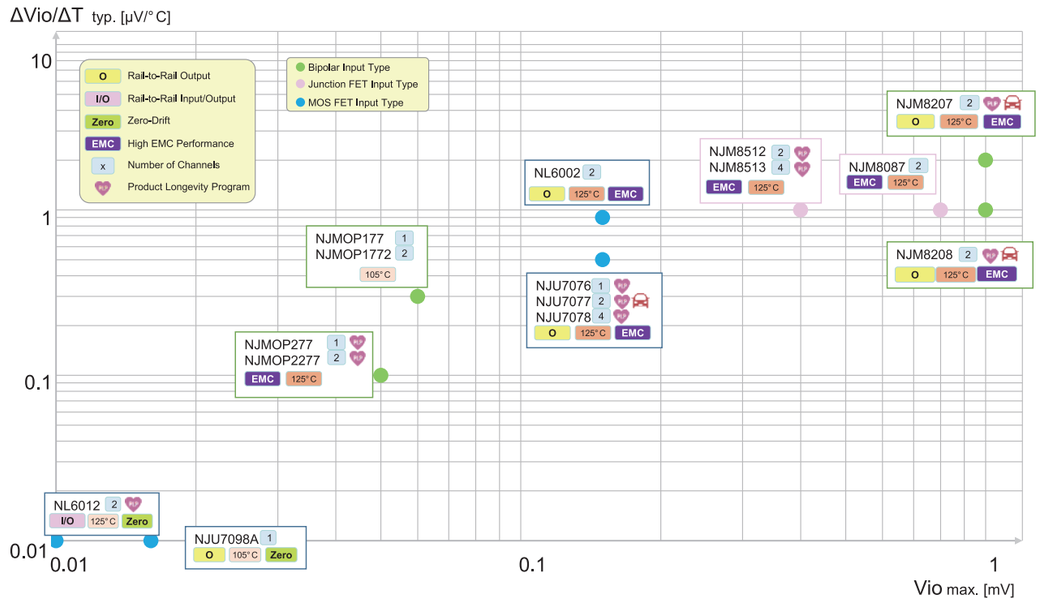
Rail to Rail

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V] min.	Supply Voltage [V] max.	Icc/ch. [mA] typ.	VIO [mV] max.	IB [nA] typ.	IIO [nA] typ.	SR [V/μsec] typ.	GBW [MHz] typ.	fT [MHz] typ.	Noise typ. VNI [μVrms]	Noise typ. en [nV/√Hz]	Operating Tempera-ture [°C] min.	Operating Tempera-ture [°C] max.	Package Outline	Notes
NJU7042	—	1	Single	2.7	5.5	0.015	5	0.001	0.001	0.03	0.047	0.047	—	—	-40	85	SOT-23-5	In/Out
NJU7043	✓	2	Single	1.8	5.5	0.3	10	0.001	0.001	0.7	0.8	0.8	—	40	-40	85	DIP8, DMP8, SOP8 JEDEC150mil(EMP8), SSOP8, MSOP8(TVSP8), PCSP20-CC	In/Out
NJU7044	—	4	Single	2.2	5.5	0.45	10	0.001	0.001	0.8	0.8	0.8	—	40	-40	85	DMP14, SSOP14	In/Out
NJU7046 ♡	✓	1	Single	2.7	5.5	1.4	5	0.001	0.001	9	5	—	—	20	-40	125	SOT-23-5, SC-88A	In/Out
NJU7047 ♡	✓	2	Single	2.7	5.5	1.35	5	0.001	0.001	9	5	—	—	20	-40	125	SOP8 JEDEC 150mil(EMP8), MSOP8(TVSP8)♡, DFN8-U1(ESON8-U1)♡	In/Out
NJU7048 ♡	—	4	Single	2.7	5.5	1.325	5	0.001	0.001	9	5	—	—	20	-40	125	SOP14, SSOP14♡	In/Out
NJU7051	—	1	Single	1	16	0.015	2	0.001	0.001	0.05	0.1	0.1	—	—	-40	85	DMP8	With offset null termi-nals Out
NJU7052	—	2	Single	1	16	0.015	2	0.001	0.001	0.05	0.1	0.1	—	—	-40	85	DMP8	Out
NJU7056 ♡	✓	1	Single	1.8	5.5	0.26	4	0.001	0.001	0.8	2.1	—	—	15	-40	125	SC-88A, SOT-23-5	Out
NJU7057 ♡	✓	2	Single	1.8	5.5	0.26	4	0.001	0.001	0.8	2.1	—	—	15	-40	125	DFN8-U1(ESON8-U1), MSOP8(TVSP8)	Out
NJU7058 ♡	✓	4	Single	1.8	5.5	0.25	4	0.001	0.001	0.8	2.1	—	—	15	-40	125	SSOP14	Out
NJU7061	—	1	Single	3	16	0.15	2	0.001	0.001	0.4	0.4	0.4	—	27	-20	75	DIP8, DMP8, SSOP8	With offset null termi-nals Out
NJU7062	—	2	Single	3	16	0.15	2	0.001	0.001	0.4	0.4	0.4	—	27	-20	75	DIP8, DMP8	Out
NJU7064	—	4	Single	3	16	0.15	2	0.001	0.001	0.4	0.4	0.4	—	27	-20	75	DMP14, SSOP14	Out
NJU7066 ♡	—	2	Single	2.2	5.5	0.6	0.5	0.001	0.001	0.5	1.3	1.3	—	10	-40	125	MSOP8(VSP8)	Out
NJU7067	—	2	Single	4	16	0.014	4	0.001	0.001	0.04	0.06	—	—	45	-40	85	DMP8, SSOP8	Out
NJU7068	—	4	Single	4	16	0.014	4	0.001	0.001	0.04	0.06	—	—	45	-40	85	DMP14, SSOP14	Out
NJU7071	—	1	Single	5	16	0.6	2	0.001	0.001	1.1	1	1	—	—	-20	75	DIP8, DMP8, SSOP8	With offset null termi-nals Out
NJU7072	—	2	Single	5	16	0.6	2	0.001	0.001	1.1	1	1	—	—	-20	75	DIP8, DMP8	Out
NJU7074	—	4	Single	5	16	0.6	2	0.001	0.001	1.1	1	1	—	—	-20	75	DMP14, SSOP14	Out
NJU7076 ♡	—	1	Single	2.2	5.5	0.6	0.15	0.001	0.001	0.5	1.3	1.3	—	10	-40	125	SOT-23-5	Out
NJU7076B	—	1	Single	2.2	5.5	0.6	0.3	0.001	0.001	0.5	1.3	1.3	—	10	-40	125	SC-88A	Out
NJU7077 ♡	✓	2	Single	2.2	5.5	0.6	0.15	0.001	0.001	0.5	1.3	1.3	—	10	-40	125	MSOP8(VSP8)	Out
NJU7078 ♡	—	4	Single	2.2	5.5	0.6	0.2	0.001	0.001	0.5	1.3	1.3	—	10	-40	125	SSOP14	Out
NJU7091A	—	1	Single	1	5.5	0.015	2	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	SOT-23-5	Out
NJU7092A	—	1	Single	1	5.5	0.08	2	0.001	0.001	1	1	1	—	—	-40	85	SOT-23-5	Out
NJU7093A	—	1	Single	1	5.5	0.2	2	0.001	0.001	2.4	1	1	—	—	-40	85	SOT-23-5	Out
NJU7094	—	2	Single	1	5.5	0.015	4	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V] min.	Supply Voltage [V] max.	Icc/ch. [mA] typ.	VIO [mV] max.	IB [nA] typ.	IIO [nA] typ.	SR [V/μsec] typ.	GBW [MHz] typ.	fT [MHz] typ.	Noise typ. VNI [μVrms]	Noise typ. en [nV/√Hz]	Operating Tempera-ture [°C] min.	Operating Tempera-ture [°C] max.	Package Outline	Notes
NJU7095	—	2	Single	1	5.5	0.08	4	0.001	0.001	1	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7096	—	2	Single	1	5.5	0.2	4	0.001	0.001	2.4	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7098A	—	1	Single	3	10	0.6	0.015	0.02	—	3	3	—	—	120	-40	105	SOT-23-6-1	On/Off Switch Out Zero Drift
NJU7098AF1-C	—	1	Single	3	10	0.6	0.015	0.02	—	3	3	—	—	120	-40	105	SOT-23-6-1	On/Off Switch Out Zero Drift
NJU77000 ♡	—	1	Single	1.5	5.5	0.00029	1.8	0.001	0.001	0.0008	0.0011	0.0011	—	600	-40	105	SOT-23-5	Ultra-Low Operating Current In/Out
NJU77001 ♡	—	1	Single	1.5	5.5	0.00029	1.8	0.001	0.001	0.0008	0.0011	0.0011	—	600	-40	105	SOT-23-5, SC-88A	Ultra-Low Operating Current In/Out
NJU77002 ♡	—	2	Single	1.5	5.5	0.00023	2	0.001	0.001	0.0007	0.001	0.001	—	700	-40	105	SOP8 JEDEC 150mil(EMP8), MSOP8(TVSP8)♡, DFN8-U1(ESON8-U1)♡	Ultra-Low Operating Current In/Out
NJU77002A ♡	✓	2	Single	1.5	5.5	0.00023	1.3	0.001	0.001	0.0007	0.001	0.001	—	700	-40	105	SOP8 JEDEC 150mil(EMP8), MSOP8(TVSP8), DFN8-U1(ESON8-U1)	In/Out
NJU77004 ♡	—	4	Single	1.5	5.5	0.00023	2.2	0.001	0.001	0.0007	0.001	0.001	—	700	-40	105	SSOP14	Ultra-Low Operating Current In/Out
NJU77550 ♡	—	1	Single	1.8	5.5	0.055	5	0.001	0.001	0.8	1.7	—	—	24	-55	125	SOT-23-5♡, SC-88A	In/Out
NJU77551 ♡	—	1	Single	1.8	5.5	0.055	5	0.001	0.001	0.8	1.7	—	—	24	-55	125	SOT-23-5, SC-88A	In/Out
NJU77552 ♡	✓	2	Single	1.8	5.5	0.05	5	0.001	0.001	0.8	1.7	—	—	24	-55	125	SOP8, MSOP8(TVSP8)♡, MSOP8(VSP8)♡, DFN8-U1(ESON8-U1)♡	In/Out
NJU77554 ♡	—	4	Single	1.8	5.5	0.05	5	0.001	0.001	0.8	1.7	—	—	24	-55	125	SSOP14	In/Out
NJU77572 ♡	—	2	Single	2.7	5.5	1.15	3.5	0.001	0.001	5	10	—	—	9	-55	125	MSOP8(VSP8)	In/Out
U.D. **NJU77580**	—	1	Single	2.7	5.5	2.3	2.5	0.001	0.001	10	20	—	—	6	-55	125	SOT-23-5	Drive High Capacitive Load In/Out
NJU77582 ♡	—	2	Single	2.7	5.5	2.3	2.5	0.001	0.001	10	20	—	—	6	-55	125	SOP8, MSOP8(VSP8)♡, DFN8-U1(ESON8-U1)♡	Drive High Capacitive Load In/Out
NJU77701 ♡	✓	1	Single	2.4	5.5	3.8	1.5	0.001	0.001	35	34	—	—	6	-40	125	SOT-23-5	In/Out
NJU77806 ♡	—	1	Single	1.8	5.5	0.5	2	0.001	0.001	1.1	4.4	2.4	—	5.5	-40	105	SC-88A	Out
NJU77902	—	2	Single	6	18	3.5	10	0.001	0.001	9	3	3	—	80	-40	85	DFN8-W2(ESON8-W2)	High Out-put Current In/Out
NJU77903 ♡	✓	1	Single	6.8	36	9.5	6	0.001	0.001	3.5	1.5	1.5	—	50	-40	125	TO-252-5-L3, DFN8-W2(ESON8-W2)	High Operating Vofltage, High Out-put Current In/Out

Precision

※Main Product Only



U.D. : Under Development　NEW : New product　♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡ xxxx : Products available in PRODUCT LONGEVITY PROGRAM with time limit

In/Out : Rail to Rail Input/Output Amplifier　Out : Rail to Rail Output Amplifier　Zero Drift : Zero-Drift Operational Amplifier

Precision (V_{IO} < 1mV)

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V] min.	Supply Voltage [V] max.	Icc/ch. [mA] typ.	V_{IO} [mV] max.	I_B [nA] typ.	I_{IO} [nA] typ.	SR [V/μsec] typ.	GBW [MHz] typ.	fT [MHz] typ.	Noise typ. V_{NI} [μVrms]	Noise typ. en [nV/√Hz]	Operating Temperature [°C] min.	Operating Temperature [°C] max.	Package Outline	Notes
U.D. NL6002	—	2	Single	1.6	5.5	0.015	**0.15**	0.001	0.001	0.04	0.12	—	—	65	-40	125	EMP-8-AN, DFN3030-8-GF	In/Out
U.D. NL6010	—	1	Single	2.1	5.5	0.017	**0.01**	0.03	0.06	0.11	0.26	—	—	60	-40	125	SOT-23-5-DC	In/Out Zero Drift
U.D. NL6011	—	1	Single	2.1	5.5	0.017	**0.01**	0.03	0.06	0.11	0.26	—	—	60	-40	125	SC-88A-DB	In/Out Zero Drift
NEW NL6012 ♡	—	2	Single	2.1	5.5	0.015	**0.01**	0.03	0.06	0.11	0.26	—	—	60	-40	125	VSP-8-AF	In/Out Zero Drift
NJM2119	✓	2	Single	4	36	0.5	**0.45**	18	0.3	0.3	1	—	—	—	-30	85	DIP8, DMP8	
NJM2725 ♡	—	2	Dual	4	10	4	**1**	4600	500	15	160	—	—	1.4	-40	125	SOP8, MSOP8(VSP8)♡	
NJM2729	—	1	Dual	± 3	± 18	1.6	**0.06**	1.2	0.3	0.3	1.1	1.1	0.08	8	-40	85	SOP8 JEDEC 150mil(EMP8)	With offset null terminals
NJM2739	—	2	Dual	± 3	± 18	1.3	**0.06**	1.2	0.3	0.3	1.1	1.1	0.08	8	-40	85	SOP8 JEDEC 150mil(EMP8)	
NJM8087	—	2	Dual	± 4	± 16	1.3	**0.8**	0.025	0.006	20	7	7	—	10	-40	125	SOP8 JEDEC 150mil(EMP8)	No Phase Reversal
NJM8207 ♡	✓	2	Single	4	35	0.7	**0.45**	120	5	0.15	0.3	0.3	—	—	-40	125	DMP8	Out
NJM8208 ♡	✓	2	Single	3	35	0.45	**0.8**	55	5	0.2	0.35	0.35	—	—	-40	125	DMP8♡, MSOP8(VSP8)	Out
NJM8502	—	2	Dual	± 4.5	± 16	1.3	**0.4**	0.025	0.006	20	7	7	0.18	10	-40	125	MSOP8(VSP8)	
NJM8512 ♡	—	2	Dual	± 4.5	± 16	1.3	**0.4**	0.025	0.006	20	7	7	—	10	-40	125	MSOP8(VSP8)♡, SOP8 JEDEC 150mil(EMP8)	

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V] min.	Supply Voltage [V] max.	Icc/ch. [mA] typ.	V_{IO} [mV] max.	I_B [nA] typ.	I_{IO} [nA] typ.	SR [V/μsec] typ.	GBW [MHz] typ.	fT [MHz] typ.	Noise typ. V_{NI} [μVrms]	Noise typ. en [nV/√Hz]	Operating Temperature [°C] min.	Operating Temperature [°C] max.	Package Outline	Notes
NJM8513 ♡	—	4	Dual	± 4.5	± 16	1.3	**0.4**	0.025	0.006	20	7	7	—	10	-40	125	SSOP14	
NJMOP177	—	1	Dual	± 3	± 18	1.6	**0.06**	1.2	0.3	0.3	1.1	1.1	0.08	8	-40	105	SOP8 JEDEC 150mil(EMP8)	With offset null terminals
NJMOP1772	—	2	Dual	± 3	± 18	1.3	**0.06**	1.2	0.3	0.3	1.1	1.1	0.08	8	-40	105	SOP8 JEDEC 150mil(EMP8)	
NJMOP2277 ♡	—	2	Dual	± 2.25	± 18	0.76	**0.05**	0.5	0.5	0.7	1	1	0.07	8	-40	125	SOP8 JEDEC 150mil(EMP8), MSOP8(VSP8)♡, DFN8-W2(ESON8-W2)♡	High EMI Immunity
NJMOP277 ♡	—	1	Dual	± 2.25	± 18	0.76	**0.05**	0.5	0.5	0.7	1	1	0.07	8	-40	125	SOP8 JEDEC 150mil(EMP8), MSOP8(VSP8)♡	High EMI Immunity
NJU7066 ♡	—	2	Single	2.2	5.5	0.6	**0.5**	0.001	0.001	0.5	1.3	1.3	—	10	-40	125	MSOP8(VSP8)	Out
NJU7076 ♡	—	1	Single	2.2	5.5	0.6	**0.15**	0.001	0.001	0.5	1.3	1.3	—	10	-40	125	SOT-23-5	Out
NJU7076B	—	1	Single	2.2	5.5	0.6	**0.3**	0.001	0.001	0.5	1.3	1.3	—	10	-40	125	SC-88A	Out
NJU7077 ♡	✓	2	Single	2.2	5.5	0.6	**0.15**	0.001	0.001	0.5	1.3	1.3	—	10	-40	125	MSOP8(VSP8)	Out
NJU7078 ♡	—	4	Single	2.2	5.5	0.6	**0.20**	0.001	0.001	0.5	1.3	1.3	—	10	-40	125	SSOP14	Out
NJU7098A	—	1	Single	3	10	0.6	**0.015**	0.02	—	3	3	—	—	120	-40	105	SOT-23-6-1	On/Off Switch Out Zero Drift
NJU7098AF1-C	—	1	Single	3	10	0.6	**0.015**	0.02	—	3	3	—	—	120	-40	105	SOT-23-6-1	On/Off Switch Out Zero Drift

Audio Op-amps

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V] min.	Supply Voltage [V] max.	Icc/ch. [mA] typ.	V_{IO} [mV] max.	I_B [nA] typ.	I_{IO} [nA] typ.	SR [V/μsec] typ.	GBW [MHz] typ.	fT [MHz] typ.	Noise typ. V_{NI} [μVrms]	Noise typ. en [nV/√Hz]	Operating Temperature [°C] min.	Operating Temperature [°C] max.	Package Outline	Notes
NEW NL8802	—	2	Dual	± 3	± 22	4	5	500	10	11	45	16	0.9	5.5	-40	85	EMP-8-AN, DFN3030-8-GQ	High Quality Audio
NJM2058	—	4	Dual	± 4	± 18	1.75	6	20	5	1	4	—	1.4	—	-40	85	DMP14, SSOP14	
NJM2059	—	4	Dual	± 4	± 18	1.75	6	20	5	2	6.8	—	1.4	—	-40	85	DMP14, SSOP14	
NJM2060	—	4	Dual	± 4	± 18	2.25	6	40	5	4	10	10	1.2	—	-20	75	DMP14, SSOP14	
NJM2068	—	2	Dual	± 4	± 18	2.5	3	150	5	6	27	5.5	0.44	—	-20	75	DIP8, DMP8, SSOP8	
NJM2122	—	2	Dual	± 2	± 7	3.5	6	3600	450	2.4	12	—	0.56	1.5	-20	75	DIP8, DMP8	
NJM2737	—	2	Single	1.8	6	0.6	5	200	5	0.7	3.1	—	—	5	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8)	In/Out
NJM2740	—	2	Dual	± 1.1	± 3.5	1.75	6	100	5	4	12	—	—	—	-40	125	DMP8, SSOP8, MSOP8(TVSP8)	
NJM2741	✓	1	Single	2.5	14	2.2	6	100	5	3.5	10	10	—	10	-40	85	SC-88A, SOT-23-5	Out
NJM2745	—	4	Dual	± 2	± 15.5	3.25	3	100	5	5	15	—	—	5	-40	85	DMP14, SSOP14	
NJM2746 ♡	✓	2	Single	2.5	14	2	6	100	5	3.5	10	10	—	10	-40	85	DMP8, SOP8 JEDEC 150mil(EMP8), DFN8-U1(ESON8-U1), SSOP8, MSOP8(TVSP8)♡	Out
NJM2747	✓	4	Single	2.5	14	2	6	100	5	3.5	10	10	—	10	-40	85	DMP14, PCSP20-CC, SSOP14	Out

Operational Amplifiers & Comparators

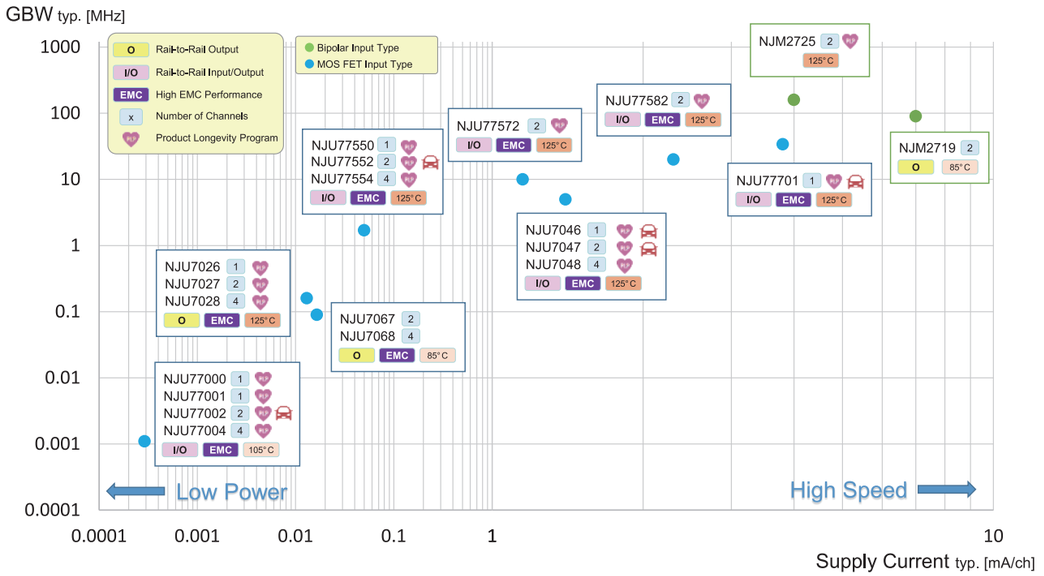
U.D. : Under Development　NEW : New product　♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡xxxx : Products available in PRODUCT LONGEVITY PROGRAM with time limit
In/Out : Rail to Rail Input/Output Amplifier　Out : Rail to Rail Output Amplifier　Zero Drift : Zero-Drift Operational Amplifier

Audio Op-amps

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V]		Icc/ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Temperature [°C]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	typ.	typ.	typ.	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
NJM4556A	—	2	Dual	± 2	± 18	4.5	6	50	5	3	8	—	—	—	-40	85	DIP8, DMP8, SSOP8	
NJM4558	—	2	Dual	± 4	± 18	1.75	6	25	5	1	3	3	1.4	—	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8	
NJM4558C	—	2	Dual	± 4	± 18	1.75	6	25	5	1.5	3.5	—	1.4	12	-40	85	SOP8, SSOP8	
NJM4565	—	2	Dual	± 4	± 18	2.25	3	50	2	4	10	—	1.2	9	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8	
NJM4580	—	2	Dual	± 2	± 18	3	3	100	5	5	15	—	0.8	5	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(VSP8)	
NJM4580C	—	2	Dual	± 2	± 18	3	3	100	5	5	15	—	0.8	5	-40	85	SOP8, SSOP8	
NJM4585	—	2	Dual	± 4	± 18	2.5	3	260	5	6.8	19	7.5	0.5	3.5	-40	125	DMP8	
NJM5532	—	2	Dual	± 3	± 22	4.5	4	200	10	8	10	—	0.5	5	-20	75	DIP8, DMP8	
NJM5532C	—	2	Dual	± 3	± 22	4.5	4	200	10	9	10	—	0.6	5	-40	85	SOP8	
NJM8068	—	2	Dual	± 4	± 18	2.5	3	260	5	6.8	19	7.5	0.5	3.5	-40	125	SOP8, MSOP8(TVSP8)	Wide Operating Tempera-ture (-40℃ to +125℃)
NJM8080	—	2	Dual	± 2	± 18	3	3	100	5	5	15	—	—	5	-40	125	SOP8, MSOP8(TVSP8), SSOP8	Wide Operating Tempera-ture (-40℃ to +125℃)
NJM8087	—	2	Dual	± 4	± 16	1.3	0.8	0.025	0.006	20	7	7	—	10	-40	125	SOP8 JEDEC 150mil(EMP8)	No Phase Reversal
NJM8202 ♡	✓	2	Single	2.5	14	2	6	100	5	3.5	10	10	—	10	-40	85	DMP8♡, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJM8204 ♡	✓	4	Single	2.5	14	2	6	100	5	3.5	10	—	—	10	-40	125	SSOP14	Out
NJM8530 ♡	✓	1	Single	1.8	14	0.32	4	50	5	0.4	1	1	—	10	-40	125	SOT-23-5	In/Out
NJM8532 ♡	✓	2	Single	1.8	14	0.29	4	50	5	0.4	1	1	—	10	-40	125	DMP8, SSOP8, MSOP8(TVSP8)♡, MSOP8(VSP8)♡	In/Out
NJM8534	—	4	Single	1.8	14	0.3	4	50	5	0.4	1	1	—	10	-40	125	SSOP14	In/Out
NJM8801	—	2	Dual	± 2	± 18	3	3	100	5	5	15	—	0.8	4.5	-40	85	SOP8 JEDEC 150mil(EMP8), SSOP8-A3	
NJM8830 ♡	—	2	Dual	± 2	± 5.25	3.25	2	150	10	30	90	60	0.34	2.5	-40	125	HSOP-M1, DFN8-W1(ESON8-W1)♡	Out
NJU77806 ♡	—	1	Single	1.8	5.5	0.5	2	0.001	0.001	1.1	4.4	2.4	—	5.5	-40	105	SC-88A	Out

Low Power and High Speed

※Main Product Only



Hi-Speed/Wide Band (GBW ≥ 5MHz)

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V]		Icc/ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	**GBW [MHz]**	fT [MHz]	Noise typ.		Operating Tempera-ture [°C]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	typ.	typ.	**typ.**	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
NEW NL8802	—	2	Dual	± 3	± 22	4	5	500	10	11	**45**	16	0.9	5.5	-40	85	EMP-8-AN,DFN3030-8-GQ	High Quality Audio
NJM14558	—	2	Dual	± 2	± 7	1.35	3	70	5	2.5	**5**	—	1.4	10	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(VSP8)	
NJM2059	—	4	Dual	± 4	± 18	1.75	6	20	5	2	**6.8**	—	1.4	14	-40	85	DMP14, SSOP14	
NJM2060	—	4	Dual	± 4	± 18	2.25	6	40	5	4	**10**	10	1.2	10	-20	75	DMP14, SSOP14	
NJM2068	—	2	Dual	± 4	± 18	2.5	3	150	5	6	**27**	5.5	0.44	4	-20	75	DIP8, DMP8, SSOP8	
NJM2100	—	2	Dual	± 1	± 3.5	1.75	6	100	—	4	**12**	—	0.6	—	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SOP8	Out
NJM2115	—	2	Dual	± 1	± 7	1.75	6	100	—	4	**12**	—	0.5	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8)	Out
NJM2122	—	2	Dual	± 2	± 7	3.5	6	3600	450	2.4	**12**	—	0.56	1.5	-20	75	DIP8, DMP8	
NJM2136	—	1	Dual	± 1.35	± 6	0.63	5	500	20	45	**200**	40	—	—	-40	85	DMP8, SSOP8	
NJM2137	—	2	Dual	± 1.35	± 6	0.57	5	500	20	45	**200**	40	—	—	-40	85	DIP8, DMP8, SSOP8	
NJM2140	—	2	Dual	± 1	± 7	1.75	6	100	10	4	**12**	12	—	—	-40	85	MSOP8(TVSP8), MSOP8(VSP8)	Out
NJM2710	—	6	Dual	± 2	± 4.5	1.9	7	2000	350	260	**1000**	180	—	6.8	-40	85	DMP20, SSOP20	
NJM2711	—	1	Dual	± 2	± 4.5	1.9	7	2000	350	260	**1000**	180	—	6.8	-40	85	SOT-23-5	
NJM2712	—	2	Dual	± 2	± 4.5	1.9	7	2000	350	260	**1000**	180	—	6.8	-40	85	DMP8, MSOP8(TVSP8)	
NJM2716	—	1	Single	2.7	12	4.2	10	1000	200	40	**30**	30	—	—	-40	85	SOT-23-5	Out
NJM2717	—	2	Single	2.7	12	4	11	2000	200	40	**20**	20	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8)	Out

Operational Amplifiers & Comparators

U.D. : Under Development　NEW : New product　♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡ XXXX : Products available in PRODUCT LONGEVITY PROGRAM with time limit
In/Out : Rail to Rail Input/Output Amplifier　Out : Rail to Rail Output Amplifier　Zero Drift : Zero-Drift Operational Amplifier

Hi-Speed/Wide Band (GBW ≥ 5MHz)

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V]		Icc/ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Tempera-ture [°C]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	typ.	typ.	typ.	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
NJM2719	—	2	Dual	± 2.25	± 5	7	9	2900	200	60	**90**	100	—	2.5	-40	85	SSOP8, MSOP8(TVSP8)	Out
NJM2723	—	1	Dual	± 3.5	± 17.5	2.9	20	2000	—	2000	**75**	—	—	6	-40	85	DIP8, SOP8 JEDEC 150mil(EMP8)	Current Feed-back Type
NJM2725 ♡	—	2	Single	4	10	4	1	4600	500	15	**160**	—	—	1.5	-40	125	SOP8, MSOP8(VSP8)♡	
NJM2740	—	2	Dual	± 1.1	± 3.5	1.75	6	100	5	4	**12**	—	—	—	-40	125	DMP8, SSOP8, MSOP8(TVSP8)	Out
NJM2741	✓	1	Single	2.5	14	2.2	6	100	5	3.5	**10**	10	—	10	-40	85	SC-88A, SOT-23-5	Out
NJM2745	—	4	Dual	± 2	± 15.5	3.25	3	100	5	5	**15**	—	—	5	-40	85	DMP14, SSOP14	
NJM2746 ♡	✓	2	Single	2.5	14	2	6	100	5	3.5	**10**	10	—	10	-40	85	DMP8,SOP8 JEDEC 150mil(EMP8), DFN8-U1(ESON8-U1), SSOP8, MSOP8(TVSP8)♡	Out
NJM2747	✓	4	Single	2.5	14	2	6	100	5	3.5	**10**	10	—	10	-40	85	DMP14, PCSP20-CC, SSOP14	Out
NJM4556A	—	2	Dual	± 2	± 18	4.5	6	50	5	3	**8**	—	—	—	-40	85	DIP8, DMP8, SSOP8	
NJM4565	—	2	Dual	± 4	± 18	2.25	3	50	2	4	**10**	—	1.2	9	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8	
NJM4580	—	2	Dual	± 2	± 18	3	3	100	5	5	**15**	—	0.8	5	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(VSP8)	
NJM4580C	—	2	Dual	± 2	± 18	3	3	100	5	5	**15**	—	0.8	5	-40	85	SOP8, SSOP8	
NJM4585	—	2	Dual	± 4	± 18	2.5	3	260	5	6.8	**19**	7.5	0.5	3.5	-40	125	DMP8	
NJM5532	—	2	Dual	± 3	± 22	4.5	4	200	10	8	**10**	—	0.5	5	-20	75	DIP8, DMP8	
NJM5532C	—	2	Dual	± 3	± 22	4.5	4	200	10	9	**10**	—	0.6	5	-40	85	SOP8	
NJM8065	—	2	Dual	± 4	± 18	2.25	3	50	2	4	**10**	—	—	8	-40	125	SOP8, DMP8, MSOP8(TVSP8), SSOP8	Wide Operating Temperature (-40℃ to +125℃)
NJM8068	—	2	Dual	± 4	± 18	2.5	3	260	5	6.8	**19**	7.5	0.5	3.5	-40	125	SOP8, MSOP8(TVSP8)	Wide Operating Temperature (-40℃ to +125℃)
NJM8080	—	2	Dual	± 2	± 18	3	3	100	5	5	**15**	—	—	5	-40	125	SOP8, MSOP8(TVSP8), SSOP8	Wide Operating Temperature (-40℃ to +125℃)
NJM8087	—	2	Dual	± 4	± 16	1.3	0.8	0.025	0.006	20	**7**	7	—	10	-40	125	SOP8 JEDEC 150mil(EMP8)	No Phase Re-versal
NJM8202 ♡	✓	2	Single	2.5	14	2	6	100	5	3.5	**10**	10	—	10	-40	85	DMP8♡, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJM8204 ♡	✓	4	Single	2.5	14	2	6	100	5	3.5	**10**	—	—	10	-40	125	SSOP14	Out
NJM8212 ♡	✓	2	Single	2.5	14	1.5	6	900	30	3.5	**6**	—	—	18	-40	125	DMP8	Out
NJM8502 ♡	—	2	Dual	± 4.5	± 16	1.3	0.4	0.025	0.006	20	**7**	7	0.18	10	-40	125	MSOP8(VSP8)	
NJM8512 ♡	—	2	Dual	± 4.5	± 16	1.3	0.4	0.025	0.006	20	**7**	7	—	10	-40	125	MSOP8(VSP8)♡, SOP8 JEDEC 150mil(EMP8)	
NJM8513 ♡	—	4	Dual	± 4.5	± 16	1.3	0.4	0.025	0.006	20	**7**	7	—	10	-40	125	SSOP14	
NJM8801	—	2	Dual	± 2	± 18	3	3	100	5	5	**15**	—	0.8	4.5	-40	85	SOP8 JEDEC 150mil(EMP8), SSOP8-A3	
NJM8830 ♡	—	2	Dual	± 2	± 5.25	3.25	2	150	10	30	**90**	60	0.34	2.5	-40	125	HSOP-M1, DFN8-W1(ESON8-W1)♡	Out
NJU7046 ♡	✓	1	Single	2.7	5.5	1.4	5	0.001	0.001	9	**5**	—	—	20	-40	125	SOT-23-5, SC-88A	In/Out
NJU7047 ♡	✓	2	Single	2.7	5.5	1.35	5	0.001	0.001	9	**5**	—	—	20	-40	125	SOP8 JEDEC 150mil(EMP8), MSOP8(TVSP8)♡, DFN8-U1(ESON8-U1)♡	In/Out
NJU7048 ♡	—	4	Single	2.7	5.5	1.325	5	0.001	0.001	9	**5**	—	—	20	-40	125	SOP14, SSOP14♡	In/Out

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V]		Icc/ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Tempera-ture [°C]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	typ.	typ.	typ.	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
NJU77572 ♡	—	2	Single	2.7	5.5	1.15	3.5	0.001	0.001	5	**10**	—	—	9	-55	125	MSOP8(VSP8)	In/Out
U.D. NJU77580	—	1	Single	2.7	5.5	2.3	2.5	0.001	0.001	10	**20**	—	—	6	-55	125	SOT-23-5	Drive High Capacitive Load In/Out
NJU77582 ♡	—	2	Single	2.7	5.5	2.3	2.5	0.001	0.001	10	**20**	—	—	6	-55	125	SOP8, MSOP8(VSP8)♡, DFN8-U1(ESON8-U1)♡	Drive High Capacitive Load In/Out
NJU77701 ♡	✓	1	Single	2.4	5.5	3.8	1.5	0.001	0.001	35	**34**	—	—	6	-40	125	SOT-23-5	In/Out

Low Operating Current (Icc/ch. ≦ 50μA)

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V]		Icc/ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Tempera-ture [°C]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	typ.	typ.	typ.	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
U.D. NL6002	—	2	Single	1.6	5.5	**0.015**	0.15	0.001	0.001	0.04	0.12	—	—	65	-40	125	EMP-8-AN, DFN3030-8-GF	In/Out
U.D. NL6010	—	1	Single	2.1	5.5	**0.017**	0.01	0.03	0.06	0.11	0.26	—	—	60	-40	125	SOT-23-5-DC	In/Out Zero Drift
U.D. NL6011	—	1	Single	2.1	5.5	**0.017**	0.01	0.03	0.06	0.11	0.26	—	—	60	-40	125	SC-88A-DB	In/Out Zero Drift
NEW NL6012 ♡	—	2	Single	2.1	5.5	**0.015**	0.01	0.03	0.06	0.11	0.26	—	—	60	-40	125	VSP-8-AF	In/Out Zero Drift
NJM8524	—	4	Single	3	36	**0.025**	1.8	3	0.5	0.04	0.1	0.1	—	60	-40	85	SSOP14	Out
NJU7001	—	1	Single	1	16	**0.015**	10	0.001	0.001	0.05	—	0.1	—	—	-20	75	DIP8, DMP8, SSOP8	Out
NJU7002	—	2	Single	1	16	**0.015**	10	0.001	0.001	0.05	0.1	0.1	—	—	-20	75	DIP8, DMP8	Out
NJU7004	—	4	Single	1	16	**0.015**	10	0.001	0.001	0.05	0.1	0.1	—	—	-20	75	DMP14, SSOP14	Out
NJU7006	—	1	Single	1.8	3.6	**0.003**	2	0.001	0.001	0.04	0.095	0.095	—	—	-40	85	SOT-23-5	Out
NJU7007	—	1	Single	1	5.5	**0.015**	4	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	SC-88A	Out
NJU7011	—	3	Single	1	5.5	**0.015**	10	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	SOT-23-5	Out
NJU7014	—	2	Single	1	5.5	**0.015**	10	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7019	—	2	Single	1	5.5	**0.02**	10	0.001	0.001	0.25	0.4	0.4	—	—	-40	85	MSOP8(VSP8)	Out
NJU7026 ♡ 2031 NJU7026 ♡	—	1	Single	1.8	5.5	**0.013**	4	0.001	0.001	0.05	0.16	0.16	—	50	-40	125	SC-88A SOT-23-5	Out
NJU7027 ♡	—	2	Single	1.8	5.5	**0.013**	4	0.001	0.001	0.05	0.16	0.16	—	50	-40	125	DFN8-U1(ESON8-U1), MSOP8(TVSP8)	Out
NJU7028 ♡	—	4	Single	1.8	5.5	**0.012**	4	0.001	0.001	0.05	0.16	0.16	—	50	-40	125	SSOP14	Out
NJU7042	—	1	Single	2.7	5.5	**0.015**	5	0.001	0.001	0.03	0.047	0.047	—	—	-40	85	SOT-23-5	In/Out
NJU7051	—	1	Single	1	16	**0.015**	2	0.001	0.001	0.05	0.1	0.1	—	—	-40	85	DMP8	With offset null terminals Out
NJU7052	—	2	Single	1	16	**0.015**	2	0.001	0.001	0.05	0.1	0.1	—	—	-40	85	DMP8	Out
NJU7067	—	2	Single	4	16	**0.014**	4	0.001	0.001	0.04	0.06	—	—	45	-40	85	DMP8, SSOP8	Out
NJU7068	—	4	Single	4	16	**0.014**	4	0.001	0.001	0.04	0.06	—	—	45	-40	85	DMP14, SSOP14	Out
NJU7091A	—	1	Single	1	5.5	**0.015**	2	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	SOT-23-5	Out
NJU7094	—	2	Single	1	5.5	**0.015**	4	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out

Operational Amplifiers & Comparators

U.D. : Under Development　NEW : New product　♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡ XXXX : Products available in PRODUCT LONGEVITY PROGRAM with time limit
In/Out : Rail to Rail Input/Output Amplifier　Out : Rail to Rail Output Amplifier　Zero Drift : Zero-Drift Operational Amplifier

Low Operating Current (Icc/ch. ≦ 50μA)

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V]		Icc/ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Tempera-ture [℃]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	typ.	typ.	typ.	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
NJU77000 ♡	—	1	Single	1.5	5.5	**0.00029**	1.8	0.001	0.001	0.0008	0.0011	0.0011	—	600	-40	105	SOT-23-5	Ultra-Low Operating Current In/Out
NJU77000A		1	Single	1.5	5.5	**0.00029**	1	0.001	0.001	0.0008	0.0011	0.0011	—	600	-40	105	SOT-23-5	
NJU77001 ♡	—	1	Single	1.5	5.5	**0.00029**	1.8	0.001	0.001	0.0008	0.0011	0.0011	—	600	-40	105	SOT-23-5, SC-88A	Ultra-Low Operating Current In/Out
NJU77001A	—	1	Single	1.5	5.5	**0.00029**	1	0.001	0.001	0.0008	0.0011	0.0011	—	600	-40	105	SOT-23-5, SC-88A	
NJU77002 ♡	—	2	Single	1.5	5.5	**0.00023**	2	0.001	0.001	0.0007	0.001	0.001	—	700	− 40	105	SOP8 JEDEC 150mil(EMP8), MSOP8(TVSP8) ♡, DFN8-U1(ESON8-U1) ♡	Ultra-Low Operating Current In/Out
NJU77002A ♡	✓	2	Single	1.5	5.5	**0.00023**	1.3	0.001	0.001	0.0007	0.001	0.001	—	700	-40	105	SOP8 JEDEC 150mil(EMP8), MSOP8(TVSP8) ♡, DFN8-U1(ESON8-U1) ♡	In/Out
NJU77004 ♡	—	4	Single	1.5	5.5	**0.00023**	2.2	0.001	0.001	0.0007	0.001	0.001	—	700	-40	105	SSOP14	Ultra-Low Operating Current In/Out
NJU77004A ♡	—	4	Single	1.5	5.5	**0.00023**	1.5	0.001	0.001	0.0007	0.001	0.001	—	700	-40	105	SSOP14	In/Out
NJU77552 ♡	✓	2	Single	1.8	5.5	**0.05**	5	0.001	0.001	0.8	1.7	—	—	24	-55	125	SOP8, MSOP8(TVSP8) ♡, MSOP8(VSP8) ♡, DFN8-U1(ESON8-U1) ♡	In/Out
NJU77554 ♡	—	4	Single	1.8	5.5	**0.05**	5	0.001	0.001	0.8	1.7	—	—	24	-55	125	SSOP14	In/Out

Low Noise (en ≤ 6nV/ √ Hz)

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V]		Icc/ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Temperature [℃]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	typ.	typ.	typ.	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
NEW NL8802	—	2	Dual	± 3	± 22	4	5	500	10	11	45	16	**0.9**	**5.5**	-40	85	EMP-8-AN, DFN3030-8-GQ	
NJM12902	—	4	Single	2	14	0.25	5	20	5	0.7	1.5	1	—	—	-40	85	DMP14, SSOP14, PCSP14-C3	
NJM12904	—	2	Single	2	14	0.35	5	20	5	0.7	1.5	1	—	—	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	
NJM2068	—	2	Dual	± 4	± 18	2.5	3	150	5	6	27	5.5	**0.44**	—	-20	75	DIP8, DMP8, SSOP8	
NJM2100	—	2	Dual	± 1	± 3.5	1.75	6	100	—	4	12	—	**0.6**	—	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8	Out
NJM2115	—	2	Dual	± 1	± 7	1.75	6	100	—	4	12	—	**0.5**	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8)	Out
NJM2119	✓	2	Single	4	36	0.5	0.45	18	0.3	0.3	1	—	—	—	-30	85	DIP8, DMP8	
NJM2122	—	2	Dual	± 2	± 7	3.5	6	3600	450	2.4	12	—	**0.56**	**1.5**	-20	75	DIP8, DMP8	
NJM2125	—	1	Single	2.7	20	1	7	25	5	1.2	1.2	1.2	—	—	-40	85	SOT-23-5	
NJM2136	—	1	Dual	± 1.35	± 6	0.63	5	500	20	45	200	40	—	—	-40	85	DMP8, SSOP8	
NJM2137	—	2	Dual	± 1.35	± 6	0.57	5	500	20	45	200	40	—	—	-40	85	DIP8, DMP8, SSOP8	
NJM2140	—	2	Dual	± 1	± 7	1.75	6	100	10	4	12	12	—	—	-40	85	MSOP8(TVSP8), MSOP8(VSP8)	Out
NJM2143	—	2	Single	3	20	0.35	7	25	5	0.5	0.6	—	—	—	-40	85	MSOP8(TVSP8), MSOP8(VSP8)	
NJM2716	—	1	Single	2.7	12	4.2	10	1000	200	40	30	30	—	—	-40	85	SOT-23-5	Out

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V]		Icc/ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Temperature [℃]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	typ.	typ.	typ.	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
NJM2717	—	2	Single	2.7	12	4	11	2000	200	40	20	20	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8)	Out
NJM2719	—	2	Dual	± 2.25	± 5	7	9	2900	200	60	90	100	—	**2.5**	-40	85	SSOP8, MSOP8(TVSP8)	Out
NJM2723	—	1	Dual	± 3.5	± 17.5	2.9	20	2000	—	2000	75	—	—	**6**	-40	85	DIP8, SOP8 JEDEC 150mil(EMP8)	Current Feed-back Type
NJM2725 ♡	—	2	Dual	4	10	4	1	4600	500	15	160	—	—	**1.4**	-40	125	SOP8, MSOP8(VSP8) ♡	
NJM2737	—	2	Single	1.8	6	0.6	5	200	5	0.7	3.1	—	—	**5**	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8)	In/Out
NJM2745	—	4	Dual	± 2	± 15.5	3.25	3	100	5	5	15	—	—	**5**	-40	85	DMP14, SSOP14	
NJM2902	✓	4	Single	3	32	0.25	10	20	5	0.5	0.5	0.7	—	—	-40	85	DMP14, SSOP14	
NJM2904	✓	2	Single	3	32	0.35	7	25	5	0.5	0.6	—	—	—	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	
NJM3404A	—	2	Single	4	36	1	5	70	5	1.2	1.2	1.2	—	—	-40	85	DIP8, DMP8, SSOP8	
NJM3414A	—	2	Single	3	15	2	5	100	5	1	1.3	—	—	**18**	-40	85	DIP8, DMP8, SSOP8	
NJM4580	—	2	Dual	± 2	± 18	3	3	100	5	5	15	—	**0.8**	**5**	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(VSP8)	
NJM4580C	—	2	Dual	± 2	± 18	3	3	100	5	5	15	—	**0.8**	**5**	-40	85	SOP8, SSOP8	
NJM4585	—	2	Dual	± 4	± 18	2.5	3	260	5	6.8	19	7.5	**0.5**	**3.5**	-40	125	DMP8	
NJM5532	—	2	Dual	± 3	± 22	4.5	4	200	10	8	10	—	**0.5**	**5**	-20	75	DIP8, DMP8	
NJM5532C	—	2	Dual	± 3	± 22	4.5	4	200	10	9	10	—	**0.6**	**5**	-40	85	SOP8	
NJM8068	—	2	Dual	± 4	± 18	2.5	3	260	5	6.8	19	7.5	**0.5**	**3.5**	-40	125	SOP8, MSOP8(TVSP8)	Wide Operating Temperature (-40℃ to +125℃)
NJM8080	—	2	Dual	± 2	± 18	3	3	100	5	5	15	—	—	**5**	-40	125	SOP8, MSOP8(TVSP8), SSOP8	Wide Operating Temperature (-40℃ to +125℃)
NJM8087	—	2	Dual	± 4	± 16	1.3	0.8	0.025	0.006	20	7	7	—	**10**	-40	125	SOP8 JEDEC 150mil(EMP8)	No Phase Reversal
NJM8207 ♡	✓	2	Single	4	35	0.7	0.45	120	5	0.15	0.3	0.3	—	—	-40	125	DMP8	Out
NJM8208 ♡	✓	2	Single	3	35	0.45	0.8	55	5	0.2	0.35	0.35	—	—	-40	125	DMP8 ♡, MSOP8(VSP8)	Out
NJM8801	—	2	Dual	± 2	± 18	3	3	100	5	5	15	—	**0.8**	**4.5**	-40	85	SOP8 JEDEC 150mil(EMP8), SSOP8-A3	
NJM8830 ♡	—	2	Dual	± 2	± 5.25	3.25	2	150	10	30	90	60	**0.34**	**2.5**	-40	125	HSOP-M1, DFN8-W1 ♡	Out
NJU7001	—	1	Single	1	16	0.015	10	0.001	0.001	0.05	—	0.1	—	—	-20	75	DIP8, DMP8, SSOP8	Out
NJU7006	—	1	Single	1.8	3.6	0.003	2	0.001	0.001	0.04	0.095	0.095	—	—	-40	85	SOT-23-5	Out
NJU7007	—	1	Single	1	5.5	0.015	4	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	SC-88A	Out
NJU7008	—	1	Single	1	5.5	0.2	4	0.001	0.001	2.4	1	1	—	—	-40	85	SC-88A	Out
NJU7011	—	1	Single	1	5.5	0.015	10	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	SOT-23-5	Out
NJU7012	—	1	Single	1	5.5	0.08	10	0.001	0.001	1	1	1	—	—	-40	85	SOT-23-5	Out
NJU7013	—	1	Single	1	5.5	0.2	10	0.001	0.001	2.4	1	1	—	—	-40	85	SOT-23-5	Out

Operational Amplifiers & Comparators

U.D. : Under Development　NEW : New product　♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡xxxx : Products available in PRODUCT LONGEVITY PROGRAM with time limit
In/Out : Rail to Rail Input/Output Amplifier　Out : Rail to Rail Output Amplifier　Zero Drift : Zero-Drift Operational Amplifier

Low Noise (en ≤ 6nV/√Hz)

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V]		Icc/ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Temperature [°C]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	typ.	typ.	typ.	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
NJU7014	—	2	Single	1	5.5	0.015	10	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7015	—	2	Single	1	5.5	0.08	10	0.001	0.001	1	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7016	—	2	Single	1	5.5	0.2	10	0.001	0.001	2.4	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7017	—	1	Single	1	5.5	0.75	10	0.001	0.001	3.7	1	1	—	—	-40	85	SOT-23-5	Out
NJU7018	—	2	Single	1	5.5	0.75	10	0.001	0.001	3.7	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7019	—	2	Single	1	5.5	0.02	10	0.001	0.001	0.25	0.4	0.4	—	—	-40	85	MSOP8(VSP8)	Out
NJU7042	—	1	Single	2.7	5.5	0.015	5	0.001	0.001	0.03	0.047	0.047	—	—	-40	85	SOT-23-5	In/Out
NJU7051	—	1	Single	1	16	0.015	2	0.001	0.001	0.05	0.1	0.1	—	—	-40	85	DMP8	With offset null terminals Out
NJU7052	—	2	Single	1	16	0.015	2	0.001	0.001	0.05	0.1	0.1	—	—	-40	85	DMP8	Out
NJU7061	—	1	Single	3	16	0.15	2	0.001	0.001	0.4	0.4	0.4	—	—	-20	75	DIP8, DMP8, SSOP8	With offset null terminals Out
NJU7062	—	2	Single	3	16	0.15	2	0.001	0.001	0.4	0.4	0.4	—	—	-20	75	DIP8, DMP8	Out
NJU7064	—	4	Single	3	16	0.15	2	0.001	0.001	0.4	0.4	0.4	—	—	-20	75	DMP14, SSOP14	Out
NJU7071	—	1	Single	5	16	0.6	2	0.001	0.001	1.1	1	1	—	—	-20	75	DIP8, DMP8, SSOP8	With offset null terminals Out
NJU7072	—	2	Single	5	16	0.6	2	0.001	0.001	1.1	1	1	—	—	-20	75	DIP8, DMP8	Out
NJU7074	—	4	Single	5	16	0.6	2	0.001	0.001	1.1	1	1	—	—	-20	75	DMP14, SSOP14	
NJU7091A	—	1	Single	1	5.5	0.015	2	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	SOT-23-5	Out
NJU7092A	—	1	Single	1	5.5	0.08	2	0.001	0.001	1	1	1	—	—	-40	85	SOT-23-5	Out
NJU7093A	—	1	Single	1	5.5	0.2	2	0.001	0.001	2.4	1	1	—	—	-40	85	SOT-23-5	Out
NJU7094	—	2	Single	1	5.5	0.015	4	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7095	—	2	Single	1	5.5	0.08	4	0.001	0.001	1	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7096	—	2	Single	1	5.5	0.2	4	0.001	0.001	2.4	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
U.D. NJU77580	—	1	Single	2.7	5.5	2.3	2.5	0.001	0.001	10	20	—	—	**6**	-55	125	SOT-23-5	Drive High Capacitive Load In/Out
NJU77582 ♡	—	2	Single	2.7	5.5	2.3	2.5	0.001	0.001	10	20	—	—	**6**	-55	125	SOP8, MSOP8(VSP8)♡, DFN8-U1(ESON8-U1)♡	Drive High Capacitive Load In/Out
NJU77701 ♡	✓	1	Single	2.4	5.5	3.8	1.5	0.001	0.001	35	34	—	—	**6**	-40	125	SOT-23-5	In/Out
NJU77806 ♡	—	1	Single	1.8	5.5	0.5	2	0.001	0.001	1.1	4.4	2.4	—	**5.5**	-40	105	SC-88A	Out

Low Operating Voltage (≤ 3V)

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V]		Icc/ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Tempera-ture [°C]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	typ.	typ.	typ.	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
U.D. NL6002	—	2	Single	**1.6**	5.5	0.015	0.15	0.001	0.001	0.04	0.12	—	—	65	-40	125	EMP-8-AN, DFN3030-8-GF	In/Out
U.D. NL6010	—	1	Single	**2.1**	5.5	0.017	0.01	0.03	0.06	0.11	0.26	—	—	60	-40	125	SOT-23-5-DC	In/Out Zero Drift
U.D. NL6011	—	1	Single	**2.1**	5.5	0.017	0.01	0.03	0.06	0.11	0.26	—	—	60	-40	125	SC-88A-DB	In/Out Zero Drift
NEW NL6012 ♡	—	2	Single	**2.1**	5.5	0.015	0.01	0.03	0.06	0.11	0.26	—	—	60	-40	125	VSP-8-AF	In/Out Zero Drift
NJM12902	—	4	Single	**2**	14	0.25	5	20	5	0.7	1.5	1	—	—	-40	85	DMP14, SSOP14, PCSP14-C3	
NJM12904	—	2	Single	**2**	14	0.35	5	20	5	0.7	1.5	1	—	—	-40	85	DIP8, DMP8, SOP8 JEDEC150mil(EMP8), SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	
NJM13403	✓	4	Single	**2**	14	0.75	4	25	5	1.2	2	2	—	25	-40	85	DMP14, SSOP14	
NJM13404	✓	2	Single	**2**	14	1	4	25	5	1.2	2	2	—	25	-40	85	DIP8, DMP, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(VSP8), MSOP8(TVSP8)	
NJM2100	—	2	Dual	**± 1**	± 3.5	1.75	6	100	—	4	12	—	0.6	—	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SOP8	Out
NJM2115	—	2	Dual	**± 1**	± 7	1.75	6	100	—	4	12	—	0.5	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8)	Out
NJM2125	—	1	Single	**2.7**	20	1	7	25	5	1.2	1.2	1.2	—	—	-40	85	SOT-23-5	
NJM2132	—	2	Single	**2.7**	32	0.22	4.5	20	5	2.1	1.8	—	—	32	-40	85	DIP8, DMP8, SSOP8	
NJM2136	—	1	Dual	**± 1.35**	± 6	0.63	5	500	20	45	200	40	—	—	-40	85	DMP8, SSOP8	
NJM2137	—	2	Dual	**± 1.35**	± 6	0.57	5	500	20	45	200	40	—	—	-40	85	DIP8, DMP8, SSOP8	
NJM2140	—	2	Dual	**± 1**	± 7	1.75	6	100	10	4	12	12	—	—	-40	85	MSOP8(TVSP8), MSOP8(VSP8)	Out
NJM2143	—	2	Single	**3**	20	0.35	7	25	5	0.5	0.6	—	—	—	-40	85	MSOP8(TVSP8), MSOP8(VSP8)	
NJM2716	—	1	Single	**2.7**	12	4.2	10	1000	200	40	30	30	—	—	-40	85	SOT-23-5	Out
NJM2717	—	2	Single	**2.7**	12	4	11	2000	200	40	20	20	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8)	Out
NJM2718 ♡	—	2	Single	**3**	36	1.85	4	1200	100	9	1.8	—	—	24	-40	85	SOP8 JEDEC 150mil(EMP8), SSOP8♡	Capacitive Load Stable
NJM2730 ♡	✓	1	Single	**1.8**	5	0.32	5	50	5	0.4	1	—	—	10	-40	85	SOT-23-5	In/Out
NJM2732 ♡	✓	2	Single	**1.8**	6	0.29	5	50	5	0.4	1	1	—	10	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8)♡, PCSP20-CC	In/Out
NJM2734 ♡	—	4	Single	**1.8**	6	0.3	5	50	5	0.4	1	1	—	10	-40	85	DMP14, SSOP14♡, PCSP20-CC	In/Out
NJM2737	—	2	Single	**1.8**	6	0.6	5	200	5	0.7	3.1	—	—	5	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8)	In/Out
NJM2740	—	2	Dual	**± 1.1**	± 3.5	1.75	6	100	5	4	12	—	—	—	-40	125	DMP8, SSOP8, MSOP8(TVSP8)	Out
NJM2741	✓	1	Single	**2.5**	14	2.2	6	100	5	3.5	10	10	—	10	-40	85	SC-88A, SOT-23-5	Out
NJM2742	—	2	Single	**3**	32	2.15	12	80	5	10	2	2	—	40	-40	85	DIP8, DMP8,SSOP8, MSOP8(TVSP8)	
NJM2743	—	1	Single	**3**	15	2	5	100	5	0.85	0.8	—	—	18	-40	85	SOT-23-5	Iout=70mA
NJM2744	—	4	Single	**3**	32	1.875	12	80	5	10	2	2	—	40	-40	85	DMP14, SSOP14	

Operational Amplifiers & Comparators

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In/Out : Rail to Rail Input/Output Amplifier　Out : Rail to Rail Output Amplifier　Zero Drift : Zero-Drift Operational Amplifier

Low Operating Voltage (≤ 3V)

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V]		Icc/ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Tempera-ture [℃]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	typ.	typ.	typ.	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
NJM2746 ♡	✓	2	Single	**2.5**	14	2	6	100	5	3.5	10	10	—	10	-40	85	DMP8, SOP8 JEDEC150mil(EMP8), DFN8-U1(ESON8-U1), SSOP8, MSOP8(TVSP8)♡	Out
NJM2747	✓	4	Single	**2.5**	14	2	6	100	5	3.5	10	10	—	10	-40	85	DMP14, PCSP20-CC, SSOP14	Out
NJM2902	✓	4	Single	**3**	32	0.25	10	20	5	0.5	0.5	—	—	—	-40	85	DMP14, SSOP14	
NJM2902B ♡	✓	4	Single	**3**	36	0.3	2.5	10	1	0.4	0.9	—	—	30	-40	125	SSOP14-B4	
NJM2902C ♡	—	4	Single	**3**	32	0.3	7	20	2	0.6	1.3	—	—	30	-40	125	SOP14, SSOP14♡	Wide Operating Temperature (-40℃ to+125℃)
NJM2902CA	—	4	Single	**3**	32	0.3	2.5	20	2	0.6	1.3	—	—	30	-40	125	SOP14, SSOP14	Wide Operating Temperature (-40℃ to+125℃)
NJM2904	✓	2	Single	**3**	32	0.35	7	25	5	0.5	0.6	—	—	—	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	
NJM2904B ♡	✓	2	Single	**3**	36	0.35	2.5	10	1	0.4	0.9	—	—	30	-40	125	MSOP8(VSP8)	
NJM2904C	—	2	Single	**3**	32	0.35	7	20	2	0.6	1.1	—	—	30	-40	125	SOP8, DMP8, MSOP8(TVSP8), SSOP8, EQFN12-E2	Wide Operating Temperature (-40℃ to +125℃)
NJM2904CA	—	2	Single	**3**	32	0.35	2	20	2	0.6	1.1	—	—	30	-40	125	SOP8, DMP8, MSOP8(TVSP8), SSOP8	Wide Operating Temperature (-40℃ to +125℃)
NJM320A ♡	—	1	Single	**3**	32	0.45	2.5	20	2	0.6	1.1	—	—	30	-40	125	SOT-23-5, SC-88A	Dual(± 1.5 to ± 16V)
NJM321A ♡	—	1	Single	**3**	32	0.45	2.5	20	2	0.6	1.1	—	—	30	-40	125	SOT-23-5, SC-88A, DFN6-G1(ESON6-G1)	Dual(± 1.5 to ± 16V)
NJM324C	—	4	Single	**3**	30	0.3	7	20	2	0.6	1.3	—	—	30	-40	85	SOP14, SSOP14	Dual(± 1.5 to ± 15V)
NJM324CA	—	4	Single	**3**	30	0.3	2.5	20	2	0.6	1.3	—	—	30	-40	85	SOP14, SSOP14	Dual(± 1.5 to ± 15V)
NJM3414A	—	2	Single	**3**	15	2	5	100	5	1	1.3	—	—	18	-40	85	DIP8, DMP8, SSOP8	
NJM3472 ♡	—	2	Single	**3**	36	2	5.5	80	5	10	3	3.6	—	48	-40	125	SOP8, SSOP8, MSOP8(VSP8)♡	
NJM3474 ♡	—	4	Single	**3**	36	2	5.5	80	5	10	3	3.6	—	48	-40	125	SOP14, SSOP14♡	
NJM358C ♡	—	2	Single	**3**	30	0.35	7	20	2	0.6	1.1	—	—	30	-40	85	SOP8, SSOP8♡	Dual(± 1.5 to ± 15V)
NJM358CA	—	2	Single	**3**	30	0.35	2	20	2	0.6	1.1	—	—	30	-40	85	SOP8, SSOP8	Dual(± 1.5 to ± 15V)
NJM8020 ♡	—	1	Single	**3**	36	0.45	2	20	2	0.6	1.1	—	—	30	-40	125	SOT-23-5♡, SC-88A	Dual(± 1.5 to ± 18V)
NJM8021 ♡	—	1	Single	**3**	36	0.45	2	20	2	0.6	1.1	—	—	30	-40	125	SOT-23-5, SC-88A, DFN6-G1(ESON6-G1)	Dual(± 1.5 to ± 18V)
NJM8202 ♡	✓	2	Single	**2.5**	14	2	6	100	5	3.5	10	10	—	10	-40	85	DMP8♡, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJM8204 ♡	✓	4	Single	**2.5**	14	2	6	100	5	3.5	10	—	—	10	-40	125	SSOP14	Out
NJM8208 ♡	✓	2	Single	**3**	35	0.45	0.8	55	5	0.2	0.35	0.35	—	—	-40	125	DMP8♡ MSOP8(VSP8)	Out
NJM8212 ♡	✓	2	Single	**2.5**	14	1.5	6	900	30	3.5	6	—	—	18	-40	125	DMP8	Out
NJM842 ♡	✓	2	Single	**3**	36	2.15	3.5	120	6	8.5	3.5	—	—	32	-40	125	SOP8, SSOP8, MSOP8(VSP8)♡	

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V]		Icc/ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Tempera-ture [℃]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	typ.	typ.	typ.	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
NJM844 ♡	—	4	Single	**3**	36	2.2	3.5	120	6	8.5	3.5	—	—	32	-40	125	SOP14, SSOP14♡	
NJM8524	—	4	Single	**3**	36	0.025	1.8	3	0.5	0.04	0.1	0.1	—	60	-40	85	SSOP14	Out
NJM8530 ♡	✓	1	Single	**1.8**	14	0.32	4	50	5	0.4	1	1	—	10	-40	125	SOT-23-5	In/Out
NJM8532 ♡	✓	2	Single	**1.8**	14	0.29	4	50	5	0.4	1	1	—	10	-40	125	DMP8, SSOP8,MSOP8(TVSP8)♡, MSOP8(VSP8)♡	In/Out
NJM8534	—	4	Single	**1.8**	14	0.3	4	50	5	0.4	1	1	—	10	-40	125	SSOP14	In/Out
NJU7001	—	1	Single	**1**	16	0.015	10	0.001	0.001	0.05	0.1	0.1	—	—	-20	75	DIP8, DMP8, SSOP8	Out
NJU7002	—	2	Single	**1**	16	0.015	10	0.001	0.001	0.05	0.1	0.1	—	—	-20	75	DIP8, DMP8	Out
NJU7004	—	4	Single	**1**	16	0.015	10	0.001	0.001	0.05	0.1	0.1	—	—	-20	75	DMP14, SSOP14	Out
NJU7006	—	1	Single	**1.8**	3.6	0.003	2	0.001	0.001	0.04	0.095	0.095	—	—	-40	85	SOT-23-5	Out
NJU7007	—	1	Single	**1**	5.5	0.015	4	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	SC-88A	Out
NJU7008	—	1	Single	**1**	5.5	0.2	4	0.001	0.001	2.4	1	1	—	—	-40	85	SC-88A	Out
NJU7009	—	1	Single	**2.2**	5.5	0.45	5	0.001	0.001	1	3	3	1.7	13	-40	85	SC-88A	Out
NJU7011	—	1	Single	**1**	5.5	0.015	10	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	SOT-23-5	Out
NJU7012	—	1	Single	**1**	5.5	0.08	10	0.001	0.001	1	1	1	—	—	-40	85	SOT-23-5	Out
NJU7013	—	1	Single	**1**	5.5	0.2	10	0.001	0.001	2.4	1	1	—	—	-40	85	SOT-23-5	Out
NJU7014	—	2	Single	**1**	5.5	0.015	10	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7015	—	2	Single	**1**	5.5	0.08	10	0.001	0.001	1	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7016	—	2	Single	**1**	5.5	0.2	10	0.001	0.001	2.4	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7017	—	1	Single	**1**	5.5	0.75	10	0.001	0.001	3.7	1	1	—	—	-40	85	SOT-23-5	Out
NJU7018	—	2	Single	**1**	5.5	0.75	10	0.001	0.001	3.7	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7019	—	2	Single	**1**	5.5	0.02	10	0.001	0.001	0.25	0.4	0.4	—	—	-40	85	MSOP8(VSP8)	Out
NJU7021	—	1	Single	**3**	16	0.15	10	0.001	0.001	0.4	0.4	0.4	—	27	-20	75	DMP8, SSOP8	Out
NJU7022	—	2	Single	**3**	16	0.15	10	0.001	0.001	0.4	0.4	0.4	—	27	-20	75	DIP8, DMP8	Out
NJU7024	—	4	Single	**3**	16	0.15	10	0.001	0.001	0.4	0.4	0.4	—	27	-20	75	DMP14, SSOP14	Out
NJU7026 ♡ 2031	—	1	Single	**1.8**	5.5	0.013	4	0.001	0.001	0.05	0.16	0.16	—	50	-40	125	SC-88A	Out
NJU7026 ♡																	SOT-23-5	
NJU7027 ♡	—	2	Single	**1.8**	5.5	0.013	4	0.001	0.001	0.05	0.16	0.16	—	50	-40	125	DFN8-U1(ESON8-U1), MSOP8(TVSP8)	Out
NJU7028 ♡	—	4	Single	**1.8**	5.5	0.012	4	0.001	0.001	0.05	0.16	0.16	—	50	-40	125	SSOP14	Out
NJU7029	—	2	Single	**2.2**	5.5	0.425	5	0.001	0.001	1	3	3	1.7	13	-40	85	DFN8-U1(ESON8-U1), SSOP8, MSOP8(TVSP8)	Out
NJU7031	—	1	Single	**3**	16	1	10	0.001	0.001	3.5	1.5	1.5	—	20	-40	85	DIP8, DMP8, SSOP8	Out
NJU7032	—	2	Single	**3**	16	1	10	0.001	0.001	3.5	1.5	1.5	—	20	-40	85	DIP8, DMP8	Out
NJU7034	—	4	Single	**3**	16	1	10	0.001	0.001	3.5	1.5	1.5	—	20	-40	85	DMP14, SSOP14	Out
NJU7036	—	2	Single	**2.7**	5.5	1.75	10	0.001	0.001	0.7	0.4	0.4	—	60	-40	85	PCSP20-E3	Out

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Operational Amplifiers & Comparators

U.D. : Under Development　NEW : New product　♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡ XXXX : Products available in PRODUCT LONGEVITY PROGRAM with time limit
In/Out : Rail to Rail Input/Output Amplifier　Out : Rail to Rail Output Amplifier　Zero Drift : Zero-Drift Operational Amplifier

Low Operating Voltage (≤ 3V)

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V]		Icc/ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Tempera-ture [°C]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	typ.	typ.	typ.	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
NJU7040	—	1	Single	**2.2**	5.5	0.45	10	0.001	0.001	0.85	0.8	0.8	—	40	-40	85	SOT-23-5	In/Out
NJU7042	—	1	Single	**2.7**	5.5	0.015	5	0.001	0.001	0.03	0.047	0.047	—	—	-40	85	SOT-23-5	In/Out
NJU7043	✓	2	Single	**1.8**	5.5	0.3	10	0.001	0.001	0.7	0.8	0.8	—	40	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8), PCSP20-CC	In/Out
NJU7044	—	4	Single	**2.2**	5.5	0.45	10	0.001	0.001	0.8	0.8	0.8	—	40	-40	85	DMP14, SSOP14	In/Out
NJU7046 ♡	✓	1	Single	**2.7**	5.5	1.4	5	0.001	0.001	9	5	—	—	20	-40	125	SOT-23-5, SC-88A	In/Out
NJU7047 ♡	✓	2	Single	**2.7**	5.5	1.35	5	0.001	0.001	9	5	—	—	20	-40	125	SOP8 JEDEC 150mil(EMP8), MSOP8(TVSP8)♡, DFN8-U1(ESON8-U1)♡	In/Out
NJU7048 ♡	—	4	Single	**2.7**	5.5	1.325	5	0.001	0.001	9	5	—	—	20	-40	125	SOP14, SSOP14♡	In/Out
NJU7051	—	1	Single	**1**	16	0.015	2	0.001	0.001	0.05	0.1	0.1	—	—	-40	85	DMP8	With offset null termi-nals Out
NJU7052	—	2	Single	**1**	16	0.015	2	0.001	0.001	0.05	0.1	0.1	—	—	-40	85	DMP8	Out
NJU7056 ♡	✓	1	Single	**1.8**	5.5	0.26	4	0.001	0.001	0.8	2.1	—	—	15	-40	125	SC-88A, SOT-23-5	Out
NJU7057 ♡	✓	2	Single	**1.8**	5.5	0.26	4	0.001	0.001	0.8	2.1	—	—	15	-40	125	DFN8-U1(ESON8-U1), MSOP8(TVSP8)	Out
NJU7058 ♡	✓	4	Single	**1.8**	5.5	0.25	4	0.001	0.001	0.8	2.1	—	—	15	-40	125	SSOP14	Out
NJU7061	—	1	Single	**3**	16	0.15	2	0.001	0.001	0.4	0.4	0.4	—	—	-20	75	DIP8, DMP8, SSOP8	With offset null termi-nals Out
NJU7062	—	2	Single	**3**	16	0.15	2	0.001	0.001	0.4	0.4	0.4	—	—	-20	75	DIP8, DMP8	Out
NJU7064	—	4	Single	**3**	16	0.15	2	0.001	0.001	0.4	0.4	0.4	—	—	-20	75	DMP14, SSOP14	Out
NJU7066 ♡	—	2	Single	**2.2**	5.5	0.6	0.5	0.001	0.001	0.5	1.3	1.3	—	10	-40	125	MSOP8(VSP8)	Out
NJU7076 ♡	—	1	Single	**2.2**	5.5	0.6	0.15	0.001	0.001	0.5	1.3	1.3	—	10	-40	125	SOT-23-5	Out
NJU7076B	—	1	Single	**2.2**	5.5	0.6	0.3	0.001	0.001	0.5	1.3	1.3	—	10	-40	125	SC-88A	Out
NJU7077 ♡	✓	2	Single	**2.2**	5.5	0.6	0.15	0.001	0.001	0.5	1.3	1.3	—	10	-40	125	MSOP8(VSP8)	Out
NJU7078 ♡	—	4	Single	**2.2**	5.5	0.6	0.2	0.001	0.001	0.5	1.3	1.3	—	10	-40	125	SSOP14	Out
NJU7091A	—	1	Single	**1**	5.5	0.015	2	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	SOT-23-5	Out
NJU7092A	—	1	Single	**1**	5.5	0.08	2	0.001	0.001	1	1	1	—	—	-40	85	SOT-23-5	Out
NJU7093A	—	1	Single	**1**	5.5	0.2	2	0.001	0.001	2.4	1	1	—	—	-40	85	SOT-23-5	Out
NJU7094	—	2	Single	**1**	5.5	0.015	4	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7095	—	2	Single	**1**	5.5	0.08	4	0.001	0.001	1	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7096	—	2	Single	**1**	5.5	0.2	4	0.001	0.001	2.4	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7098A	—	1	Single	**3**	10	0.6	0.015	0.02	—	3	3	—	—	120	-40	105	SOT-23-6-1	On/Off Switch Out Zero Drift
NJU7098AF1-C	—	1	Single	**3**	10	0.6	0.015	0.02	—	3	3	—	—	120	-40	105	SOT-23-6-1	On/Off Switch Out Zero Drift
NJU77000 ♡	—	1	Single	**1.5**	5.5	0.00029	1.8	0.001	0.001	0.0008	0.0011	0.0011	—	600	-40	105	SOT-23-5	Ultra-Low Operating Current In/Out
NJU77001 ♡	—	1	Single	**1.5**	5.5	0.00029	1.8	0.001	0.001	0.0008	0.0011	0.0011	—	600	-40	105	SOT-23-5, SC-88A	Ultra-Low Operating Current In/Out
NJU77002 ♡	—	2	Single	**1.5**	5.5	0.00023	2	0.001	0.001	0.0007	0.001	0.001	—	700	-40	105	SOP8 JEDEC 150mil(EMP8), MSOP8(TVSP8)♡, DFN8-U1(ESON8-U1)♡	Ultra-Low Operating Current In/Out
NJU77002A ♡	✓	2	Single	**1.5**	5.5	0.00023	1.3	0.001	0.001	0.0007	0.001	0.001	—	700	-40	105	SOP8 JEDEC 150mil(EMP8), MSOP8(TVSP8), DFN8-U1(ESON8-U1)	In/Out
NJU77004 ♡	—	4	Single	**1.5**	5.5	0.00023	2.2	0.001	0.001	0.0007	0.001	0.001	—	700	-40	105	SSOP14	Ultra-Low Operating Current In/Out
NJU77550 ♡	—	1	Single	**1.8**	5.5	0.055	5	0.001	0.001	0.8	1.7	—	—	24	-55	125	SOT-23-5♡, SC-88A	In/Out
NJU77551 ♡	—	1	Single	**1.8**	5.5	0.055	5	0.001	0.001	0.8	1.7	—	—	24	-55	125	SOT-23-5, SC-88A	In/Out
NJU77552 ♡	✓	2	Single	**1.8**	5.5	0.05	5	0.001	0.001	0.8	1.7	—	—	24	-55	125	SOP8, MSOP8(TVSP8)♡, MSOP8(VSP8)♡, DFN8-U1(ESON8-U1)♡	In/Out
NJU77554 ♡	—	4	Single	**1.8**	5.5	0.05	5	0.001	0.001	0.8	1.7	—	—	24	-55	125	SSOP14	In/Out
NJU77572 ♡	—	2	Single	**2.7**	5.5	1.15	3.5	0.001	0.001	5	10	—	—	9	-55	125	MSOP8(VSP8)	In/Out
U.D. **NJU77580**	—	1	Single	**2.7**	5.5	2.3	2.5	0.001	0.001	10	20	—	—	6	-55	125	SOT-23-5	Drive High Capacitive Load In/Out
NJU77582 ♡	—	2	Single	**2.7**	5.5	2.3	2.5	0.001	0.001	10	20	—	—	6	-55	125	SOP8, MSOP8(VSP8)♡, DFN8-U1(ESON8-U1)♡	Drive High Capacitive Load In/Out
NJU77701 ♡	✓	1	Single	**2.4**	5.5	3.8	1.5	0.001	0.001	35	34	—	—	6	-40	125	SOT-23-5	In/Out
NJU77806 ♡	—	1	Single	**1.8**	5.5	0.5	2	0.001	0.001	1.1	4.4	2.4	—	5.5	-40	105	SC-88A	Out

Small Sized Package

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V]		Icc/ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Tempera-ture [°C]		**Package Outline**	Notes
				min.	max.	typ.	max.	typ.	typ.	typ.	typ.	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
NJM2125	—	1	Single	2.7	20	1	7	25	5	1.2	1.2	1.2	—	—	-40	85	**SOT-23-5**	
NJM2711	—	1	Dual	± 2	± 4.5	1.9	7	2000	350	260	1000	180	—	6.8	-40	85	**SOT-23-5**	
NJM2712	—	2	Dual	± 2	± 4.5	1.9	7	2000	350	260	1000	180	—	6.8	-40	85	**DMP8, MSOP8(TVSP8)**	
NJM2716	—	1	Single	2.7	12	4.2	10	1000	200	40	30	30	—	—	-40	85	**SOT-23-5**	Out
NJM2730 ♡	✓	1	Single	1.8	5	0.32	5	50	5	0.4	1	—	—	10	-40	85	**SOT-23-5**	In/Out
NJM2741	✓	1	Single	2.5	14	2.2	6	100	5	3.5	10	10	—	10	-40	85	**SC-88A, SOT-23-5**	Out
NJM2743	—	1	Single	3	15	2	5	100	5	0.85	0.8	—	—	18	-40	85	**SOT-23-5**	Iout=70mA
NJM320A ♡	—	1	Single	3	32	0.45	2.5	20	2	0.6	1.1	—	—	30	-40	125	**SOT-23-5, SC-88A**	Dual (± 1.5 to ± 16V)
NJM321A ♡	—	1	Single	3	32	0.45	2.5	20	2	0.6	1.1	—	—	30	-40	125	**SOT-23-5, SC-88A, DFN6-G1(ESON6-G1)**	Dual (± 1.5 to ± 16V)
NJM8020 ♡	—	1	Single	3	36	0.45	2	20	2	0.6	1.1	—	—	30	-40	125	**SOT-23-5♡, SC-88A**	Dual (± 1.5 to ± 18V)
NJM8021 ♡	—	1	Single	3	36	0.45	2	20	2	0.6	1.1	—	—	30	-40	125	**SOT-23-5, SC-88A, DFN6-G1(ESON6-G1)**	Dual (± 1.5 to ± 18V)
NJMOP2277 ♡	—	2	Dual	± 2.25	± 18	0.76	0.05	0.5	0.5	0.7	1	1	0.07	8	-40	125	**SOP8 JEDEC 150mil(EMP8), MSOP8(VSP8)♡, DFN8-W1(ESON8-W2)♡**	High EMI Immunity
NJU7007	—	1	Single	1	5.5	0.015	4	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	**SC-88A**	Out
NJU7008	—	1	Single	1	5.5	0.2	4	0.001	0.001	2.4	1	1	—	—	-40	85	**SC-88A**	Out

Operational Amplifiers & Comparators

U.D. : Under Development　NEW : New product　♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡ XXXX : Products available in PRODUCT LONGEVITY PROGRAM with time limit
In/Out : Rail to Rail Input/Output Amplifier　Out : Rail to Rail Output Amplifier　Zero Drift : Zero-Drift Operational Amplifier

Small Sized Package

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V] min.	Supply Voltage [V] max.	Icc/ch. [mA] typ.	VIO [mV] max.	IB [nA] typ.	IIO [nA] typ.	SR [V/μsec] typ.	GBW [MHz] typ.	fT [MHz] typ.	Noise typ. VNI [μVrms]	Noise typ. en [nV/√Hz]	Operating Tempera-ture [°C] min.	Operating Tempera-ture [°C] max.	Package Outline	Notes
NJU7009	—	1	Single	2.2	5.5	0.45	5	0.001	0.001	1	3	3	1.7	13	-40	85	**SC-88A**	Out
NJU7011	—	1	Single	1	5.5	0.015	10	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	**SOT-23-5**	Out
NJU7012	—	1	Single	1	5.5	0.08	10	0.001	0.001	1	1	1	—	—	-40	85	**SOT-23-5**	Out
NJU7013	—	1	Single	1	5.5	0.2	10	0.001	0.001	2.4	1	1	—	—	-40	85	**SOT-23-5**	Out
NJU7017	—	1	Single	1	5.5	0.75	10	0.001	0.001	3.7	1	1	—	—	-40	85	**SOT-23-5**	Out
NJU7026 ♡2031	—	1	Single	1.8	5.5	0.013	4	0.001	0.001	0.05	0.16	0.16	—	50	-40	125	**SC-88A**	Out
NJU7026 ♡																	**SOT-23-5**	
NJU7027 ♡	—	2	Single	1.8	5.5	0.013	4	0.001	0.001	0.05	0.16	0.16	—	50	-40	125	**DFN8-U1(ESON8-U1), MSOP8(TVSP8)**	Out
NJU7040	—	1	Single	2.2	5.5	0.45	10	0.001	0.001	0.85	0.8	0.8	—	40	-40	85	**SOT-23-5**	In/Out
NJU7042	—	1	Single	2.7	5.5	0.015	5	0.001	0.001	0.03	0.047	0.047	—	—	-40	85	**SOT-23-5**	In/Out
NJU7043	✓	2	Single	1.8	5.5	0.3	10	0.001	0.001	0.7	0.8	0.8	—	40	-40	85	**DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8), PCSP20-CC**	In/Out
NJU7046 ♡	✓	1	Single	2.7	5.5	1.4	5	0.001	0.001	9	5	—	—	20	-40	125	**SOT-23-5, SC-88A**	In/Out
NJU7047 ♡	✓	2	Single	2.7	5.5	1.35	5	0.001	0.001	9	5	—	—	20	-40	125	**SOP8 JEDEC 150mil(EMP8), MSOP8(TVSP8)♡, DFN8-U1(ESON8-U1)♡**	In/Out
NJU7056 ♡	✓	1	Single	1.8	5.5	0.26	4	0.001	0.001	0.8	2.1	—	—	15	-40	125	**SC-88A, SOT-23-5**	Out
NJU7057 ♡	✓	2	Single	1.8	5.5	0.26	4	0.001	0.001	0.8	2.1	—	—	15	-40	125	**DFN8-U1(ESON8-U1), MSOP8(TVSP8)**	Out
NJU7076B	—	1	Single	2.2	5.5	0.6	0.3	0.001	0.001	0.5	1.3	1.3	—	10	-40	125	**SC-88A**	Out
NJU7091A	—	1	Single	1	5.5	0.015	2	0.001	0.001	0.1	0.2	0.2	—	—	-40	85	**SOT-23-5**	Out
NJU7092A	—	1	Single	1	5.5	0.08	2	0.001	0.001	1	1	1	—	—	-40	85	**SOT-23-5**	Out
NJU7093A	—	1	Single	1	5.5	0.2	2	0.001	0.001	2.4	1	1	—	—	-40	85	**SOT-23-5**	Out
NJU77000 ♡	—	1	Single	1.5	5.5	0.00029	1.8	0.001	0.001	0.0008	0.0011	0.0011	—	600	-40	105	**SOT-23-5**	Ultra-Low Operating Current In/Out
NJU77001 ♡	—	1	Single	1.5	5.5	0.00029	1.8	0.001	0.001	0.0008	0.0011	0.0011	—	600	-40	105	**SOT-23-5, SC-88A**	Ultra-Low Operating Current In/Out
NJU77002 ♡	—	2	Single	1.5	5.5	0.00023	2	0.001	0.001	0.0007	0.001	0.001	—	700	-40	105	**SOP8 JEDEC 150mil(EMP8), MSOP8(TVSP8)♡, DFN8-U1(ESON8-U1)♡**	Ultra-Low Operating Current In/Out
NJU77550 ♡	—	1	Single	1.8	5.5	0.055	5	0.001	0.001	0.8	1.7	—	—	24	-55	125	**SOT-23-5♡, SC-88A**	In/Out
NJU77551 ♡	—	1	Single	1.8	5.5	0.055	5	0.001	0.001	0.8	1.7	—	—	24	-55	125	**SOT-23-5, SC-88A**	In/Out
NJU77552 ♡	✓	2	Single	1.8	5.5	0.05	5	0.001	0.001	0.8	1.7	—	—	24	-55	125	**SOP8, MSOP8(TVSP8)♡, MSOP8(VSP8)♡, DFN8-U1(ESON8-U1)♡**	In/Out
NJU77582 ♡	—	2	Single	2.7	5.5	2.3	2.5	0.001	0.001	10	20	—	—	6	-55	125	**SOP8, MSOP8(VSP8)♡, DFN8-U1(ESON8-U1)♡**	Drive High Capacitive Load In/Out
NJU77806 ♡	—	1	Single	1.8	5.5	0.5	2	0.001	0.001	1.1	4.4	2.4	—	5.5	-40	105	**SC-88A**	Out
NJU77902	—	2	Single	6	18	3.5	10	0.001	0.001	9	3	3	—	80	-40	85	**DFN8-W1(ESON8-W2)**	High Output Current In/Out

Low Bias Current (IB ≤ 1nA)

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V] min.	Supply Voltage [V] max.	Icc/ch. [mA] typ.	VIO [mV] max.	**IB [nA]** typ.	IIO [nA] typ.	SR [V/μsec] typ.	GBW [MHz] typ.	fT [MHz] typ.	Noise typ. VNI [μVrms]	Noise typ. en [nV/√Hz]	Operating Tempera-ture [°C] min.	Operating Tempera-ture [°C] max.	Package Outline	Notes
U.D. **NL6002**	—	2	Single	1.6	5.5	0.015	0.15	**0.001**	0.001	0.04	0.12	—	—	65	-40	125	EMP-8-AN, DFN3030-8-GF	In/Out
U.D. **NL6010**	—	1	Single	2.1	5.5	0.017	0.01	**0.03**	0.06	0.11	0.26	—	—	60	-40	125	SOT-23-5-DC	In/Out Zero Drift
U.D. **NL6011**	—	1	Single	2.1	5.5	0.017	0.01	**0.03**	0.06	0.11	0.26	—	—	60	-40	125	SC-88A-DB	In/Out Zero Drift
NEW **NL6012** ♡	—	2	Single	2.1	5.5	0.015	0.01	**0.03**	0.06	0.11	0.26	—	—	60	-40	125	VSP-8-AF	In/Out Zero Drift
NJM062C	—	2	Dual	± 2	± 18	0.2	15	**0.03**	0.005	3.5	1	1	—	35	-40	125	SOP8, SSOP8	
NJM062CA	—	2	Dual	± 2	± 18	0.2	6	**0.03**	0.005	3.5	1	1	—	35	-40	125	SOP8, SSOP8	
NJM064C ♡	—	4	Dual	± 2	± 18	0.2	15	**0.03**	0.005	3.5	1	1	—	35	-40	125	SOP14, SSOP14♡	
NJM064CA	—	4	Dual	± 2	± 18	0.2	6	**0.03**	0.005	3.5	1	1	—	35	-40	125	SOP14, SSOP14	
NJM072C	—	2	Dual	± 4	± 18	1.4	10	**0.03**	0.005	13	3	3	4	18	-40	125	SOP8, SSOP8	
NJM072CA	—	2	Dual	± 4	± 18	1.4	6	**0.03**	0.005	13	3	3	4	18	-40	125	SOP8, SSOP8	
NJM074C ♡	—	4	Dual	± 4	± 18	1.4	10	**0.03**	0.005	13	3	3	4	18	-40	125	SOP14, SSOP14♡	
NJM074CA	—	4	Dual	± 4	± 18	1.4	6	**0.03**	0.005	13	3	3	4	18	-40	125	SOP14, SSOP14	
NJM082C	—	2	Dual	± 4	± 18	1.4	15	**0.03**	0.005	13	3	3	4	18	-40	125	SOP8, SSOP8	
NJM082CA	—	2	Dual	± 4	± 18	1.4	6	**0.03**	0.005	13	3	3	4	18	-40	125	SOP8, SSOP8	
NJM084C	—	4	Dual	± 4	± 18	1.4	15	**0.03**	0.005	13	3	3	4	18	-40	125	SOP14, SSOP14	
NJM084CA	—	4	Dual	± 4	± 18	1.4	6	**0.03**	0.005	13	3	3	4	18	-40	125	SOP14, SSOP14	
NJM2748	✓	1	Dual	± 6	± 16	2	2	**0.05**	0.025	14	2.2	2	2.5	20	-40	85	DIP8, DMP8	With offset null terminals
NJM2748A	—	1	Dual	± 6	± 16	2	2	**0.05**	0.025	14	2.2	2	2.5	20	-40	85	DIP8, DMP8	With offset null terminals
NJM2749	—	2	Dual	± 6	± 16	1.9	2.5	**0.05**	0.025	14	2.2	2	2.5	20	-40	85	DMP8, SOP8 JEDEC 150mil(EMP8)	
NJM2749A	—	2	Dual	± 6	± 16	1.9	2.5	**0.05**	0.025	14	2.2	2	2.5	20	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8)	
NJM8087	—	2	Dual	± 4	± 16	1.3	0.8	**0.025**	0.006	20	7	7	—	10	-40	125	SOP8 JEDEC 150mil(EMP8)	No Phase Reversal
NJM8502 ♡	—	2	Dual	± 4.5	± 16	1.3	0.4	**0.025**	0.006	20	7	7	0.18	10	-40	125	MSOP8(VSP8)	
NJM8512 ♡	—	2	Dual	± 4.5	± 16	1.3	0.4	**0.025**	0.006	20	7	7	—	10	-40	125	MSOP8(VSP8)♡, SOP8 JEDEC 150mil(EMP8)	
NJM8513 ♡	—	4	Dual	± 4.5	± 16	1.3	0.4	**0.025**	0.006	20	7	7	—	10	-40	125	SSOP14	
NJMOP2277 ♡	—	2	Dual	± 2.25	± 18	0.76	0.05	**0.5**	0.5	0.7	1	1	0.07	8	-40	125	SOP8 JEDEC 150mil(EMP8), MSOP8(VSP8)♡, DFN8-W1(ESON8-W2)♡	High EMI Immunity
NJMOP277 ♡	—	1	Dual	± 2.25	± 18	0.76	0.05	**0.5**	0.5	0.7	1	1	0.07	8	-40	125	SOP8 JEDEC 150mil(EMP8), MSOP8(VSP8)♡	High EMI Immunity
NJU7001	—	1	Single	1	16	0.015	10	**0.001**	0.001	0.05	0.1	0.1	—	—	-20	75	DIP8, DMP8, SSOP8	Out
NJU7002	—	2	Single	1	16	0.015	10	**0.001**	0.001	0.05	0.1	0.1	—	—	-20	75	DIP8, DMP8	Out
NJU7004	—	4	Single	1	16	0.015	10	**0.001**	0.001	0.05	0.1	0.1	—	—	-20	75	DMP14, SSOP14	Out
NJU7006	—	1	Single	1.8	3.6	0.003	2	**0.001**	0.001	0.04	0.095	0.095	—	—	-40	85	SOT-23-5	Out
NJU7007	—	1	Single	1	5.5	0.015	4	**0.001**	0.001	0.1	0.2	0.2	—	—	-40	85	SC-88A	Out

Operational Amplifiers & Comparators

U.D. : Under Development　NEW : New product　♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡ XXXX : Products available in PRODUCT LONGEVITY PROGRAM with time limit
In/Out : Rail to Rail Input/Output Amplifier　Out : Rail to Rail Output Amplifier　Zero Drift : Zero-Drift Operational Amplifier

Low Bias Current ($I_B \leq 1nA$)

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V]		Icc/ch. [mA]	V_{IO} [mV]	**I_B [nA]**	I_{IO} [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Tempera-ture [°C]		Package Outline	Notes
				min.	max.	typ.	max.	**typ.**	typ.	typ.	typ.	typ.	V_{NI} [μVrms]	en [nV/√Hz]	min.	max.		
NJU7008	—	1	Single	1	5.5	0.2	4	**0.001**	0.001	2.4	1	1	—	—	-40	85	SC-88A	Out
NJU7009	—	1	Single	2.2	5.5	0.45	5	**0.001**	0.001	1	3	3	1.7	13	-40	85	SC-88A	Out
NJU7011	—	1	Single	1	5.5	0.015	10	**0.001**	0.001	0.1	0.2	0.2	—	—	-40	85	SOT-23-5	Out
NJU7012	—	1	Single	1	5.5	0.08	10	**0.001**	0.001	1	1	1	—	—	-40	85	SOT-23-5	Out
NJU7013	—	1	Single	1	5.5	0.2	10	**0.001**	0.001	2.4	1	1	—	—	-40	85	SOT-23-5	Out
NJU7014	—	2	Single	1	5.5	0.015	10	**0.001**	0.001	0.1	0.2	0.2	—	—	-40	85	DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7015	—	2	Single	1	5.5	0.08	10	**0.001**	0.001	1	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7016	—	2	Single	1	5.5	0.2	10	**0.001**	0.001	2.4	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7017	—	1	Single	1	5.5	0.75	10	**0.001**	0.001	3.7	1	1	—	—	-40	85	SOT-23-5	Out
NJU7018	—	2	Single	1	5.5	0.75	10	**0.001**	0.001	3.7	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7019	—	2	Single	1	5.5	0.02	10	**0.001**	0.001	0.25	0.4	0.4	—	—	-40	85	MSOP8(VSP8)	Out
NJU7021	—	1	Single	3	16	0.15	10	**0.001**	0.001	0.4	0.4	0.4	—	27	-20	75	DMP8, SSOP8	Out
NJU7022	—	2	Single	3	16	0.15	10	**0.001**	0.001	0.4	0.4	0.4	—	27	-20	75	DIP8, DMP8	Out
NJU7024	—	4	Single	3	16	0.15	10	**0.001**	0.001	0.4	0.4	0.4	—	27	-20	75	DMP14, SSOP14	Out
NJU7026 ♡2031	—	1	Single	1.8	5.5	0.013	4	**0.001**	0.001	0.05	0.16	0.16	—	50	-40	125	SC-88A	Out
NJU7026 ♡																	SOT-23-5	
NJU7027 ♡	—	2	Single	1.8	5.5	0.013	4	**0.001**	0.001	0.05	0.16	0.16	—	50	-40	125	DFN8-U1(ESON8-U1), MSOP8(TVSP8)	Out
NJU7028 ♡	—	4	Single	1.8	5.5	0.012	4	**0.001**	0.001	0.05	0.16	0.16	—	50	-40	125	SSOP14	Out
NJU7029	—	2	Single	2.2	5.5	0.425	5	**0.001**	0.001	1	3	3	1.7	13	-40	85	DFN8-U1(ESON8-U1), SSOP8, MSOP8(TVSP8)	Out
NJU7031	—	1	Single	3	16	1	10	**0.001**	0.001	3.5	1.5	1.5	—	20	-40	85	DIP8, DMP8, SSOP8	Out
NJU7032	—	2	Single	3	16	1	10	**0.001**	0.001	3.5	1.5	1.5	—	20	-40	85	DIP8, DMP8	Out
NJU7034	—	4	Single	3	16	1	10	**0.001**	0.001	3.5	1.5	1.5	—	20	-40	85	DMP14, SSOP14	Out
NJU7036	—	2	Single	2.7	5.5	1.75	10	**0.001**	0.001	0.7	0.4	0.4	—	60	-40	85	PCSP20-E3	Out
NJU7040	—	1	Single	2.2	5.5	0.45	10	**0.001**	0.001	0.85	0.8	0.8	—	40	-40	85	SOT-23-5	In/Out
NJU7042	—	1	Single	2.7	5.5	0.015	5	**0.001**	0.001	0.03	0.047	0.047	—	—	-40	85	SOT-23-5	In/Out
NJU7043	✓	2	Single	1.8	5.5	0.3	10	**0.001**	0.001	0.7	0.8	0.8	—	40	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8), PCSP20-CC	In/Out
NJU7044	—	4	Single	2.2	5.5	0.45	10	**0.001**	0.001	0.8	0.8	0.8	—	40	-40	85	DMP14, SSOP14	In/Out

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V]		Icc/ch. [mA]	V_{IO} [mV]	**I_B [nA]**	I_{IO} [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Tempera-ture [°C]		Package Outline	Notes
				min.	max.	typ.	max.	**typ.**	typ.	typ.	typ.	typ.	V_{NI} [μVrms]	en [nV/√Hz]	min.	max.		
NJU7046 ♡	✓	1	Single	2.7	5.5	1.4	5	**0.001**	0.001	9	5	—	—	20	-40	125	SOT-23-5, SC-88A	In/Out
NJU7047 ♡	✓	2	Single	2.7	5.5	1.35	5	**0.001**	0.001	9	5	—	—	20	-40	125	SOP8 JEDEC 150mil(EMP8), MSOP8(TVSP8)♡, DFN8-U1(ESON8-U1)♡	In/Out
NJU7048 ♡	—	4	Single	2.7	5.5	1.325	5	**0.001**	0.001	9	5	—	—	20	-40	125	SOP14, SSOP14♡	In/Out
NJU7051	—	1	Single	1	16	0.015	2	**0.001**	0.001	0.05	0.1	0.1	—	—	-40	85	DMP8	With offset null terminals Out
NJU7052	—	2	Single	1	16	0.015	2	**0.001**	0.001	0.05	0.1	0.1	—	—	-40	85	DMP8	Out
NJU7056 ♡	✓	1	Single	1.8	5.5	0.26	4	**0.001**	0.001	0.8	2.1	—	—	15	-40	125	SC-88A, SOT-23-5	Out
NJU7057 ♡	✓	2	Single	1.8	5.5	0.26	4	**0.001**	0.001	0.8	2.1	—	—	15	-40	125	DFN8-U1(ESON8-U1), MSOP8(TVSP8)	Out
NJU7058 ♡	✓	4	Single	1.8	5.5	0.25	4	**0.001**	0.001	0.8	2.1	—	—	15	-40	125	SSOP14	Out
NJU7061	—	1	Single	3	16	0.15	2	**0.001**	0.001	0.4	0.4	0.4	—	—	-20	75	DIP8, DMP8, SSOP8	With offset null terminals Out
NJU7062	—	2	Single	3	16	0.15	2	**0.001**	0.001	0.4	0.4	0.4	—	—	-20	75	DIP8, DMP8	Out
NJU7064	—	4	Single	3	16	0.15	2	**0.001**	0.001	0.4	0.4	0.4	—	—	-20	75	DMP14, SSOP14	Out
NJU7066 ♡	—	2	Single	2.2	5.5	0.6	0.5	**0.001**	0.001	0.5	1.3	1.3	—	10	-40	125	MSOP8(VSP8)	Out
NJU7067	—	2	Single	4	16	0.014	4	**0.001**	0.001	0.04	0.06	—	—	45	-40	85	DMP8, SSOP8	Out
NJU7068	—	4	Single	4	16	0.014	4	**0.001**	0.001	0.04	0.06	—	—	45	-40	85	DMP14, SSOP14	Out
NJU7071	—	1	Single	5	16	0.6	2	**0.001**	0.001	1.1	1	1	—	—	-20	75	DIP8, DMP8, SSOP8	With offset null terminals Out
NJU7072	—	2	Single	5	16	0.6	2	**0.001**	0.001	1.1	1	1	—	—	-20	75	DIP8, DMP8	Out
NJU7074	—	4	Single	5	16	0.6	2	**0.001**	0.001	1.1	1	1	—	—	-20	75	DMP14, SSOP14	Out
NJU7076 ♡	—	1	Single	2.2	5.5	0.6	0.15	**0.001**	0.001	0.5	1.3	1.3	—	10	-40	125	SOT-23-5	Out
NJU7076B	—	1	Single	2.2	5.5	0.6	0.3	**0.001**	0.001	0.5	1.3	1.3	—	10	-40	125	SC-88A	Out
NJU7077 ♡	✓	2	Single	2.2	5.5	0.6	0.15	**0.001**	0.001	0.5	1.3	1.3	—	10	-40	125	MSOP8(VSP8)	Out
NJU7078 ♡	—	4	Single	2.2	5.5	0.6	0.2	**0.001**	0.001	0.5	1.3	1.3	—	10	-40	125	SSOP14	Out
NJU7091A	—	1	Single	1	5.5	0.015	2	**0.001**	0.001	0.1	0.2	0.2	—	—	-40	85	SOT-23-5	Out
NJU7092A	—	1	Single	1	5.5	0.08	2	**0.001**	0.001	1	1	1	—	—	-40	85	SOT-23-5	Out
NJU7093A	—	1	Single	1	5.5	0.2	2	**0.001**	0.001	2.4	1	1	—	—	-40	85	SOT-23-5	Out
NJU7094	—	2	Single	1	5.5	0.015	4	**0.001**	0.001	0.1	0.2	0.2	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7095	—	2	Single	1	5.5	0.08	4	**0.001**	0.001	1	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7096	—	2	Single	1	5.5	0.2	4	**0.001**	0.001	2.4	1	1	—	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	Out
NJU7098A	—	1	Single	3	10	0.6	0.015	**0.02**	—	3	3	—	—	120	-40	105	SOT-23-6-1	On/Off Switch Out Zero Drift

Operational Amplifiers & Comparators

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In/Out : Rail to Rail Input/Output Amplifier　Out : Rail to Rail Output Amplifier　Zero Drift : Zero-Drift Operational Amplifier

Low Bias Current ($I_B \leq 1nA$)

Part No.	Automotive	No.of Circuit	Power Supply	Supply Voltage [V] min.	Supply Voltage [V] max.	Icc/ch. [mA] typ.	V_{IO} [mV] max.	**I_B [nA] typ.**	I_{IO} [nA] typ.	SR [V/μsec] typ.	GBW [MHz] typ.	fT [MHz] typ.	Noise typ. V_{NI} [μVrms]	Noise typ. en [nV/√Hz]	Operating Temperature [°C] min.	Operating Temperature [°C] max.	Package Outline	Notes
NJU7098AF1-C	—	1	Single	3	10	0.6	0.015	**0.02**	—	3	3	—	—	120	-40	105	SOT-23-6-1	On/Off Switch, Out, Zero Drift
NJU77000 ♡	—	1	Single	1.5	5.5	0.00029	1.8	**0.001**	0.001	0.0008	0.0011	0.0011	—	600	-40	105	SOT-23-5	Ultra-Low Operating Current, In/Out
NJU77000A		1	Single	1.5	5.5	0.00029	1	**0.001**	0.001	0.0008	0.0011	0.0011	—	600	-40	105	SOT-23-5	
NJU77001 ♡	—	1	Single	1.5	5.5	0.00029	1.8	**0.001**	0.001	0.0008	0.0011	0.0011	—	600	-40	105	SOT-23-5, SC-88A	Ultra-Low Operating Current, In/Out
NJU77001A	—	1	Single	1.5	5.5	0.00029	1	**0.001**	0.001	0.0008	0.0011	0.0011	—	600	-40	105	SOT-23-5, SC-88A	
NJU77002 ♡	—	2	Single	1.5	5.5	0.00023	2	**0.001**	0.001	0.0007	0.001	0.001	—	700	-40	105	SOP8 JEDEC 150mil(EMP8), MSOP8(TVSP8)♡, DFN8-U1(ESON8-U1)♡	Ultra-Low Operating Current, In/Out
NJU77002A ♡	✓	2	Single	1.5	5.5	0.00023	1.3	**0.001**	0.001	0.0007	0.001	0.001	—	700	-40	105	SOP8 JEDEC 150mil(EMP8), MSOP8(TVSP8), DFN8-U1(ESON8-U1)	In/Out
NJU77004 ♡	—	4	Single	1.5	5.5	0.00023	2.2	**0.001**	0.001	0.0007	0.001	0.001	—	700	-40	105	SSOP14	Ultra-Low Operating Current, In/Out
NJU77550 ♡	—	1	Single	1.8	5.5	0.055	5	**0.001**	0.001	0.8	1.7	—	—	24	-55	125	SOT-23-5♡, SC-88A	In/Out
NJU77551 ♡	—	1	Single	1.8	5.5	0.055	5	**0.001**	0.001	0.8	1.7	—	—	24	-55	125	SOT-23-5, SC-88A	In/Out
NJU77552 ♡	✓	2	Single	1.8	5.5	0.05	5	**0.001**	0.001	0.8	1.7	—	—	24	-55	125	SOP8, MSOP8(TVSP8)♡, MSOP8(VSP8)♡, DFN8-U1(ESON8-U1)♡	In/Out
NJU77554 ♡	—	4	Single	1.8	5.5	0.05	5	**0.001**	0.001	0.8	1.7	—	—	24	-55	125	SSOP14	In/Out
NJU77572 ♡	—	2	Single	2.7	5.5	1.15	3.5	**0.001**	0.001	5	10	—	—	9	-55	125	MSOP8(VSP8)	In/Out
U.D. **NJU77580**	—	1	Single	2.7	5.5	2.3	2.5	**0.001**	0.001	10	20	—	—	6	-55	125	SOT-23-5	Drive High Capacitive Load, In/Out
NJU77582 ♡	—	2	Single	2.7	5.5	2.3	2.5	**0.001**	0.001	10	20	—	—	6	-55	125	SOP8, MSOP8(VSP8)♡, DFN8-U1(ESON8-U1)♡	Drive High Capacitive Load, In/Out
NJU77701 ♡	✓	1	Single	2.4	5.5	3.8	1.5	**0.001**	0.001	35	34	—	—	6	-40	125	SOT-23-5	In/Out
NJU77806 ♡	—	1	Single	1.8	5.5	0.5	2	**0.001**	0.001	1.1	4.4	2.4	—	5.5	-40	105	SC-88A	Out
NJU77902	—	2	Single	6	18	3.5	10	**0.001**	0.001	9	3	3	—	80	-40	85	DFN8-W1(ESON8-W2)	High Output Current, In/Out
NJU77903 ♡	✓	1	Single	6.8	36	9.5	6	**0.001**	0.001	3.5	1.5	1.5	—	50	-40	125	TO-252-5-L3, DFN8-W1(ESON8-W2)	High Operating Vofltage, High Output Current, In/Out

High Output Current

Part No.	Automotive	No.of Circuit	Power Supply	Supply Voltage [V] min.	Supply Voltage [V] max.	**Io [mA] max.**	Icc/ch. [mA] typ.	V_{IO} [mV] max.	I_B [nA] typ.	I_{IO} [nA] typ.	SR [V/μsec] typ.	GBW [MHz] typ.	fT [MHz] typ.	Noise typ. en [nV/√Hz]	Operating Temperature [°C] min.	Operating Temperature [°C] max.	Package Outline	Notes
NJM2743	—	1	Single	3	15	**70**	2	5	100	5	0.85	0.8	—	18	-40	85	SOT-23-5	
NJM3414A	—	2	Single	3	15	**70**	2	5	100	5	1	1.3	—	18	-40	85	DIP8, DMP8, SSOP8	
NJM4556A	—	2	Dual	± 2	± 18	**73**	4.5	6	50	5	3	8	—	12	-40	85	DIP8, DMP8, SSOP8	
NJM8830 ♡	—	2	Dual	± 2	± 5.25	**100**	3.25	2	150	10	30	90	60	2.5	-40	125	HSOP-M1, DFN8-W1♡	Ultralow Noise, Out
NJU7036	—	2	Single	2.7	5.5	**250**	1.75	10	0.001	0.001	0.7	0.4	0.4	60	-40	85	PCSP20-E3	Low Operating Voltage, High Output Current, Out
NJU77902	—	2	Single	6	18	**1000**	3.5	10	0.001	0.001	9	3	3	80	-40	85	DFN8-W1 (ESON8-W2)	High Output Current, In/Out
NJU77903 ♡	✓	1	Single	6.8	36	**200**	9.5	6	0.001	0.001	3.5	1.5	1.5	50	-40	125	TO-252-5-L3, DFN8-W1 (ESON8-W2)	High Operating Vofltage, High Output Current, In/Out

High Voltage (≥ 16V)

Part No.	Automotive	No.of Circuit	Power Supply	**Supply Voltage [V] min.**	**Supply Voltage [V] max.**	Icc/ch. [mA] typ.	V_{IO} [mV] max.	I_B [nA] typ.	I_{IO} [nA] typ.	SR [V/μsec] typ.	GBW [MHz] typ.	fT [MHz] typ.	Noise typ. V_{NI} [μVrms]	Noise typ. en [nV/√Hz]	Operating Temperature [°C] min.	Operating Temperature [°C] max.	Package Outline	Notes
NEW **NL8802**	—	2	Dual	± 3	**± 22**	4	5	500	10	11	45	16	0.9	5.5	-40	85	EMP-8-AN, DFN3030-8-GQ	
NJM062C	—	2	Dual	± 2	**± 18**	0.2	15	0.03	0.005	3.5	1	1	—	35	-40	125	SOP8, SSOP8	
NJM062CA	—	2	Dual	± 2	**± 18**	0.2	6	0.03	0.005	3.5	1	1	—	35	-40	125	SOP8, SSOP8	
NJM064C ♡	—	4	Dual	± 2	**± 18**	0.2	15	0.03	0.005	3.5	1	1	—	35	-40	125	SOP14, SSOP14♡	
NJM064CA	—	4	Dual	± 2	**± 18**	0.2	6	0.03	0.005	3.5	1	1	—	35	-40	125	SOP14, SSOP14	
NJM072C	—	2	Dual	± 4	**± 18**	1.4	10	0.03	0.005	13	3	3	4	18	-40	125	SOP8, SSOP8	
NJM072CA	—	2	Dual	± 4	**± 18**	1.4	6	0.03	0.005	13	3	3	4	18	-40	125	SOP8, SSOP8	
NJM074C ♡	—	4	Dual	± 4	**± 18**	1.4	10	0.03	0.005	13	3	3	4	18	-40	125	SOP14, SSOP14♡	
NJM074CA	—	4	Dual	± 4	**± 18**	1.4	6	0.03	0.005	13	3	3	4	18	-40	125	SOP14, SSOP14	
NJM082C	—	2	Dual	± 4	**± 18**	1.4	15	0.03	0.005	13	3	3	4	18	-40	125	SOP8, SSOP8	
NJM082CA	—	2	Dual	± 4	**± 18**	1.4	6	0.03	0.005	13	3	3	4	18	-40	125	SOP8, SSOP8	
NJM084C	—	4	Dual	± 4	**± 18**	1.4	15	0.03	0.005	13	3	3	4	18	-40	125	SOP14, SSOP14	
NJM084CA	—	4	Dual	± 4	**± 18**	1.4	6	0.03	0.005	13	3	3	4	18	-40	125	SOP14, SSOP14	
NJM2058	—	4	Dual	± 4	**± 18**	1.75	6	20	5	1	4	—	1.4	—	-40	85	DMP14, SSOP14	
NJM2059	—	4	Dual	± 4	**± 18**	1.75	6	20	5	2	6.8	—	1.4	—	-40	85	DMP14, SSOP14	
NJM2060	—	4	Dual	± 4	**± 18**	2.25	6	40	5	4	10	10	1.2	10	-20	75	DMP14, SSOP14	
NJM2068	—	2	Dual	± 4	**± 18**	2.5	3	150	5	6	27	5.5	0.44	4	-20	75	DIP8, DMP8, SSOP8	
NJM2119	✓	2	Single	4	**36**	0.5	0.45	18	0.3	0.3	1	—	—	—	-30	85	DIP8, DMP8	
NJM2122	—	2	Dual	± 2	**± 7**	3.5	6	3600	450	2.4	12	—	0.56	1.5	-20	75	DIP8, DMP8	
NJM2125	—	1	Single	2.7	**20**	1	7	25	5	1.2	1.2	1.2	—	—	-40	85	SOT-23-5	
NJM2132	—	2	Single	2.7	**32**	0.22	4.5	20	5	2.1	1.8	—	—	32	-40	85	DIP8, DMP8, SSOP8	
NJM2143	—	2	Single	3	**20**	0.35	7	25	5	0.5	0.6	—	—	—	-40	85	MSOP8(TVSP8), MSOP8(VSP8)	

Operational Amplifiers & Comparators

U.D. : Under Development　NEW : New product　♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡XXXX : Products available in PRODUCT LONGEVITY PROGRAM with time limit
In/Out : Rail to Rail Input/Output Amplifier　Out : Rail to Rail Output Amplifier　Zero Drift : Zero-Drift Operational Amplifier

High Voltage (≥ 16V)

Part No.	Auto-motive	No.of Circuit	Power Supply	Supply Voltage [V] min.	Supply Voltage [V] max.	Icc/ch. [mA] typ.	VIO [mV] max.	IB [nA] typ.	IIO [nA] typ.	SR [V/μsec] typ.	GBW [MHz] typ.	fT [MHz] typ.	Noise typ. VNI [μVrms]	Noise typ. en [nV/√Hz]	Operating Temperature [℃] min.	Operating Temperature [℃] max.	Package Outline	Notes
NJM2718 ♡	—	2	Single	3	**36**	1.85	4	1200	100	9	1.8	—	—	24	-40	85	SOP8 JEDEC 150mil(EMP8), SSOP8♡	Capacitive Load Stable
NJM2723	—	1	Dual	± 3.5	**± 17.5**	2.9	20	2000	—	2000	75	—	—	6	-40	85	DIP8, SOP8 JEDEC 150mil(EMP8)	Current Feed-back Type
NJM2729	—	1	Dual	± 3	**± 18**	1.6	0.06	1.2	0.3	0.3	1.1	1.1	0.08	8	-40	85	SOP8 JEDEC 150mil(EMP8)	With offset null terminals
NJM2739	—	2	Dual	± 3	**± 18**	1.3	0.06	1.2	0.3	0.3	1.1	1.1	0.08	8	-40	85	SOP8 JEDEC 150mil(EMP8)	
NJM2742	—	2	Single	3	**32**	2.15	12	80	5	10	2	2	—	40	-40	85	DIP8, DMP8, SSOP8, MSOP8(TVSP8)	
NJM2744	—	4	Single	3	**32**	1.875	12	80	5	10	2	2	—	40	-40	85	DMP14, SSOP14	
NJM2745	—	4	Dual	± 2	**± 15.5**	3	3	100	5	5	15	—	—	5	-40	85	DMP14, SSOP14	
NJM2748	✓	1	Dual	± 6	**± 16**	2	2	0.05	0.025	14	2.2	2	2.5	20	-40	85	DIP8, DMP8	With offset null terminals
NJM2748A	—	1	Dual	± 6	**± 16**	2	2	0.05	0.025	14	2.2	2	2.5	20	-40	85	DIP8, DMP8	With offset null terminals
NJM2749	—	2	Dual	± 6	**± 16**	1.9	2.5	0.05	0.025	14	2.2	2	2.5	20	-40	85	DMP8, SOP8 JEDEC 150mil(EMP8)	
NJM2749A	—	2	Dual	± 6	**± 16**	1.9	2.5	0.05	0.025	14	2.2	2	2.5	20	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8)	
NJM2902	✓	4	Single	3	**32**	0.25	10	20	5	0.5	0.5	—	—	—	-40	85	DMP14, SSOP14	
NJM2902B ♡	✓	4	Single	3	**36**	0.3	2.5	10	1	0.4	0.9	—	—	30	-40	125	SSOP14-B4	
NJM2902C ♡	—	4	Single	3	**32**	0.3	7	20	2	0.6	1.3	—	—	30	-40	125	SSOP14♡, SOP14	
NJM2902CA	—	4	Single	3	**32**	0.3	2.5	20	2	0.6	1.3	—	—	30	-40	125	SSOP14, SOP14	
NJM2904	✓	2	Single	3	**32**	0.35	7	25	5	0.5	0.6	—	—	—	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	
NJM2904B ♡	✓	2	Single	3	**36**	0.35	2.5	10	1	0.4	0.9	—	—	30	-40	125	MSOP8(VSP8)	
NJM2904C	—	2	Single	3	**32**	0.35	7	20	2	0.6	1.1	—	—	30	-40	125	DMP8, SOP8, SSOP8, MSOP8(VSP8), EQFN12-E2	
NJM2904CA	—	2	Single	3	**32**	0.35	2	20	2	0.6	1.1	—	—	30	-40	125	DMP8, SOP8, SSOP8, MSOP8(VSP8)	
NJM320A ♡	—	1	Single	3	**32**	0.45	2.5	20	2	0.6	1.1	—	—	30	-40	125	SOT-23-5, SC-88A	Dual(± 1.5 to ± 16V)
NJM321A ♡	—	1	Single	3	**32**	0.45	2.5	20	2	0.6	1.1	—	—	30	-40	125	SOT-23-5, SC-88A, DFN6-G1(ESON6-G1)	Dual(± 1.5 to ± 16V)
NJM324C	—	4	Single	3	**30**	0.3	7	20	2	0.6	1.3	—	—	30	-40	85	SOP14, SSOP14	Dual(± 1.5 to ± 15V)
NJM324CA	—	4	Single	3	**30**	0.3	2.5	20	2	0.6	1.3	—	—	30	-40	85	SOP14, SSOP14	Dual(± 1.5 to ± 15V)
NJM3403A	✓	4	Single	4	**36**	0.75	5	70	5	1.2	1.2	1.2	—	25	-40	85	DMP14, SSOP14	
NJM3404A	—	2	Single	4	**36**	1	5	70	5	1.2	1.2	1.2	—	—	-40	85	DIP8, DMP8, SSOP8	
NJM3472 ♡	—	2	Single	3	**36**	2	5.5	80	5	10	3	3.6	—	48	-40	125	SOP8, SSOP8, MSOP8(VSP8)♡	
NJM3474 ♡	—	4	Single	3	**36**	2	5.5	80	5	10	3	3.6	—	48	-40	125	SOP14, SSOP14♡	
NJM358C ♡	—	2	Single	3	**30**	0.35	7	20	2	0.6	1.1	—	—	30	-40	85	SOP8, SSOP8♡	Dual(± 1.5 to ± 15V)
NJM358CA	—	2	Single	3	**30**	0.35	2	20	2	0.6	1.1	—	—	30	-40	85	SOP8, SSOP8	Dual(± 1.5 to ± 15V)
NJM4556A	—	2	Dual	± 2	**± 18**	4.5	6	50	5	3	8	—	—	—	-40	85	DIP8, DMP8, SSOP8	
NJM4558	—	2	Dual	± 4	**± 18**	1.75	6	25	5	1	3	3	1.4	—	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8	
NJM4558C	—	2	Dual	± 4	**± 18**	1.75	6	25	5	1.5	3.5	—	1.4	12	-40	85	SOP8, SSOP8	

Part No.	Auto-motive	No.of Circuit	Power Supply	Supply Voltage [V] min.	Supply Voltage [V] max.	Icc/ch. [mA] typ.	VIO [mV] max.	IB [nA] typ.	IIO [nA] typ.	SR [V/μsec] typ.	GBW [MHz] typ.	fT [MHz] typ.	Noise typ. VNI [μVrms]	Noise typ. en [nV/√Hz]	Operating Temperature [℃] min.	Operating Temperature [℃] max.	Package Outline	Notes
NJM4565	—	2	Dual	± 4	**± 18**	2.25	3	50	2	4	10	—	1.2	9	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8	
NJM4580	—	2	Dual	± 2	**± 18**	3	3	100	5	5	15	—	0.8	5	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(VSP8)	
NJM4580C	—	2	Dual	± 2	**± 18**	3	3	100	5	5	15	—	0.8	5	-40	85	SOP8, SSOP8	
NJM4585	—	2	Dual	± 4	**± 18**	2.5	3	260	5	6.8	19	7.5	0.5	3.5	-40	125	DMP8	
NJM5532	—	2	Dual	± 3	**± 22**	4.5	4	200	10	8	10	—	0.5	5	-20	75	DIP8, DMP8	
NJM5532C	—	2	Dual	± 3	**± 22**	4.5	4	200	10	9	10	—	0.6	5	-40	85	SOP8	
NJM8020 ♡	—	1	Single	3	**36**	0.45	2	20	2	0.6	1.1	—	—	30	-40	125	SOT-23-5♡, SC-88A	Dual(± 1.5 to ± 18V)
NJM8021 ♡	—	1	Single	3	**36**	0.45	2	20	2	0.6	1.1	—	—	30	-40	125	SOT-23-5, SC-88A, DFN6-G1(ESON6-G1)	Dual(± 1.5 to ± 18V)
NJM8065	—	2	Dual	± 4	**± 18**	2.25	3	50	2	4	10	—	—	8	-40	125	SOP8, DMP8, MSOP8(TVSP8), SSOP8	Wide Operating Temperature (-40℃ to +125℃)
NJM8068	—	2	Dual	± 4	**± 18**	2.5	3	260	5	6.8	19	7.5	0.5	3.5	-40	125	SOP8, MSOP8(TVSP8)	Wide Operating Temperature (-40℃ to +125℃)
NJM8080	—	2	Dual	± 2	**± 18**	3	3	100	5	5	15	—	—	5	-40	125	SOP8, MSOP8(TVSP8), SSOP8	Wide Operating Temperature (-40℃ to +125℃)
NJM8087	—	2	Dual	± 4	**± 16**	1.3	0.8	0.025	0.006	20	7	7	—	10	-40	125	SOP8 JEDEC 150mil(EMP8)	No Phase Reversal
NJM8207 ♡	✓	2	Single	4	**35**	0.7	0.45	120	5	0.15	0.3	0.3	—	—	-40	125	DMP8	Out
NJM8208 ♡	✓	2	Single	3	**35**	0.45	0.8	55	5	0.2	0.35	0.35	—	—	-40	125	DMP8♡, MSOP8(VSP8)	Out
NJM842 ♡	✓	2	Single	3	**36**	2.15	3.5	120	6	8.5	3.5	—	—	32	-40	125	SOP8, SSOP8, MSOP8(VSP8)♡	
NJM844 ♡	—	4	Single	3	**36**	2.2	3.5	120	6	8.5	3.5	—	—	32	-40	125	SOP14, SSOP14♡	
NJM8502 ♡	—	2	Dual	± 4.5	**± 16**	1.3	0.4	0.025	0.006	20	7	7	0.18	10	-40	125	MSOP8(VSP8)	
NJM8512 ♡	—	2	Dual	± 4.5	**± 16**	1.3	0.4	0.025	0.006	20	7	7	—	10	-40	125	MSOP8(VSP8)♡, SOP8 JEDEC 150mil(EMP8)	
NJM8513 ♡	—	4	Dual	± 4.5	**± 16**	1.3	0.4	0.025	0.006	20	7	7	—	10	-40	125	SSOP14	
NJM8524	—	4	Single	3	**36**	0.025	1.8	3	0.5	0.04	0.1	0.1	—	60	-40	85	SSOP14	Out
NJM8801	—	2	Dual	± 2	**± 18**	3	3	100	5	5	15	—	0.8	4.5	-40	85	SOP8 JEDEC 150mil(EMP8), SSOP8-A3	
NJMOP177	—	1	Dual	± 3	**± 18**	1.6	0.06	1.2	0.3	0.3	1.1	1.1	0.08	8	-40	105	SOP8 JEDEC 150mil(EMP8)	With offset null terminals
NJMOP1772	—	2	Dual	± 3	**± 18**	1.3	0.06	1.2	0.3	0.3	1.1	1.1	0.08	8	-40	105	SOP8 JEDEC 150mil(EMP8)	
NJMOP2277 ♡	—	2	Dual	± 2.25	**± 18**	0.76	0.05	0.5	0.5	0.7	1	1	0.07	8	-40	125	SOP8 JEDEC 150mil(EMP8), MSOP8(VSP8)♡, DFN8-W1(ESON8-W2)♡	High EMI Immunity
NJMOP277 ♡	—	1	Dual	± 2.25	**± 18**	0.76	0.05	0.5	0.5	0.7	1	1	0.07	8	-40	125	SOP8 JEDEC 150mil(EMP8), MSOP8(VSP8)♡	High EMI Immunity
NJU7001	—	1	Single	1	**16**	0.015	10	0.001	0.001	0.05	0.1	0.1	—	—	-20	75	DIP8, DMP8, SSOP8	Out
NJU7002	—	2	Single	1	**16**	0.015	10	0.001	0.001	0.05	0.1	0.1	—	—	-20	75	DIP8, DMP8	Out
NJU7004	—	4	Single	1	**16**	0.015	10	0.001	0.001	0.05	0.1	0.1	—	—	-20	75	DMP14, SSOP14	Out

Operational Amplifiers & Comparators

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In/Out : Rail to Rail Input/Output Amplifier　Out : Rail to Rail Output Amplifier　Zero Drift : Zero-Drift Operational Amplifier

High Voltage (≥ 16V)

Part No.	Auto-motive	No.of Circuit	Power Supply	Supply Voltage [V]		Icc/ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Temperature [℃]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	typ.	typ.	typ.	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
NJU7021	—	1	Single	3	**16**	0.15	10	0.001	0.001	0.4	0.4	0.4	—	27	-20	75	DMP8, SSOP8	Out
NJU7022	—	2	Single	3	**16**	0.15	10	0.001	0.001	0.4	0.4	0.4	—	27	-20	75	DIP8, DMP8	Out
NJU7024	—	4	Single	3	**16**	0.15	10	0.001	0.001	0.4	0.4	0.4	—	27	-20	75	DMP14, SSOP14	Out
NJU7031	—	1	Single	3	**16**	1	10	0.001	0.001	3.5	1.5	1.5	—	20	-40	85	DIP8, DMP8, SSOP8	Out
NJU7032	—	2	Single	3	**16**	1	10	0.001	0.001	3.5	1.5	1.5	—	20	-40	85	DIP8, DMP8	Out
NJU7034	—	4	Single	3	**16**	1	10	0.001	0.001	3.5	1.5	1.5	—	20	-40	85	DMP14, SSOP14	Out
NJU7051	—	1	Single	1	**16**	0.015	2	0.001	0.001	0.05	0.1	0.1	—	—	-40	85	DMP8	With offset null terminals Out
NJU7052	—	2	Single	1	**16**	0.015	2	0.001	0.001	0.05	0.1	0.1	—	—	-40	85	DMP8	Out
NJU7061	—	1	Single	3	**16**	0.15	2	0.001	0.001	0.4	0.4	0.4	—	—	-20	75	DIP8, DMP8, SSOP8	With offset null terminals Out
NJU7062	—	2	Single	3	**16**	0.15	2	0.001	0.001	0.4	0.4	0.4	—	—	-20	75	DIP8, DMP8	Out
NJU7064	—	4	Single	3	**16**	0.15	2	0.001	0.001	0.4	0.4	0.4	—	—	-20	75	DMP14, SSOP14	Out
NJU7067	—	2	Single	4	**16**	0.014	4	0.001	0.001	0.04	0.06	—	—	45	-40	85	DMP8, SSOP8	Out
NJU7068	—	4	Single	4	**16**	0.014	4	0.001	0.001	0.04	0.06	—	—	45	-40	85	DMP14, SSOP14	Out
NJU7071	—	1	Single	5	**16**	0.6	2	0.001	0.001	1.1	1	1	—	—	-20	75	DIP8, DMP8, SSOP8	With offset null terminals Out
NJU7072	—	2	Single	5	**16**	0.6	2	0.001	0.001	1.1	1	1	—	—	-20	75	DIP8, DMP8	Out
NJU7074	—	4	Single	5	**16**	0.6	2	0.001	0.001	1.1	1	1	—	—	-20	75	DMP14, SSOP14	
NJU77902	—	2	Single	6	**18**	3.5	10	0.001	0.001	9	3	3	—	80	-40	85	DFN8-W1(ESON8-W2)	High Output Current In/Out
NJU77903 ♡	✓	1	Single	6.8	**36**	9.5	6	0.001	0.001	3.5	1.5	1.5	—	50	-40	125	TO-252-5-L3, DFN8-W1(ESON8-W2)	High Operating Vofltage, High Output Current In/Out

General Purpose

Part No.	Auto-motive	No.of Circuit	Power Supply	Supply Voltage [V]		Icc/ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Temperature [℃]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	typ.	typ.	typ.	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
NJM062C	—	2	Dual	± 2	± 18	0.2	15	0.03	0.005	3.5	1	1	—	35	-40	125	SOP8, SSOP8	
NJM062CA	—	2	Dual	± 2	± 18	0.2	6	0.03	0.005	3.5	1	1	—	35	-40	125	SOP8, SSOP8	
NJM064C ♡	—	4	Dual	± 2	± 18	0.2	15	0.03	0.005	3.5	1	1	—	35	-40	125	SOP14, SSOP14♡	
NJM064CA	—	4	Dual	± 2	± 18	0.2	6	0.03	0.005	3.5	1	1	—	35	-40	125	SOP14, SSOP14	
NJM072C	—	2	Dual	± 4	± 18	1.4	10	0.03	0.005	13	3	3	4	18	-40	125	SOP8, SSOP8	
NJM072CA	—	2	Dual	± 4	± 18	1.4	6	0.03	0.005	13	3	3	4	18	-40	125	SOP8, SSOP8	
NJM074C ♡	—	4	Dual	± 4	± 18	1.4	10	0.03	0.005	13	3	3	4	18	-40	125	SOP14, SSOP14♡	

Part No.	Auto-motive	No.of Circuit	Power Supply	Supply Voltage [V]		Icc/ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Temperature [℃]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	typ.	typ.	typ.	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
NJM074CA	—	4	Dual	± 4	± 18	1.4	6	0.03	0.005	13	3	3	4	18	-40	125	SOP14, SSOP14	
NJM082C	—	2	Dual	± 4	± 18	1.4	15	0.03	0.005	13	3	3	4	18	-40	125	SOP8, SSOP8	
NJM082CA	—	2	Dual	± 4	± 18	1.4	6	0.03	0.005	13	3	3	4	18	-40	125	SOP8, SSOP8	
NJM084C	—	4	Dual	± 4	± 18	1.4	15	0.03	0.005	13	3	3	4	18	-40	125	SOP14, SSOP14	
NJM084CA	—	4	Dual	± 4	± 18	1.4	6	0.03	0.005	13	3	3	4	18	-40	125	SOP14, SSOP14	
NJM12902	—	4	Single	2	14	0.25	5	20	5	0.7	1.5	1	—	—	-40	85	DMP14, SSOP14, PCSP14-C3	
NJM12904	—	2	Single	2	14	0.35	5	20	5	0.7	1.5	1	—	—	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	
NJM13403	✓	4	Single	2	14	0.75	4	25	5	1.2	2	2	—	25	-40	85	DMP14, SSOP14	
NJM13404	✓	2	Single	2	14	1	4	25	5	1.2	2	2	—	25	-40	85	DIP8, DMP8, SIP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(VSP8), MSOP8(TVSP8)	
NJM14558	—	2	Dual	± 2	± 7	1.35	3	70	5	2.5	5	—	1.4	10	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(VSP8)	
NJM2058	—	4	Dual	± 4	± 18	1.75	6	20	5	1	4	—	1.4	—	-40	85	DMP14, SSOP14	
NJM2059	—	4	Dual	± 4	± 18	1.75	6	20	5	2	6.8	—	1.4	—	-40	85	DMP14, SSOP14	
NJM2060	—	4	Dual	± 4	± 18	2.25	6	40	5	4	10	10	1.2	—	-20	75	DMP14, SSOP14	
NJM2902	✓	4	Single	3	32	0.25	10	20	5	0.5	0.5	—	—	—	-40	85	DMP14, SSOP14	
NJM2902B ♡	✓	4	Single	3	36	0.3	2.5	10	1	0.4	0.9	—	—	30	-40	125	SSOP14-B4	
NJM2902C ♡	—	4	Single	3	32	0.3	7	20	2	0.6	1.3	—	—	30	-40	125	SOP14, SSOP14♡	Wide Operating Temperature (-40℃ to +125℃)
NJM2902CA	—	4	Single	3	32	0.3	2.5	20	2	0.6	1.3	—	—	30	-40	125	SOP14, SSOP14	Wide Operating Temperature (-40℃ to +125℃)
NJM2904	—	2	Single	3	32	0.35	7	25	5	0.5	0.6	—	—	—	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	
NJM2904B ♡	✓	2	Single	3	36	0.35	2.5	10	1	0.4	0.9	—	—	30	-40	125	MSOP8(VSP8)	
NJM2904C	—	2	Single	3	32	0.35	7	20	2	0.6	1.1	—	—	30	-40	125	SOP8, DMP8, MSOP8(TVSP8) SSOP8, EQFN12-E2	Wide Operating Temperature (-40℃ to +125℃)
NJM2904CA	—	2	Single	3	32	0.35	2	20	2	0.6	1.1	—	—	30	-40	125	SOP8, DMP8, MSOP8(TVSP8), SSOP8	Wide Operating Temperature (-40℃ to +125℃)
NJM320A ♡	—	1	Single	3	32	0.45	2.5	20	2v	0.6	1.1	—	—	30	-40	125	SOT-23-5, SC-88A	Dual(± 1.5 to ± 16V)

Operational Amplifiers & Comparators

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In/Out : Rail to Rail Input/Output Amplifier　Out : Rail to Rail Output Amplifier　Zero Drift : Zero-Drift Operational Amplifier

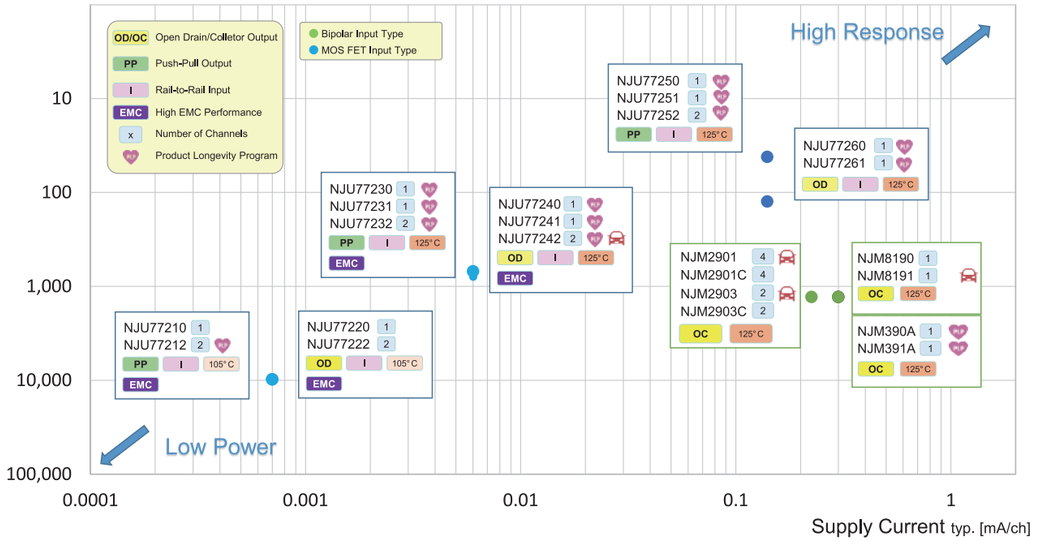
General Purpose

Part No.	Auto-motive	No.of Circuit	Power Supply	Supply Voltage [V]		Icc/ch. [mA]	V_{IO} [mV]	I_B [nA]	I_{IO} [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Tempera-ture [℃]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	typ.	typ.	typ.	typ.	V_{NI} [μVrms]	en [nV/√Hz]	min.	max.		
NJM321A ♡	—	1	Single	3	32	0.45	2.5	20	2	0.6	1.1	—	—	30	-40	125	SOT-23-5, SC-88A, DFN6-G1(ESON6-G1)	Dual(± 1.5 to ± 16V)
NJM324C	—	4	Single	3	30	0.3	7	20	2	0.6	1.3	—	—	30	-40	85	SOP14, SSOP14	Dual(± 1.5 to ± 15V)
NJM324CA	—	4	Single	3	30	0.3	2.5	20	2	0.6	1.3	—	—	30	-40	85	SOP14, SSOP14	Dual(± 1.5 to ± 15V)
NJM3403A	✓	4	Single	4	36	0.75	5	70	5	1.2	1.2	1.2	—	25	-40	85	DMP14, SSOP14	
NJM3404A	—	2	Single	4	36	1	5	70	5	1.2	1.2	1.2	—	—	-40	85	DIP8, DMP8, SSOP8	
NJM358C ♡	—	2	Single	3	30	0.35	7	20	2	0.6	1.1	—	—	30	-40	85	SOP8, SSOP8♡	Dual(± 1.5 to ± 15V)
NJM358CA	—	2	Single	3	30	0.35	2	20	2	0.6	1.1	—	—	30	-40	85	SOP8, SSOP8	Dual(± 1.5 to ± 15V)
NJM4558	—	2	Dual	± 4	± 18	1.75	6	25	5	1	3	3	1.4	12.5	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8	
NJM4558C	—	2	Dual	± 4	± 18	1.75	6	25	5	1.5	3.5	—	1.4	12	-40	85	SOP8, SSOP8	
NJM4565	—	2	Dual	± 4	± 18	2.25	3	50	2	4	10	—	1.2	9	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8	
NJM4580	—	2	Dual	± 2	± 18	3	3	100	5	5	15	—	0.8	5	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(VSP8)	
NJM4580C	—	2	Dual	± 2	± 18	3	3	100	5	5	15	—	0.8	5	-40	85	SOP8, SSOP8	
NJU7056 ♡	✓	1	Single	1.8	5.5	0.26	4	0.001	0.001	0.8	2.1	—	—	15	-40	125	SC-88A, SOT-23-5	Out
NJU7057 ♡	✓	2	Single	1.8	5.5	0.26	4	0.001	0.001	0.8	2.1	—	—	15	-40	125	DFN8-U1(ESON8-U1), MSOP8(TVSP8)	Out
NJU7058 ♡	✓	4	Single	1.8	5.5	0.25	4	0.001	0.001	0.8	2.1	—	—	15	-40	125	SSOP14	Out
NJU77550 ♡	—	1	Single	1.8	5.5	0.055	5	0.001	0.001	0.8	1.7	—	—	24	-55	125	SOT-23-5♡, SC-88A	In/Out
NJU77551 ♡	—	1	Single	1.8	5.5	0.055	5	0.001	0.001	0.8	1.7	—	—	24	-55	125	SOT-23-5, SC-88A	In/Out
NJU77552 ♡	✓	2	Single	1.8	5.5	0.05	5	0.001	0.001	0.8	1.7	—	—	24	-55	125	SOP8, MSOP8(TVSP8)♡, MSOP8(VSP8)♡, DFN8-U1(ESON8-U1)♡	In/Out
NJU77554 ♡	—	4	Single	1.8	5.5	0.05	5	0.001	0.001	0.8	1.7	—	—	24	-55	125	SSOP14	In/Out

Comparators

※Main Product Only

Propagation Delay typ. [nsec]



Comparators

Part No.	Auto-motive	No.of Circuit	Output type	Supply Voltage [V]		Icc/ch. [mA]	V_{IO} [mV]	Response Time [ns]	Operating Temperature [℃]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	min.	max.		
NJM12901	—	4	Open-Collector	2	14	0.2	4	500	-40	85	DMP14, SSOP14	
NJM12903	—	2	Open-Collector	2	14	0.2	4	500	-40	85	DIP8,DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8), MSOP8(VSP8), MSOP-8-BM	
NJM2407	✓	2	Open-Collector	2	20	0.2	7	800	-40	85	MSOP8(TVSP8), MSOP8(VSP8)	
NJM2901 ♡	✓	4	Open-Collector	2	36	0.2	7	1300	-40	85	DMP14, SSOP14	
NJM2901C ♡	—	4	Open-Collector	2	36	0.2	5	1300	-40	125	SOP14, SSOP14♡	Wide Operating Tem-perature (-40℃ to +125℃)
NJM2901CA	—	4	Open-Collector	2	36	0.2	2.5	1300	-40	125	SOP14, SSOP14	Wide Operating Tem-perature (-40℃ to +125℃)
NJM2903 ♡	✓	2	Open-Collector	2	36	0.2	7	1500	-40	85	DIP8, DMP8♡, SOP8 JEDEC 150mil(EMP8), SSOP8♡, MSOP8(TVSP8), MSOP8(VSP8)♡	
NJM2903C	—	2	Open-Collector	2	36	0.225	5	1300	-40	125	SOP8, SSOP8, DMP8, MSOP8(TVSP8), EQFN14-D7	Wide Operating Tem-perature (-40℃ to +125℃)
NJM2903CA	—	2	Open-Collector	2	36	0.225	2	1300	-40	125	SOP8, SSOP8, DMP8, MSOP8(TVSP8)	Wide Operating Tem-perature (-40℃ to +125℃)
NJM339C	—	4	Open-Collector	2	36	0.2	5	1300	-40	85	SOP14, SSOP14	Dual Supply (± 1 to ± 18V)
NJM339CA	—	4	Open-Collector	2	36	0.2	2.5	1300	-40	85	SOP14, SSOP14	Dual Supply (± 1 to ± 18V)
NJM390A ♡	—	1	Open-Collector	2	36	0.3	3	1300	-40	125	SOT-23-5, SC-88A	Wide Operating Tem-perature (-40℃ to +125℃)
NJM391A ♡	—	1	Open-Collector	2	36	0.3	3	1300	-40	125	SOT-23-5, SC-88A, DFN6-G1(ESON6-G1)	Wide Operating Tem-perature (-40℃ to +125℃)
NJM393C ♡	—	2	Open-Collector	2	36	0.225	5	1300	-40	85	SOP8, SSOP8♡	Dual Supply (± 1 to ± 18V)
NJM393CA	—	2	Open-Collector	2	36	0.225	2	1300	-40	85	SOP8, SSOP8	Dual Supply (± 1 to ± 18V)
NJM8190	—	1	Open-Collector	2	36	0.3	3	1300	-40	125	SOT-23-5, SC-88A	Dual Supply (± 1 to ± 18V)

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Comparators

Part No.	Auto-motive	No.of Circuit	Output type	Supply Voltage [V]		Icc/ch. [mA]	VIO [mV]	Response Time [ns]	Operating Temperature [℃]		Package Outline	Notes
				min.	max.	typ.	max.	typ.	min.	max.		
NJM8191 ♡ 2032	✓	1	Open-Collector	2	36	0.3	3	1300	-40	125	SOT-23-5, SC-88A, DFN6-G1(ESON6-G1)	Dual Supply (± 1 to ± 18V)
NJU7108	—	1	Push-Pull	1	5.5	0.01	4	500	-40	85	SC-88A, TSON6	
NJU7109	—	1	Push-Pull	1.8	5.5	0.1	7	110	-40	85	SC-88A, SOT-23-5	
NJU7116	—	1	Push-Pull	1.8	3.6	0.001	2.5	3300	-40	105	SOT-23-5, DFN6-G1(ESON6-G1)	
NJU7118	—	1	Open-Drain	1	5.5	0.01	4	540	-40	85	SC-88A	
NJU7119	—	1	Open-Drain	1.8	5.5	0.1	7	160	-40	85	SC-88A	
NJU7141	—	1	Open-Drain	1	5.5	0.005	10	900	-40	85	SOT-23-5	
NEW NJU77210	—	1	Push-Pull	1.7	5.5	0.0007	7	9800	-40	105	SOT-23-5, SC-88A, DFN6-G1(ESON6-G1)	Integrated EMI Filter
NJU77212 ♡	—	2	Push-Pull	1.7	5.5	0.0006	7	9800	-40	105	MSOP8(VSP8), DFN8-U1(ESON8-U1)	Integrated EMI Filter
U.D. NJU77220	—	1	Open-Drain	1.7	5.5	0.0007	7	9800	-40	105	SOT-23-5, SC-88A, DFN6-G1(ESON6-G1)	Integrated EMI Filter
U.D. NJU77222	—	2	Open-Drain	1.7	5.5	0.0006	7	9800	-40	105	MSOP8(VSP8), DFN8-U1(ESON8-U1)	Integrated EMI Filter
NJU77230 ♡	—	1	Push-Pull	1.8	5.5	0.006	6	780	-40	125	SOT-23-5, SC-88A	Wide Operating Temperature (-40℃ to +125℃)
NJU77231 ♡	—	1	Push-Pull	1.8	5.5	0.006	6	780	-40	125	SOT-23-5, SC-88A, DFN6-G1(ESON6-G1)	Wide Operating Temperature (-40℃ to +125℃)
NJU77232 ♡	—	2	Push-Pull	1.8	5.5	0.006	6	780	-40	125	MSOP8(TVSP8), DFN8-U1(ESON8-U1)	Wide Operating Temperature (-40℃ to +125℃)
NJU77240 ♡	—	1	Open-Drain	1.8	5.5	0.006	6	840	-40	125	SOT-23-5, SC-88A	Wide Operating Temperature (-40℃ to +125℃)
NJU77241 ♡	—	1	Open-Drain	1.8	5.5	0.006	6	840	-40	125	SOT-23-5, SC-88A, DFN6-G1(ESON6-G1)	Wide Operating Temperature (-40℃ to +125℃)
NJU77242 ♡	✓	2	Open-Drain	1.8	5.5	0.006	6	840	-40	125	MSOP8(TVSP8), DFN8-U1(ESON8-U1)	Wide Operating Temperature (-40℃ to +125℃)
NJU77250 ♡	—	1	Push-Pull	2.7	5.5	0.14	7	42	-40	125	SOT-23-5♡, SC-88A	Wide Operating Temperature (-40℃ to +125℃)
NJU77251 ♡	—	1	Push-Pull	2.7	5.5	0.14	7	42	-40	125	SOT-23-5♡, SC-88A, DFN6-G1(ESON6-G1)♡	Wide Operating Temperature (-40℃ to +125℃
NJU77252 ♡	—	2	Push-Pull	2.7	5.5	0.14	7	42	-40	125	MSOP8(VSP8), DFN8-U1(ESON8-U1)	
NJU77260 ♡	—	1	Open-Drain	2.7	5.5	0.14	7	125	-40	125	SOT-23-5♡, SC-88A	Wide Operating Temperature (-40℃ to +125℃)
NJU77261 ♡	—	1	Open-Drain	2.7	5.5	0.14	7	125	-40	125	SOT-23-5♡, SC-88A, DFN6-G1(ESON6-G1)♡	Wide Operating Temperature (-40℃ to +125℃)
U.D. NJU77262	—	2	Open-Drain	2.7	5.5	0.14	7	125	-40	125	MSOP8(VSP8), DFN8-U1(ESON8-U1)	Wide Operating Temperature (-40℃ to +125℃)

Special Function Amplifiers

Part No.	Auto-motive	Key Features	Operating Voltage [V]		Package Outline	Notes
			min.	max		
NJU77903 ♡		Resolver Excitation Amplifier for Automotive	6.8	36	DFN8-W2(ESON8-W2), TO-252-5-L3	High Output Current, Rail-to-Rail Input / Output, AEC-Q100 Grade 1, High output current: ± 100mA typ. (200mApp typ.), Thermal shutdown, Current limit
NJU77903-H ♡	✓				TO-252-5-L3	
NJU77903-Z2 ♡	✓				TO-252-5-L3	
NJU7870-Z2	✓	Resolver Excitation Amplifier for Automotive	2.4	5.5	SSOP16-B3	Differential Voltage Input/ Differential Current Output (Transconducance 13.5mAp/Vpp typ.)typ.)
NJU7890-Z ♡	✓	1000V High Voltage Monitor IC for Automotive	2.2	5.5	PMAP11-PM	AEC-Q100 Grade 1, Common Mode Input Voltage Range : 1000V, High Precision Attenuation Rate: ± 1%, •Attenuation Rate : 1/205、1/311, High Input Resistance : 30M ohm Min.
U.D. NL9000	✓	1000V High Voltage Monitor IC for Automotive	2.2	5.5	PMAP11-GP	Under AEC-Q100 Grade 1 Evaluation, Common Mode Input Voltage Range : 1000V, High Precision Attenuation Rate : ± 1%, •Attenuation Rate : 1/100、1/200、1/140, High Input Resistance : 30M ohm Min., 5V Full Scale Output

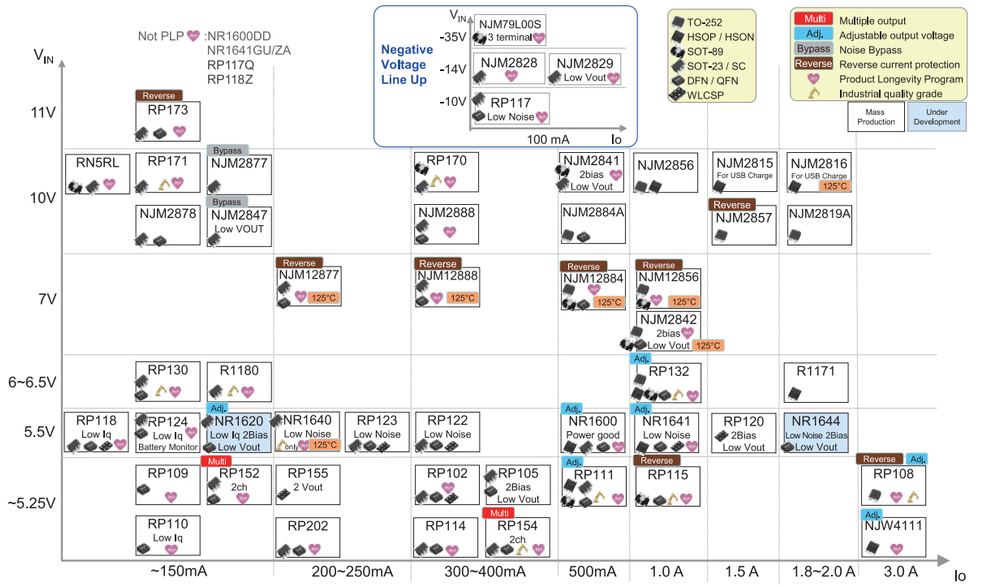
Sensor Measurement AFEs

U.D. : Under Development　NEW : New product　♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡ XXXX : Products available in PRODUCT LONGEVITY PROGRAM with time limit

Part No.	Auto-motive	Supply Voltage [V]		Supply Current		Resolution [bit]	Speed [sps]	Feature	Nunber of Pin	Interface	Package Outline	Notes
		min.	max.	typ.	max.							
NEW NA2100	—	3.0	5.25	0.95mA (UNBUF) 1.2mA (BUF)	1.35mA (UNBUF) 1.75mA (BUF)	—	—	V-F Converter	8	—	MSOP8(VSP8)	Low Power: 3mW(typ.), Low-Cost Analog to Digital Conversion and so on, Isolation of High Common-Mode Voltages.
NEW NA2200	—	2.7	5.5	4.0mA	5.7mA	16	0.814k to 6.51k	5V Operation, High Gain	16	SPI	SSOP16-BD	Built-in Excitation current source, Communication error detection
U.D. NA2201	—	4.0	5.5	360μA	460μA	14	—	Digital Earth Leakage Current Detection, Time Delay Function	16	—	SSOP16-BD	Over Voltage Detection, DC Current Detection
NEW NA2202	—	2.7	5.5	3.2mA	4.0mA	16	3.125 to 9.6k (Continuous Conversion)	High Precision	24	SPI	QFN4040-24-NB	Built-in Excitation current source, Communication error detection, Disconnection Detection
NEW NA2203	—	2.7	5.5	3.2mA	4.0mA	20	3.125 to 9.6k (Continuous Conversion)	High Precision	24	SPI	QFN4040-24-NB	Built-in Excitation current source, Communication error detection, Disconnection Detection
NEW NA2204	—	2.7	5.5	3.2mA	4.0mA	24	3.125 to 9.6k (Continuous Conversion)	High Precision	24	SPI	QFN4040-24-NB	Built-in Excitation current source, Communication error detection, Disconnection Detection
NJU9101 ♡	—	2.4	3.6	4.0μA (Op-Amp) 150μA (ADC)	5.5μA (Op-Amp) 200μA (ADC)	16	32 to 2k	Low Power	24	I²C	EQFN24-LE	High EMC noise tolerance, Programmable Cell Bias Voltage, System Calibration for offset & gain drift
NJU9102 ♡	—	4	5.5	300μA	380μA	14	—	Digital Earth Leakage Current Detection	8	—	DMP8	Immediate response, Set Earth Leakage Detector Condition, Type A / Type AC selectable
NJU9102A ♡	—	4	5.5	300μA	380μA	14	—	Digital Earth Leakage Current Detection	8	—	DMP8	Set Earth Leakage Detector Condition, Type A / Type AC selectable
NJU9103	—	2.7	3.6	4.0mA	5.0mA	16	0.814k to 6.51k	High Gain	8	SPI	DFN8-V1 (ESON8-V1), SSOP8	Built-in PGA can set a gain of up to 512, Built-in D-A converter (DAC) for calibrating offset voltage of sensor, Small-Sized packaging can reduce the area of PCB

LDO Regulators Maximum Input Voltage and Output Current Chart (Maximum Input Voltage ≦11V)

※Main Product Only



LDO Linear Regulators (Maximum Input Voltage ≦ 11V)

♡ : Products available in PRODUCT LONGEVITY PROGRAM

♡ xxxx : Products available in PRODUCT LONGEVITY PROGRAM with time limit

U.D. : Under Development NEW : New product

Ripple : Ripple Rejection, Frequency = 1kHz

Automatic : Automatic Shift to ECO Mode

Manual : Manual Shift to ECO Mode

Manu/Auto : Manual/Automatic Shift to ECO Mode

Seamless : Seamless Shift to ECO Mode

Thermal : Thermal Shutdown Circuit

Constant : Constant Slope Circuit

Reverse : Reverse Current Protection Circuit

Inrush : Inrush Current Limit Circuit

TempCo : Output Voltage Temperature Coefficient

Load Reg : Load Regulation

Tantalum : Tantalum

Electrolytic : Electrolytic Capacitor

High Immunity : Enhanced Noise Immunity

UVLO : Undervoltage Lockout Circuit

Soft-Start : Soft-start Circuit

Discharge : Auto-Discharge

Part No.	Auto motive	Output Current [mA]	Input Voltage [V] min.	Input Voltage [V] max.	Output Voltage *1 [V] min.	Output Voltage *1 [V] max.	VOUT Deviation [%]	Dropout Voltage [V] typ.	Ripple Rejection Ratio [dB] typ.	Quiescent Current [uA] typ.	Quiescent Current [uA] max.	ON/OFF Control	Operating Temperature [°C] min.	Operating Temperature [°C] max.	Key Features	Package Outline	Notes
NJU7211	–	20	2.5	-12	-5	-2	± 5.0	0.2	—	19	—	—	-25	75	Negative type Electrolytic	SOT-89-3	
RN5RL ♡	–	55	—	10	2	6	± 2.5	0.04	—	1	—	Yes	-40	85	—	SOT-23-5	
RH5RL ♡																SOT-89	
RN5RT	–	65	—	8	2	6	± 2.0	0.3	—	4	—	Yes	-40	85	—	SOT-23-5	
RD5RW	–	80	—	8	1.5	6	± 2.0	0.04	—	1.5	—	Yes	-40	85	—	SON1612-6	
RQ5RW																SC-82AB	
RH5RE	–	80	—	10	2	6	± 2.5	0.5	—	1.1	—	Yes	-40	85	—	SOT-89	
NJM2827	–	100	-12	-3.2	-10	-1.4	± 1.5	0.13	65	130	200	—	-40	85	Negative type Discharge Thermal Soft-Start	SC-88A	
NJM2828 ♡	–	100	-12	-3.2	-10	-1.4	± 1.5	0.13	65	130	200	Yes	-40	85	Negative type Discharge Thermal Soft-Start	SC-88A	
NJM2829 ♡	–	100	-12	-3.2	-1.3	-0.8	± 1.5	0.13	80	140	220	Yes	-40	85	Negative type Discharge Thermal Soft-Start	SC-88A	

*1: Please refer to the product data sheet for the output voltage lineup.

Part No.	Auto motive	Output Current [mA]	Input Voltage [V] min.	Input Voltage [V] max.	Output Voltage *1 [V] min.	Output Voltage *1 [V] max.	VOUT Deviation [%]	Dropout Voltage [V] typ.	Ripple Rejection Ratio [dB] typ.	Quiescent Current [uA] typ.	Quiescent Current [uA] max.	ON/OFF Control	Operating Temperature [°C] min.	Operating Temperature [°C] max.	Key Features	Package Outline	Notes
RP117 ♡	–	100	-10	-2.5	-5.5	-1	± 2.0	0.23	80	75	—	Yes	-40	85	Negative type Output noise: 16μVrms Thermal Discharge : Ver.D	DFN(PL)1212-6	
RP117 ♡ 2031																SC-88A	
RP118 ♡ 2031	–	100	1.7	5.5	1.2	3.6	± 0.8	0.10	—	0.2	—	Yes	-40	85	Automatic Discharge : Ver.D	WLCSP-4-P8	
RP118 ♡																DFN(PL)1010-4B, SOT-23-5	
RP124 ♡	–	100	1.7	5.5	1.2	3.6	± 0.8	0.10	—	0.2 BM:0.1	—	Yes	-40	85	+BM : with Battery Monitor Assist Function Automatic Discharge : Ver.D	DFN1212-6, SOT-23-5	
R1100	–	100	—	6	0.9	4	± 2.0	0.025	—	1.5	—	Yes	-40	85	—	SON1408-3	
NJU7758	–	100	2.3	6	1.5	5	± 1.0	0.15	65	20	40	Yes	-40	85	Discharge	SC-82AB	
RN5RZ	–	100	—	8	2	6	± 2.0	0.2	55	20	—	Yes	-40	85	Tantalum	SOT-23-5	
RH5RZ																SOT-89	
NJU7254	–	100	2.3	8	2.1	5	± 1.0	0.09	65	18 30	35 60	Yes	-40	85	2-Channel 1-Input,2-Output	SOT-23-6-1	
NJU7741	–	100	—	9	1.8	6	± 1.0	0.17	—	1.5	3.5	Yes	-40	85	—	SOT-23-5	
NJU7747	–	100	—	9	1.5	5	± 1.0	0.17	—	1.5	3.5	Yes	-40	85	—	SC-82AB	
NJU7748	–	100	—	9	1.5	5	± 1.0	0.17	—	1.5	3.5	Yes	-40	85	Discharge	SC-82AB	
NJU7751	–	100	2.3	9	1.5	5	± 1.0	0.15	65	20	40	Yes	-40	85	—	SOT-23-5	
NJU7754	–	100	2.3	9	1.5	5	± 1.0	0.15	65	20	40	Yes	-40	85	Discharge	SOT-23-5	
NJU7272	–	100	—	9	1.5	5	± 1.0	0.17	—	3.5	8.2	Yes	-40	85	With Reset (Input Voltage Monitor Type) Delay Time (External Capacitor)	SOT-23-6-1	
NJU7744	–	100	—	9	1.5	6	± 1.0	0.17	—	1.5	3.5	Yes	-40	85	Discharge	SOT-23-5	
R1141	–	120	2.2	6	1.5	4	± 1.5	0.18	70	90	—	Yes	-40	85	Succeeding Products : RP109 Discharge : Ver.D	SC-82AB	
RP104 ♡	–	150	1.7	5.25	1.2	3.3	± 0.8	0.24	—	1	—	Yes	-40	85	Succeeding Products : RP110 TempCo : Typ. ± 40ppm/°C Discharge : Ver.D	DFN(PL)1010-4♡, SOT-23-5	
RP110 ♡	–	150	1.4	5.25	0.8	3.6	± 1.0	0.28	—	1	—	Yes	-40	85	Constant Discharge : Ver.D	DFN(PL)0808-4, DFN1010-4♡, SC-88A, SOT-23-5♡	
RP201	–	150	1.4	5.25	0.8	4	± 1.0	0.12	70	1.5	—	Yes	-40	85	Manu/Auto Discharge : Ver.D	DFN(PL)1212-6	
RP103	–	150	1.7	5.25	1.2	3.3	± 1.0	0.21	75	36	—	Yes	-40	85	Succeeding Products : RP109 TempCo : Typ. ± 30ppm/°C Discharge : Ver.D	DFN(PL)1010-4, SC-82AB, SOT-23-5	
RP109 ♡	–	150	1.4	5.25	0.8	3.6	± 1.0	0.25	75	50	—	Yes	-40	85	TempCo : Typ. ± 30ppm/°C Load Reg :TYP.5mV Discharge : Ver.D	DFN(PL)0808-4, DFN1010-4♡, SC-88A, SOT-23-5♡	
RP112 ♡	–	150	2.0	5.25	1.2	4.8	± 1.0	0.20	80	75	—	Yes	-40	85	Output noise : 10μVrms TempCo : Typ. ± 30ppm/°C Discharge : Ver.D	DFN(PL)1010-4, SC-88A, SOT-23-5♡	
RP152 ♡	–	150	1.4	5.25	0.8	3.6	± 1.0	0.20	70	80	—	Yes	-40	85	2CH Start-up sequence controllable: xxxC Discharge : Ver.B/C	DFN1212-6♡, SOT-23-6	
R1180 ♡	√	150	1.7	6	1.2	3.6	± 2.0	0.25	—	1	—	Yes	-40	85	—	SC-82AB, SOT-23-5♡, SON1612-6	Industrial (-50℃ to +105℃)
R1163 ♡ 2029	√	150	2.0	6	1.5	5	± 1.5	0.25	70	6	—	Yes	-40	85	Reverse Manual Discharge : Ver.D	SOT-23-5♡, SON-6	
R1116	–	150	1.8	6	1.5	4	± 1.5	0.29	70	10	—	Yes	-40	85	Seamless Discharge : Ver.D	SON1612-6, SOT-23-5	

*1: Please refer to the product data sheet for the output voltage lineup.

LDO Linear Regulators (Maximum Input Voltage ≦ 11V)

Part No.	Auto motive	Output Current [mA]	Input Voltage [V]		Output Voltage *1 [V]		VOUT Deviation [%]	Dropout Voltage [V]	Ripple Rejection Ratio [dB]	Quiescent Current [uA]		ON/ OFF Control	Operating Temperature [°C]		Key Features	Package Outline	Notes
			min.	max.	min.	max.		typ.	typ.	typ.	max.		min.	max.			
R5326 ♡	–	150	1.4	6	0.8	4.2	± 1.0	0.19	70	11	—	Yes	-40	85	2CH Automatic Discharge : Ver.B	DFN(PL)1820-6	
R1114 ♡ 2029	√	150	2.0	6	1.5	4	± 2.0	0.22	70	75	—	Yes	-40	85	Succeeding Products : RP109 RP130 Discharge : Ver.D	SON1612-6, SC-82AB, SOT-23-5♡	
R1122	–	150	2.0	6	1.5	5	± 2.0	0.19	80	100	—	Yes	-40	85	Replaceable with TK111/112/113 Succeeding Products : RP112x	SOT-23-5	
RP130 ♡	√	150	1.7	6.5	1.2	5.3	± 1.0	0.32	80	38	—	Yes	-40	85	TempCo : ± 20ppm/℃ Discharge : Ver.D	DFN(PL)1010-4♡, DFN1212-4♡, SC-82AB, SOT-23-5♡	Industrial (-40℃ to +105℃) DFN1212-4: Automotive
R1111	–	150	2.0	8	1.5	5	± 2.0	0.2	70	35	—	Yes	-40	85	Replaceable with LP2980/2985 Tantalum	SOT-23-5	
R1121	–	150	2.0	8	1.5	5	± 2.0	0.2	70	35	—	Yes	-40	85	Replaceable with TK111/112/113 Tantalum	SOT-23-5	
NJU7777	–	150	2.3	8	1.5	5	± 1.0	0.13	65	18	35	Yes	-40	85	Thermal	SC-82AB	
NJU7250	–	150	—	8	2.5	3.3	± 2.0	0.2	—	35	70	Yes	-40	85	Electrolytic	SOT-23-5	
NJU7771	–	150	2.3	9	1.5	5	± 1.0	0.15	65	18	35	Yes	-40	85	Thermal	SOT-23-5	
NJU7772	–	150	2.3	9	1.5	5	± 1.0	0.15	65	18	35	Yes	-40	85	Variation of Pin Configuration (NJU7771) Thermal	SOT-23-5	
NJU7773	–	150	2.3	9	1.5	5	± 1.0	0.15	65	18	35	Yes	-40	85	Variation of Pin Configuration (NJU7771) Thermal	SOT-23-5	
NJU7774	–	150	2.3	9	1.5	5	± 1.0	0.15	65	18	35	Yes	-40	85	Discharge Thermal	SOT-23-5	
NJU7775	–	150	2.3	9	1.5	5	± 1.0	0.15	65	18	35	Yes	-40	85	Discharge Variation of Pin Configuration (NJU7774) Discharge Thermal	SOT-23-5	
NJU7776	–	150	2.3	9	1.5	5	± 1.0	0.15	65	18	35	Yes	-40	85	Discharge Variation of Pin Configuration (NJU7774) Discharge Thermal	SOT-23-5	
NJM2877	–	150	2.3	9	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	With Noise Bypass Pin Thermal	SC-88A, SOT-23-5	
NJM2847	–	150	2.3	9	0.8	1.4	± 1.0	—	85	140	200	Yes	-40	85	Low Output Voltage Type With Noise Bypass Pin Thermal	SC-88A	
NJM2878	–	150	2.3	9	1.5	5	± 1.0	0.1	75	140	195	Yes	-40	85	Thermal	DFN4-F1(ESON4-F1), SC-82AB, SC-88A	
RP171 ♡	–	150	2.6	10	1.2	6.5	± 1.0	0.40	70	23	—	Yes	-40	85	Thermal Constant Discharge : Ver.D	SC-88A, SOT-23-5♡	Industrial (-40℃ to +105℃)
RP173 ♡	–	150	2.5	11	1.2	5.5	± 1.0	0.90	—	2	—	Yes	-40	85	Reverse Discharge : Ver.D	DFN(PL)1010-4, SOT-23-5	
NEW NR1620	–	150	0.6	VBIAS	0.4	1.2	± 10mV	0.15	—	0.4	—	Yes	-40	85	Very low dropout LDO Dual power supply (VIN: from 0.6 to VBIAS/ VBIAS: 2.4 to 5.5V) Discharge	DFN1212-6-GK, SOT-23-5-DC	
RP202 ♡	–	200	1.4	5.25	0.8	4	± 1.0	0.20	70	2.5	—	Yes	-40	85	Constant Automatic Discharge : Ver.D	DFN(PL)1010-4♡, SC-88A, SOT-23-5♡	
RP107	–	200	1.4	5.25	1	4.2	± 1.0	0.27	60	9.5	—	Yes	-40	85	Output Capacitor-less Constant Discharge : Ver.D	DFN(PL)1212-6, SC-88A	
RP100	–	200	1.7	5.25	1.2	3.3	± 0.6	0.13	75	18	—	Yes	-40	85	TempCo : Typ. ± 30ppm/℃ Discharge : Ver.D	DFN(PL)1612-4, SOT-23-5	

*1: Please refer to the product data sheet for the output voltage lineup.

Part No.	Auto motive	Output Current [mA]	Input Voltage [V]		Output Voltage *1 [V]		VOUT Deviation [%]	Dropout Voltage [V]	Ripple Rejection Ratio [dB]	Quiescent Current [uA]		ON/ OFF Control	Operating Temperature [°C]		Key Features	Package Outline	Notes
			min.	max.	min.	max.		typ.	typ.	typ.	max.		min.	max.			
RP155 ♡ 2031	–	200	1.9	5.25	1.6	3.6	± 1.0	0.085	75	80	—	Yes	-40	85	Dual Output voltage switchable. TempCo : Typ. ± 30ppm/℃ Thermal Inrush Discharge : Ver.B	WLCSP-5-P1	
NR1640 ♡	√	200	2.7	5.5	2.5	4.8	± 1.0	0.10	80	350	—	Yes	-40	125	Output noise : 6μVrms Thermal Discharge : Ver.D	SOT-23-5 - DC	Industrial (-40℃ to + 125℃)
R1160	–	200	1.4	6	0.8	3.3	± 2.0	0.14	70	5	—	Yes	-40	85	Manual Tantalum	SOT-23-5	
R5324	–	200	2.0	6	1.5	4	± 2.0	0.22	70	270	—	Yes	-40	85	3CH Discharge : Ver.B	DFN(PL)2527-10	
NJM2879 ♡	√	200	2.3	6.5	1.5	5	± 2.0	0.12	66	150	180	Yes	-40	85	Discharge Thermal Reverse	SOT-23-5	
NJM12877 ♡	–	200	2.3	6.5	1.5	5	± 1.0	0.12	64	160	210	Yes	-40	125	Discharge Thermal Soft-Start Reverse	DFN6-G1(ESON6-G1), SOT-23-5	
RP123 ♡ 2031	–	250	1.9	5.5	1.2	4.8	± 0.8	Z: 0.090 K/N: 0.105	90	9.5	—	Yes	-40	85	Output noise : 8μVrms Seamless Thermal Inrush Discharge : Ver.D	WLCSP-4-P8♡, WLCSP-4-P12, DFN(PL)1010-4B♡, SOT-23-5♡	
RP200	–	300	1.4	5.25	0.8	4	± 1.0	0.23	70	1.5	—	Yes	-40	85	Manu/Auto Discharge : Ver.D	DFN(PL)1212-6, SOT-23-5	
RP101 ♡	–	300	1.7	5.25	1.2	3.3	± 0.6	0.13	75	18	—	Yes	-40	85	TempCo : Typ. ± 30ppm/℃ Discharge : Ver.D	DFN(PL)1612-4, DFN(PL)1612-4B♡, SOT-23-5	
RP150	–	300	2.5	5.25	1.5	3.3	± 1.0	0.21	80	48	—	Yes	-40	85	2CH TempCo : Typ. ± 30ppm/℃ Discharge : Ver.B	DFN(PL)2020-8	
RP102 ♡	–	300	1.7	5.25	1.2	3.3	± 0.8	0.12	80	50	—	Yes	-40	85	TempCo : Typ. ± 20ppm/℃ Discharge : Ver.D	WLCSP-4-P2, DFN(PL)1820-6♡, SOT-23-5	
RP114 ♡ **RP114** ♡ 2027	–	300	1.4	5.25	0.8	3.6	± 1.0	0.25	75	50	—	Yes	-40	85	Discharge : Ver.D	DFN(PL)1010-4B♡, SC-88A, SOT-23-5♡ DFN(PL)1010-4	
RP154 ♡	√	300	1.4	5.25	0.8	3.7	± 1.0	0.25	75	100	—	Yes	-40	85	2CH Dual Input Type available: only DFN Discharge : Ver.B	DFN1216-8, DFN2020-8♡, SOT-23-6♡	Industrial (-40℃ to +105℃)
R1161	–	300	1.4	6	0.8	3.3	± 2.0	0.23	65	4.5	—	Yes	-40	85	Succeeding Products : RP200 Manual Discharge : Ver.D	SOT-23-5	
R1131	–	300	1.4	6	0.8	3.3	± 2.0	0.23	65	60	—	Yes	-40	85	Succeeding Products : RP101 Discharge : Ver.D	SOT-23-5, SON-6	
NJM2881 ♡	–	300	2.3	6	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	With Noise Bypass Pin Thermal	SOT-23-5	
NJM2882	–	300	2.3	6	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2881) With Noise Bypass Pin Thermal	SOT-23-5	
NJM12888 ♡	–	300	2.3	6.5	1.5	5	± 1.0	0.1	66	150	200	Yes	-40	125	Discharge Thermal Soft-Start Reverse	DFN6-G1(ESON6-G1), SOT-23-5	
R1130 ♡ 2029	√	300	2.5	8	1.5 (Fix./ Adj.)	5 (Fix./ Adj.)	± 2.0 (Fix.) ± 36mV (Adj.)	0.25	60	50	—	Yes	-40	85	—	SOT-89-5	
NJU7780	–	300	2.3	9	1.5	5	± 1.0	0.15	65	20	40	Yes	-40	85	Thermal	SOT-89-5-1	
NJU7781	–	300	2.3	9	1.5	5	± 1.0	0.15	65	20	40	Yes	-40	85	Discharge Thermal	SOT-89-5-1	
NJM2888 ♡	–	300	2.3	9	1.5	5	± 1.0	0.1	75	140	195	Yes	-40	85	Thermal	DFN4-F1(ESON4-F1), SOT-23-5	

*1: Please refer to the product data sheet for the output voltage lineup.

LDO Linear Regulators (Maximum Input Voltage ≦ 11V)

Part No.	Auto motive	Output Current [mA]	Input Voltage [V] min.	Input Voltage [V] max.	Output Voltage *1 [V] min.	Output Voltage *1 [V] max.	VOUT Deviation [%]	Dropout Voltage [V] typ.	Ripple Rejection Ratio [dB] typ.	Quiescent Current [uA] typ.	Quiescent Current [uA] max.	ON/OFF Control	Operating Temperature [°C] min.	Operating Temperature [°C] max.	Key Features	Package Outline	Notes
RP170 ♡	√	300	2.6	10	1.2	6.5	± 1.0	0.77	70	23	—	Yes	-40	85	Thermal Constant Discharge : Ver.D	SOT-23-5, SOT-89-5	Industrial (-50℃ to +105℃)
RP106	–	400	1.0	3.6	0.7	1.8	± 0.8	0.22	60 f=10kHz	48	—	Yes	-40	85	Constant Discharge : Ver.D	WLCSP-4-P5, DFN(PL)1212-6, SC-88A	
RP105	–	400	0.9	VBIAS	0.6	1.5	± 1.0	0.18	80	28	—	Yes	-40	85	Dual power supply (VIN: from 0.9 to VBIAS / VBIAS:2.4 to 5.25V) Discharge : Ver.D/F	DFN1212-5, DFN(PL)1212-6, SOT-23-5	
RP122 ♡ 2031	–	400	1.9	5.5	1.2	4.8	± 0.8	Z: 0.145 K/N: 0.170	90	9.5	—	Yes	-40	85	Output noise : 8μVrms Seamless Thermal Inrush Discharge : Ver.D	WLCSP-4-P8♡, WLCSP-4-P12, DFN(PL)1010-4B♡, SOT-23-5♡	
RP111 ♡	√	500	1.4	5.25	0.7 (Fix./ Adj.)	3.6 (Fix./ Adj.)	± 0.8	0.23	75	80	—	Yes	-40	85	TempCo : Typ. ± 30ppm/℃ Load Reg :Typ.1mV Load transient response accuracy: Typ.-75mV / +45mV Thermal Inrush Discharge : Ver.D	DFN1212-6, SOT-23-5, SOT-89-5, HSOP-6J	Industrial (-40℃ to 105℃) Automotive : HSOP-6J
NR1600 ♡	–	500	1.4	5.5	1.0 (Fix./ Adj.)	3.6 (Fix.) 4.8 (Adj.)	± 1.0	0.16	75	80	125	Yes	-40	85	Thermal Inrush Discharge Soft-Start Power-Good Function	DFN1212-6-GK♡, SOT-23-6-DD, HSOP-8-AC♡	
NJM12884 ♡	√	500	2.3	6.5	1.5	5	± 1.0	0.18	68	200	280	Yes	-40	125	Discharge Thermal Soft-Start Reverse	SOT-89-5-2, TO-252-5-L3, DFN8-WA(ESON8-WA)	
NJU7790	–	500	2.3	8	1.5	5	± 1.0	0.12	65	30	60	Yes	-40	85	Thermal	SOT-89-5-1	
NJM2841 ♡	√	500	—	9	0.8	2.5	± 1.0	0.1	86	180	300	Yes	-40	85	Low Output Voltage Type, Dual Supply Voltage Type (sequence free) Load Reg : Max. 0.002%/mA Thermal	SOT-23-5, SOT-89-5-2	
NJM2884 ♡	√	500	2.3	9	1.5	5	± 1.0	0.18	75	200	300	Yes	-40	85	Thermal	SOT-89-5-1, SOT-89-5-2	
NJM2884A	–	500	2.3	9	1.5	5	± 1.0	0.18	75	200	300	Yes	-40	85	Thermal	DFN6-H1(ESON6-H1), TO-252-5-L3	
RP115 ♡	√	500	1.4	5.25	0.7	4.3	± 1.0	0.065	80	110	—	Yes	-40	85	Load Reg : Typ.1mV TempCo : Typ. ± 30ppm/℃ Thermal Reverse Inrush Constant Discharge : Ver.D	DFN1216-8	Industrial (-40℃ to +105℃) DFN2020-8B: Automotive
		1000						L:0.13 H:0.17								DFN2020-8B, SOT-89-5	
R1170 ♡ 2029	√	800	—	6	1.5	5	± 2.0	0.12	50	80	—	Yes	-40	85	Thermal	SOT-89-5♡, HSON-6, HSOP-6J	
NEW NR1641 ♡	–	1000	1.7	5.5	1.0	5	± 1.0	0.2	75	17	—	Yes	-40	85	Soft-Start Inrush Automatic Discharge : Ver.A/B	WLCSP-6-P12, DFN1616-6-GY♡, HSON-6-GU	
R1172	√	1000	1.4	6	0.8	5	± 2.0	0.05	70	60	—	Yes	-40	85	Thermal Inrush Discharge : Ver.D	HSON-6	
R1172 ♡ 2032																SOT-23-5, HSOP-6J, SOT-89-5	
R1173	–	1000	1.4	6	0.8 (Fix.) 1.0 (Adj.)	5.0 (Fix.) VIN (Adj.)	± 2.0 (Fix.) ± 30mV (Adj.)	0.05	70	60	—	Yes	-40	85	Load Reg : Typ.-3mV Thermal Inrush Discharge : Ver.D	SOT-89-5, HSON-6	
R1173 ♡ 2032																HSOP-6J	

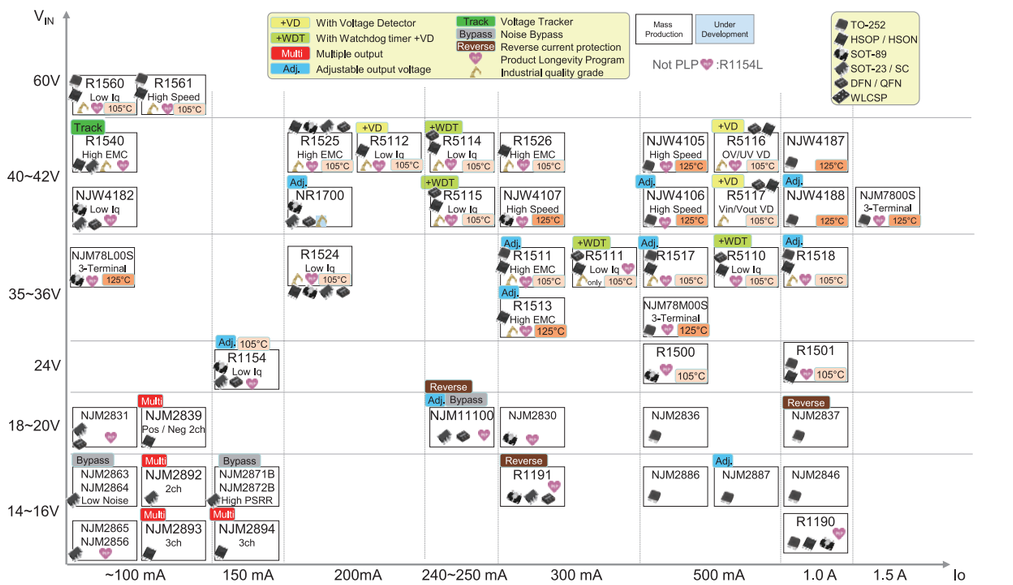
*1: Please refer to the product data sheet for the output voltage lineup.

Part No.	Auto motive	Output Current [mA]	Input Voltage [V] min.	Input Voltage [V] max.	Output Voltage *1 [V] min.	Output Voltage *1 [V] max.	VOUT Deviation [%]	Dropout Voltage [V] typ.	Ripple Rejection Ratio [dB] typ.	Quiescent Current [uA] typ.	Quiescent Current [uA] max.	ON/OFF Control	Operating Temperature [°C] min.	Operating Temperature [°C] max.	Key Features	Package Outline	Notes
RP131	–	1000	1.6	6.5	0.8	5.5	± 1.0	0.50	70	65	—	Yes	-40	85	Thermal Inrush Discharge : Ver.D	DFN(PL)1820-6, SOT-89-5, HSOP-6J, TO-252-5-P2	
RP132 ♡	√	1000	1.4	6.5	0.8 (Fix./ Adj.)	5.5 (Fix./ Adj.)	± 1.0 (Fix.) ± 15mV (Adj.)	0.52	70	65	—	Yes	-40	85	Inrush : Ext.Adjustable Load Reg :Typ.5mV Discharge : Ver.D/F Thermal	DFN(PL)1820-6, SOT-89-5, HSOP-6J, TO-252-5-P2	Industrial (-40℃ to +105℃)
NJM2842 ♡	√	1000	—	5.5	0.8	1.8	± 1.0	0.1	91	300	500	Yes	-40	125	Low Output Voltage Type, Dual Supply Voltage Type (sequence free) Load Reg : Max. 0.002%/mA Thermal	DFN6-H1(ESON6-H1), SOT-89-5-2, TO-252-5-L3	
NJM12856 ♡	–	1000	2.5	6.5	1.5	5	± 1.0	0.2	77	400	600	Yes	-40	125	Discharge Thermal Soft-Start Reverse	SOT-89-5-2, TO-252-5-L3	
NJM2855	–	1000	2.5	8	1.5	5	± 1.0	0.2	75	400	600		-40	85	Thermal	TO-252-3-L1	
NJM2856	–	1000	2.5	8	1.5	5	± 1.0	0.2	75	400	600	Yes	-40	85	Thermal	HSOP8-M1, TO-252-5-L3	
NJM2391	–	1000	—	10	2.5	5	± 1.0	1.1	62	2300	4000	—	-40	85	Thermal Electrolytic	TO-252-3-L1	
RP120 ♡ 2031	–	1500	0.768	VBIAS	0.6 (Fix./ Adj.)	2.0 (Fix.) 3.6 (Adj.)	± 0.7	0.102	95	35	—	Yes	-40	85	Very low dropout LDO, Dual power supply (VIN: from 0.768 to VBIAS/ VBIAS: 2.4 to 5.5V) Thermal Soft-Start Reverse Discharge	WLCSP-6-P11	
R1171 ♡ 2032	√	1500	2.1	6	1.5	5	± 2.0	0.09	50	130	—	Yes	-40	85	Thermal	HSOP-6J	
NJM2857	–	1500	2.6	8	1.5	5	± 1.0	0.2	80	500	750	Yes	-40	125	Thermal Reverse	TO-252-5-L3	
NJM2815	√	1500	5.5	10	5.1	5.15	± 1.0	0.2	—	980	1350	Yes	-40	85	Voltage Correction Circuit, Error Flag Output (FAULT) Thermal Soft-Start Reverse	HSOP8-M1	
NJM2816	√	1800	5.5	8	5.1	5.15	± 1.0	0.25	—	1150	1600	Yes	-40	125	Voltage Correction Circuit, Error Flag Output (FAULT) Thermal Soft-Start Reverse	HSOP8-M1	
NJM2819A	–	2000	2.3	9	1.8	7	± 1.0	0.1	65	500	800	Yes	-40	85	Thermal	TO-252-5-L3	
U.D. **NR1644**	–	2000	VIN: Vset+ Vdiff VBIAS: 2.4	VIN: VBIAS VBIAS: 5.5	0.4	1.5	± 1.0	0.1	50	60	—	Yes	-40	85	Power Good function Inrush Discharge	DFN2020-8-GT	Vset:Output Voltage Vdiff:Input/ output potential difference
NJW4111	√	3000	0.8	3.3	0.8	1.8	± 1.0	0.08	—	1400	2200	Yes	-40	85	Low dropout adjustable type, Dual input voltage (VIN: 0.8 to 3.3V / VBIAS:4.3 to 5.5V), Short circuit protection (Timer latch type) Load Reg : Max. 10mV Discharge UVLO Thermal Soft-Start	HSOP8-M1	VFB=0.65V ± 1.0%
RP108 ♡	√	3000	1.6	5.25	0.8 (Fix./ Adj.)	4.2 (Fix./ Adj.)	± 1.0	0.51	65	350	—	Yes	-40	85	Load Reg :Typ.3mV Discharge : Ver.D/F Thermal Reverse Constant	TO-252-5-P2	Industrial (-40℃ to +105℃)
RN5RF	–	—	1.8	10	1.2	6	± 2.0	0.1	60	30	—	Yes	-40	85	External Tr. Tantalum	SOT-23-5	

*1: Please refer to the product data sheet for the output voltage lineup.

LDO Regulators and LDO Regulators (Tracking Regulators) Maximum Input Voltage and Output Current Chart (Maximum Input Voltage ≧12V)

※Main Product Only



LDO Linear Regulators (Maximum Input Voltage ≧ 12V)

♡ : Products available in PRODUCT LONGEVITY PROGRAM

♡ xxxx : Products available in PRODUCT LONGEVITY PROGRAM with time limit

U.D. : Under Development NEW : New product

Ripple : Ripple Rejection, Frequency = 1kHz

Automatic : Automatic Shift to ECO Mode

Manual : Manual Shift to ECO Mode

Manu/Auto : Manual/Automatic Shift to ECO Mode

Seamless : Seamless Shift to ECO Mode

Thermal : Thermal Shutdown Circuit

Constant : Constant Slope Circuit

Reverse : Reverse Current Protection Circuit

Inrush : Inrush Current Limit Circuit

TempCo : Output Voltage Temperature Coefficient

Load Reg : Load Regulation

Tantalum : Tantalum

Electrolytic : Electrolytic Capacitor

High Immunity : Enhanced Noise Immunity

UVLO : Undervoltage Lockout Circuit

Soft-Start : Soft-start Circuit

Discharge : Auto-Discharge

Part No.	Auto motive	Output Current [mA]	Input Voltage [V] min.	Input Voltage [V] max.	Output Voltage*1 [V] min.	Output Voltage*1 [V] max.	VOUT Deviation [%]	Dropout Voltage [V] typ.	Ripple Rejection Ratio [dB] typ.	Quiescent Current [μA] typ.	Quiescent Current [μA] max.	ON/OFF Control	Operating Temperature [°C] min.	Operating Temperature [°C] max.	Key Features	Package Outline	Notes
NJU7200	—	15	—	12	1	5.5	± 5.0	0.36	—	1.3	—	—	-25	75	Electrolytic	SOT-89-3	
NJU7201	—	15	2.0	12	1.2	5.5	± 5.0	0.2	—	19	—	—	-25	75	Electrolytic	SOT-89-3	
NJU7221	—	15	2.3	12	1.2	5.5	± 2.0	0.2	—	19	—	—	-25	75	Electrolytic	SOT-89-3	
NJU7231	—	15	2.3	15	1.2	5.2	± 2.0	0.2	—	10	20	—	-40	85	Electrolytic	SOT-23-5, SOT-89-3	
R1515 ♡	✓	50	4.0	36	2	12	± 2.0	0.2	—	9	—	Yes	-40	105	Thermal	SOT-89-5, HSOP-6J	
R8151 ♡	✓	50	4.0	36	2	12	± 2.0	0.32	—	9	—	Yes	-40	110	Thermal	SOT-89-5	Automotive only
R8151 ♡ 2032	✓	50	4.0	36	2	12	± 2.0	0.32	—	9	—	Yes	-40	110	Thermal	HSOP-6J	Automotive only
NJU7241	—	60	—	14	1.8	6	± 2.0	0.2	55	20	40	Yes	-40	85	Electrolytic	SOT-23-5	
NJM2860	—	100	2.5	14	1.5	5	± 1.0	0.1	70	120	180	Yes	-40	85	With Noise Bypass Pin Thermal	SC-88A	
NJM2861	—	100	—	14	2.1	5	± 1.0	0.1	70	120	180	Yes	-40	85	With Noise Bypass Pin Thermal	SOT-23-5	
NJM2862	—	100	—	14	2.1	5	± 1.0	0.1	70	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2861) With Noise Bypass Pin Thermal	SOT-23-5	

*1: Please refer to the product data sheet for the output voltage lineup.

Part No.	Auto motive	Output Current [mA]	Input Voltage [V] min.	Input Voltage [V] max.	Output Voltage*1 [V] min.	Output Voltage*1 [V] max.	VOUT Deviation [%]	Dropout Voltage [V] typ.	Ripple Rejection Ratio [dB] typ.	Quiescent Current [μA] typ.	Quiescent Current [μA] max.	ON/OFF Control	Operating Temperature [°C] min.	Operating Temperature [°C] max.	Key Features	Package Outline	Notes
NJM2863	—	100	—	14	2.1	5	± 1.0	0.1	75	120	180	Yes	-40	85	With Noise Bypass Pin, Ultra Low Noise: Typ. 12uVrms Thermal	SOT-23-5	
NJM2864	—	100	—	14	2.1	5	± 1.0	0.1	75	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2863), With Noise Bypass Pin, Ultra Low Noise: Typ.12uVrms Thermal	SOT-23-5	
NJM2865 ♡	—	100	2.3	14	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	Thermal	SC-88A, SOT-23-5♡	
NJM2866	—	100	2.3	14	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2865) Thermal	SOT-23-5	
NJM2867 ♡	—	100	—	14	2.1	5	± 1.0	0.1	75	120	180	Yes	-40	85	Thermal	SC-88A, SOT-23-5♡	
NJM2868	—	100	—	14	2.1	5	± 1.0	0.1	75	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2867) Thermal	SOT-23-5	
NJM2892	—	100	2.3	14	1.5	5	± 1.0	0.1	75	150 270	220 400	Yes	-40	85	2-Channel, 1-Input,2-Output Thermal	SOT-23-6-1	
NJU7202	—	100	—	14	3	5	± 5.0	0.4	—	20	—	—	-25	75	Electrolytic	SOT-89-3	
NJU7222	—	100	—	14	3	5	± 2.0	0.4	—	20	—	—	-25	75	Electrolytic	SOT-89-3	
NJM2839	—	100	-12	18	-6 12	-7.5 15	± 1.5	0.1 0.13	75 65	120 130	180 200	Yes	-40	85	2-Channel Positive Channel and Negative Channel Thermal	MSOP8(VSP8)	
NJM2831 ♡	—	100	—	18	2.1	15.5	± 1.0	0.1	75	120	180	Yes	-40	85	Thermal	DFN6-G1(ESON6-G1), SOT-23-5	
NJW4181	—	100	—	35	2.5	15	± 1.0	—	—	9	20	Yes	-40	85	ON/OFF Function (Apply only A ver.) Thermal Reverse	DFN6-G1(ESON6-G1), SOT-89-3, SOT-89-5	
NJW4183	—	100	4.0	35	3.3	5	± 1.0	0.16	45 (VOUT 3.3V) 43 (VOUT 5V)	18 (A ver.) 15 (B ver.)	30 (A ver.) 27 (B ver.)	Yes	-40	85	ON/OFF Function (Apply only A ver.) Thermal Reverse	SOT-89-3, SOT-89-5-2, TO-252-3-L1, TO-252-5-L3	
NJW4182 ♡	✓	100	4.0	40	2.5	15	± 1.0	0.18	54	9	18	—	-40	85	Ultra-Low Operating Current Thermal	SOT-23-5, SOT-89-3, DFN6-H1(ESON6-H1)	
R1560 ♡	✓	100	5.5	60	1.8	14	± 0.8	1.5	—	3	—	Yes	-40	105	Thermal	HSOP-6, TO-252-5-P2	Industrial (-50℃ to +125℃)
R1561 ♡	✓	100	5.5	60	1.8	14	± 0.8	1.3	—	20	—	Yes	-40	105	Thermal	HSOP-6J, TO-252-5-P2	Industrial (-50℃ to +125℃)
NJM2871	—	150	2.5	14	1.5	5	± 2.0	0.1	70	120	180	Yes	-40	85	With Noise Bypass Pin Thermal	SOT-23-5	
NJM2871A ♡	✓	150	2.5	14	1.5	5	± 1.0	0.1	70	120	180	Yes	-40	85	With Noise Bypass Pin Thermal	SOT-23-5	
NJM2871B	—	150	2.3	14	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	With Noise Bypass Pin Thermal	SOT-23-5	
NJM2872	—	150	2.5	14	1.5	5	± 2.0	0.1	70	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2871), With Noise Bypass Pin Thermal	SOT-23-5	
NJM2872A ♡	✓	150	2.5	14	1.5	5	± 1.0	0.1	70	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2871A), With Noise Bypass Pin Thermal	SOT-23-5	

*1: Please refer to the product data sheet for the output voltage lineup.

LDO Linear Regulators (Maximum Input Voltage ≧ 12V)

Part No.	Auto motive	Output Current [mA]	Input Voltage [V]		Output Voltage*1 [V]		VOUT Deviation [%]	Dropout Voltage [V]	Ripple Rejection Ratio [dB]	Quiescent Current [μA]		ON/OFF Control	Operating Temperature [℃]		Key Features	Package Outline	Notes
			min.	max.	min.	max.		typ.	typ.	typ.	max.		min.	max.			
NJM2872B	—	150	2.3	14	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2871B), With Noise Bypass Pin Thermal	SOT-23-5	
NJM2874	✓	150	—	14	2.1	5	± 1.0	0.1	75	120	180	Yes	-40	85	Variation of Pin Configuration, (NJM2875/76) Thermal	SOT-23-5	
NJM2875	✓	150	—	14	2.1	5	± 1.0	0.1	75	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2874/76) Thermal	SOT-23-5	
NJM2876	✓	150	—	14	2.1	5	± 1.0	0.1	75	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2874/75) Thermal	SOT-23-5	
NJM2870	—	150	2.0	14	1.5	5	± 2.0	0.12	60	200	300	Yes	-40	85	4.7uF(Tantalum Capacitor), With Noise Bypass Pin Thermal	SOT-23-5	
NJM2801	—	150	—	14	3.3	5	± 1.0	0.1	60	250	350	—	-40	85	With Reset (Output Voltage Monitor Type) Thermal	SOT-23-5, SOT-89-5-1	
NJM2893	—	150	—	14	2.1	5	± 1.0	0.1	75	150 270 390	220 400 580	Yes	-40	85	3-Channel, 1-Input,3-Output Thermal	MSOP8(TVSP8)	
NJM2894	—	150	—	14	2.1	5	± 1.0	0.1	75	150 270 390	220 400 580	Yes	-40	85	1-Channel (Io=150mA) 2/3-Channel (Io=80mA) 1-Input,3-Output Thermal	MSOP8(TVSP8)	
NJM2370	—	150	—	20	2	15.5	± 3.0	0.1	60	180	—	Yes	-40	85	With Noise Bypass Pin Thermal Electrolytic	SOT-89-5-1, MSOP8(TVSP8), MSOP8(VSP8)	
R1154 ♡	—	150	—	24	2.5 (Fix./ Adj.)	12 (Fix.) 24 (Adj.)	± 2 (Fix.) ± 50mV (Adj.)	0.2	—	5	—	Yes	-40	105	Thermal	SOT-23-5, SOT-89-5	
R1154 ♡ 2032																DFN1616-6	
R1150 ♡ 2032	✓	150	—	24	2.1	14	± 2.0	0.3	—	7	—	Yes	-40	85	+VD Thermal	SOT-89-5	Detector Threshold Range Ver.A:2.3V to 15.0V, Ver.B,C,D:2.0V to 15.0V Detector Threshold Accuracy ± 2.5%
R1155	—	150	3.5	24	2.5 (Fix./ Adj.)	12 (Fix.) 23 (Adj.)	± 2 (Fix.) ± 50mV (Adj.)	0.55	60	7.5	—	Yes	-40	105	Automatic Thermal Reverse	SOT-23-5, SOT-89-5	
R1514 ♡	✓	150	4.0	36	2	12	± 2.0	0.20	—	9	—	Yes	-40	105	Thermal	SOT-89-5, HSOP-6J	Industrial (-40℃ to +105℃)
R8150 ♡	✓	150	4.0	36	2	12	± 2.0	0.32	—	9	—	Yes	-40	125	Thermal	HSOP-6J	Automotive only
R1516 ♡	✓	150	4.0	36	1.8	6.2	± 1.0	—	—	29	—	Yes	-40	105	Thermal	SOT-89-5, HSOP-6J	
R1524 ♡	✓	200	3.5	36	1.8	12	± 0.6	0.6	—	2.2	—	Yes	-40	105	Thermal	DFN(PL)1820-6, SOT-23-5, SOT-89-5, HSOP-6J, HSOP-8E	Industrial (-50℃ to +125℃)
R8160 ♡ 2032	✓	200	3.5	36	3.3	9	± 0.6	0.6	—	2.2	—	Yes	-40	125	Thermal	SOT-23-5, SOT-89-5, HSOP-6J	Automotive only
NJW4104 ♡	✓	200	4.0	40	3.3	5	± 1.0	0.18	41	5.5 (A ver.) 5 (B ver.)	9.5 (A ver.) 8.5 (B ver.)	Yes	-40	125	Ultra-Low Operating Current UVLO Thermal	SOT-89-5-2, SOT-89-3, TO-252-3-L1	
R1525 ♡	✓	200	3.5	42	1.8	12	± 0.6	0.6	—	2.2	—	Yes	-40	105	Thermal High Immunity	DFN(PL)1820-6, SOT-23-5♡, SOT-89-5♡, HSOP-6J♡, HSOP-8E♡	Industrial (-50℃ to +125℃)

*1: Please refer to the product data sheet for the output voltage lineup.

Part No.	Auto motive	Output Current [mA]	Input Voltage [V]		Output Voltage*1 [V]		VOUT Deviation [%]	Dropout Voltage [V]	Ripple Rejection Ratio [dB]	Quiescent Current [μA]		ON/OFF Control	Operating Temperature [℃]		Key Features	Package Outline	Notes
			min.	max.	min.	max.		typ.	typ.	typ.	max.		min.	max.			
R5112 ♡	✓	200	3.5	42	1.8	5	± 0.6	0.6	—	3.8	—	Yes	-40	105	+VD Thermal	HSOP-8E	Industrial (-40℃ to 125℃) Detector Threshold Range: Ver.B: 1.6V to 4.8V, Ver.D: 2.9V to 4.8V Detector Threshold Accuracy: ± 0.6%
NEW NR1700	✓	200	3.5	42	1.2 (Adj.)	24 (Adj.)	± 0.8	0.6	—	12	—	Yes	-40	125	Fold-back Protection Circuit Thermal	SOT-23-5-DC, SOT89-5-DM, DFN(PL)2018-6-GZ	Industrial (-40℃ to +125℃)
NJM11100 ♡	✓	240	2.1	18	1.3	17	± 1.0	0.2	75	200	320	Yes	-40	85	Low dropout adjustable type, With Noise Bypass Pin Thermal Reverse	SOT-23-6-1, DFN6-H1(ESON6-H1)	Vref=1.25V
NJM2880	—	300	2.3	14	1.5	5	± 1.0	0.1	70	120	180	Yes	-40	85	With Noise Bypass Pin Thermal	SOT-89-5-1	
NJM2883	—	300	2.3	14	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	With Noise Bypass Pin Thermal	SOP8 JEDEC 150mil(EMP8)	
NJM2804	—	300	2.3	14	1.5	3.3	± 1.0	0.1	75	250	350	—	-40	85	With Reset (Input Voltage Monitor Type) Thermal	SOT-89-5-1	
NJM2805	—	300	—	14	2.9	5	± 1.0	0.1	75	250	350	—	-40	85	With Reset (Input Voltage Monitor Type) Thermal	SOT-89-5-1	
R1191 ♡	✓	300	3.5	16	2	15	± 1.5	0.55	70	6	—	Yes	-40	85	Manual Thermal Reverse Discharge : Ver.D	DFN1616-6, SOT-23-5♡, SOT-89-5♡	
NJM2830 ♡	✓	300	2.3	18	2.1	15	± 1.0	0.1	75	130	180	Yes	-40	85	Thermal	SOT-89-5-1	
NJW4184	✓	300	4.0	35	2.5	15	± 1.0	0.1	42 (VOUT 3.3V) 40 (VOUT 5V)	12 (A ver.) 9 (B ver.)	22 (A ver.) 19 (B ver.)	Yes	-40	85	ON/OFF Function (Apply only A ver.) Thermal	SOT-89-3, SOT-89-5-2, TO-252-3-L1, TO-252-5-L3	
R1510 ♡	✓	300	3.5	36	2.5	12	± 1.6	1.0	—	12.5	—	Yes	-40	105	+VD Automatic Thermal	HSOP-8E	Detector Threshold Range Ver.A,B,C: 2.3V to 12.0V, Ver.D: 2.3V to 10.6V Detector Threshold Accuracy ± 1.7%
R1513 ♡	✓	300	3.5	36	1.2 (Fix./ Adj.)	5 (Fix.) 18 (Adj.)	± 0.8	0.32	70 f= 100Hz	75	—	Yes	-40	125	Thermal Discharge : Ver.D	HSOP-6J	Industrial (-40℃ to 125℃)
R8156 ♡ 2032	✓	300	3.5	36	1.2 (Fix./ Adj.)	5 (Fix.) 18 (Adj.)	± 0.8	0.32	70 f= 100Hz	75	—	Yes	-40	125	Thermal Discharge : Ver.D	HSOP-8E	Automotive only
R1511 ♡	✓	300	3.5	36	3 (Fix./ Adj.)	9 (Fix.) 12 (Adj.)	± 1 (Fix.) ± 30mV (Adj.)	0.64	65	100	—	Yes	-40	105	Thermal	HSOP-6J, TO-252-5-P2	Industrial (-40℃ to +105℃)
R8153 ♡ 2032	✓	300	3.5	36	3 (Fix./ Adj.)	9 (Fix.) 12 (Adj.)	± 1 (Fix.) ± 30mV (Adj.)	0.64	—	100	—	Yes	-40	125	Thermal	HSOP-6J, TO-252-5-P2	Automotive only
R1526 ♡	✓	300	3.5	42	1.8	9	± 0.6	0.4	—	32	—	Yes	-40	105	Thermal High Immunity	HSOP-8E	Industrial (-40℃ to +125℃)
NJW4107 ♡	✓	300	4.0	40	3.3	5	± 1.0	0.12	56	75 (A ver.) 70 (B ver.)	125 (A ver.) 120 (B ver.)	Yes	-40	125	Fast Transient Response UVLO Thermal	SOT-89-5-2, SOT-89-3	
NJM2885	—	500	2.3	14	1.5	5	± 1.0	0.18	75	200	300	—	-40	85	Thermal	TO-252-3-L1	
NJM2886	✓	500	2.3	14	1.5	5	± 1.0	0.18	75	200	300	Yes	-40	85	Thermal	TO-252-5-L3	
NJM2887 ♡	✓	500	2.3	14	1.5	6	± 1.0	0.18	70	200	300	Yes	-40	85	Adjustable type Thermal	TO-252-5-L3	Vref=1.29V

*1: Please refer to the product data sheet for the output voltage lineup.

LDO Linear Regulators (Maximum Input Voltage ≧ 12V)

Part No.	Auto motive	Output Current [mA]	Input Voltage [V] min.	Input Voltage [V] max.	Output Voltage*1 [V] min.	Output Voltage*1 [V] max.	VOUT Deviation [%]	Dropout Voltage [V] typ.	Ripple Rejection Ratio [dB] typ.	Quiescent Current [μA] typ.	Quiescent Current [μA] max.	ON/OFF Control	Operating Temperature [℃] min.	Operating Temperature [℃] max.	Key Features	Package Outline	Notes
NJM2806	—	500	—	14	2.5	3.3	± 1.0	0.18	75	330	430	—	-40	85	With Reset (Input Voltage Monitor Type)	TO-252-5-L3	
NJU7223	—	500	2.5	14	1.8	5	± 2.0	0.4	57	30	60	—	-40	85	Thermal Electrolytic	TO-220F-3, TO-252-3-L1	
NJM2835	—	500	—	18	2.1	15	± 1.0	0.18	75	200	300	—	-40	85	Thermal	TO-252-3-L1	
NJM2836	—	500	—	18	2.1	15	± 1.0	0.18	75	200	300	Yes	-40	85	Thermal	TO-252-5-L3	
R1500 ♡	✓	500	4.0	24	3	12	± 2.0	0.115	60	70	—	Yes	-40	105	Thermal	SOT-89-5	
R1517 ♡	✓	500	3.5	36	2.5 (Fix./ Adj.)	8.5 (Fix.) 20 (Adj.)	± 0.8 (Fix.) ± 20mV (Adj.)	0.35	—	18	—	Yes	-40	105	Constant : Ext. Adjustable Discharge : Ver.D Thermal	HSOP-6J, TO-252-5-P2	Industrial (-40℃ to +125℃)
R8154 ♡ 2032	✓	500	3.5	36	2.5 (Fix./ Adj.)	9 (Fix.) 12 (Adj.)	± 0.8 (Fix.) ± 20mV (Adj.)	0.35	—	18	—	Yes	-40	125	Constant : Ext. Adjustable, Ver.E/F Thermal Discharge : Ver.D/F	HSOP-6J, TO-252-5-P2	Automotive only
NEW NP4271	✓	500	4.0	40	3.3	5	± 2.0 (-40℃ to 125℃)	0.3	68 / 71	120	160	Yes	-40	125	UVLO Thermal	HSOP-8-AC	WDT, Built-in Window VD
NJW4109 ♡	—	500	4.0	40	8	8	± 1.0	0.4	50	90	130	Yes	-40	125	Fast Transient Response, Power-Good Function Thermal	TO-252-5-L5	
NJW4113	✓	500	4.0	40	5	5	± 1.0	0.3	45	37	80	—	-40	125	Watchdog Timer Thermal	HSOP8-M1	Watchdog Timer Enable Function, WDT Reset Time and Output Delay Hold Time with external capacitor
NJW4186	✓	500	4.0	40	2	16	± 1.0	0.27	60	55	90	Yes	-40	85	Adjustable output voltage type Thermal	TO-252-5-L3	
NJW4116	✓	500	4.0	40	3.3	5	± 1.0	0.27	55	55	90	—	-40	125	With Reset Thermal	TO-252-5-L3	Adjustable RESET Output Delay Hold Time
NJW4105 ♡	✓	500	4.0	40	3.3	8	± 1.0	0.4	56	65	105	Yes	-40	125	Fast Transient Response Thermal	TO-252-5-L5	
NJW4106 ♡	✓	500	4.0	40	2.5	16	± 1.0	0.4	53	65	105	Yes	-40	125	Fast Transient Response, Adjustable output voltage type Thermal	TO-252-5-L5	
NJW4185	✓	500	4.0	40	3.3	15	± 1.0	0.27	62	55 (A ver.) 48 (B ver.)	90 (A ver.) 83 (B ver.)	Yes	-40	125	ON/OFF Control (A ver.) Thermal	TO-252-5-L3, TO-252-3-L1	
R5116 ♡	✓	500	3.5	42	3.3	5	± 0.5	0.9	65	25	—	Yes	-40	105	Built-in Window VD, Released Hysteresis: 0.7% (Max.) Thermal	HSOP-8E♡, HQFN0808-28	Industrial (-50℃ to 125℃), Detector Threshold Range OV: 3.3V to 5.5V UV: 2.5V to 5.0V, Detector Threshold Accuracy ± 0.5%
R5117 ♡ 2032	✓	500	3.5	42	3.3	5	± 0.5	0.9	65	35	—	Yes	-40	105	Built-in Dual VD, SVD Released Hysteresis: 0.7% (Max.), BVD Released Hysteresis: 5.0% (Max.) Thermal	HSOP-8E♡, HQFN0808-28	Industrial (-50℃ to 125℃), Detector Threshold Range SVD: 2.5V to 5.0V, BVD: 3.5V to 12.0V, Detector Threshold Accuracy SVD: ± 0.5%, BVD: ± 0.8%
NJM2845	—	800	2.5	14	1.5	5	± 1.0	0.18	75	400	600	—	-40	85	Thermal	TO-252-3-L1	
NJM2846	—	800	2.5	14	1.5	5	± 1.0	0.18	75	400	600	Yes	-40	85	Thermal	TO-252-5-L3	
R1190 ♡	✓	1000	3.5	16	2	12	± 1.5	1.10	60	150	—	Yes	-40	85	Inrush : Ext. Adjustable Discharge : Ver.D Thermal	SOT-89-5, HSOP-6J♡, TO-252-5-P2♡	
NJM2837	—	1000	—	18	2.4	15	± 1.0	0.2	80	420	570	Yes	-40	85	Thermal Reverse	TO-252-5-L3	
R1501 ♡	✓	1000	3.0	24	3	18	± 2.0	0.575	60	70	—	Yes	-40	105	Thermal	HSOP-6J, TO-252-5-P2	

*1: Please refer to the product data sheet for the output voltage lineup.

Part No.	Auto motive	Output Current [mA]	Input Voltage [V] min.	Input Voltage [V] max.	Output Voltage*1 [V] min.	Output Voltage*1 [V] max.	VOUT Deviation [%]	Dropout Voltage [V] typ.	Ripple Rejection Ratio [dB] typ.	Quiescent Current [μA] typ.	Quiescent Current [μA] max.	ON/OFF Control	Operating Temperature [℃] min.	Operating Temperature [℃] max.	Key Features	Package Outline	Notes
R8152 ♡	✓	1000	3.0	24	3	18	± 2.0	0.575	—	70	—	Yes	-40	125	Thermal	TO-252-5-P2	Automotive only
R8152 ♡ 2032																HSOP-6J	
NJM2386A	—	1000	—	30	3.3	12	± 2.0	0.2	67	—	5000	Yes	-40	85	Thermal Electrolytic	TO-252-5-L3	
NJM2387A	—	1000	3.8	30	1.5	20	± 2.0	0.2	65	—	5000	Yes	-40	85	Adjustable output voltage type Thermal Electrolytic	TO-252-5-L3	Vref=1.26V
NJM2386	—	1000	—	35	3.3	12	± 2.0	0.2	67	—	5000	Yes	-40	85	Thermal Electrolytic	TO-252-5-L3	
NJM2387	—	1000	3.8	35	1.5	20	± 2.0	0.2	67	—	5000	Yes	-40	85	Adjustable output voltage type Thermal Electrolytic	TO-252-5-L3	Vref=1.26V
R8155 ♡ 2032	✓	1000	3.5	36	2.5 (Fix./ Adj.)	9 (Fix.) 12 (Adj.)	± 0.8 (Fix.) ± 20mV (Adj.)	0.7	—	18	—	Yes	-40	125	Constant : Ext. Adjustable, Ver.E/F Discharge : Ver.D/F Thermal	HSOP-6J	Automotive only
R1518 ♡	✓	1000	3.5	36	2.5 (Fix./ Adj.)	9 (Fix.) 20 (Adj.)	± 0.8 (Fix.) ± 20mV (Adj.)	0.70	—	18	—	Yes	-40	105	Constant : Ext. Adjustable Discharge : Ver.D Thermal	HSOP-6J, TO-252-5-P2	Industrial (-40℃ to +125℃)
NJW4187	✓	1000	4.0	40	3.3	5	± 1.0	0.27	58 (VOUT 3.3V) 54 (VOUT 5V)	55	90	Yes	-40	125	Thermal	TO-252-5-L3, TO-252-3-L1	
NJW4188	✓	1000	4.0	40	2	15	± 1.0	0.27	58	55	90	Yes	-40	125	Adjustable output voltage type Thermal	TO-252-5-L3	

*1: Please refer to the product data sheet for the output voltage lineup.

LDO Linear Regulators (3-Terminal Votage Regulators)

Thermal : Thermal Shutdown Circuit Reverse : Reverse Current Protection Circuit Electrolytic : Electrolytic Capacitor

Part No.	Auto motive	Key Features	Operating Voltage [V]	Output Voltage[V] min.	Output Voltage[V] max.	Package Outline	Notes
NJM7800	—	Positive type Thermal Electrolytic	35/40	5	24	TO-220F-3, TO-252-3-L1	
NJM7800S ♡	—	Positive type Thermal	35/40	5	24	TO-252-3-L1	Wide temperature range (-40℃ to +125℃), Output Capacitor (Ceramic)
NJM78L00	—	Positive type Thermal Electrolytic	30/35/40	2.6	24	SOT-89-3, SOP8 JEDEC 150mil(EMP8)	
NJM78L00S ♡	—	Positive type Thermal	30/35	3	15	SOT-89-3	Wide temperature range (-40℃ to +125℃), Output Capacitor (Ceramic)
NJM78LR05	—	With Reset Function Thermal Electrolytic	20	—	5	DIP8, DMP8, SOT-89-5-1	
NJM78M00	—	Positive type Thermal Electrolytic	35/40	5	24	TO-220F-3, TO-252-3-L1	
NJM78M00S ♡	—	Positive type Thermal	35	5	15	TO-252-3-L1	Wide temperature range (-40℃ to +125℃), Output Capacitor (Ceramic)
NJM79L00S ♡	—	Negative type Thermal Electrolytic	-40	-5	-15	SOT-89-3	Direct replacement from NJM79L00 series Wide temperature range (-40℃ to +125℃)
NJW4181	—	Quiescent Current 9uA(typ.) Io=100mA ON/OFF Control (A ver.) Thermal Reverse	40	2.5	15	DFN6-G1(ESON6-G1), SOT-89-3	

LDO Linear Regulators (Tracking Regulators)

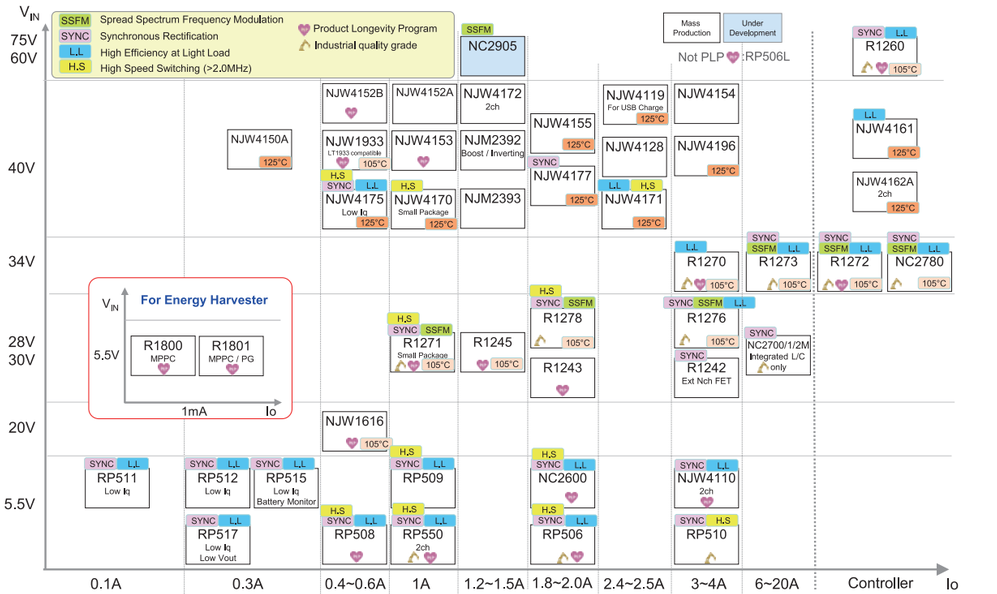
Thermal : Thermal Shutdown Circuit High Immunity : Enhanced Noise Immunity

Part No.	Auto motive	Input Voltage [V] min.	Input Voltage [V] max.	Output Current [mA]	Output Voltage*1 [V] min.	Output Voltage*1 [V] max.	VOUT Deviation [mV]	Dropout Voltage [V] typ.	Ripple Rejection Ratio [dB] typ.	Quiescent Current [μA] typ.	Quiescent Current [μA] max.	ON/OFF Control	Operating Temperature [℃] min.	Operating Temperature [℃] max.	Key Features	Package Outline	Notes
R1540 ♡	✓	3.5	42	70	2.2	14	± 15	1.3	80	60	—	Yes	-40	105	Fold-back Protection Circuit Thermal High Immunity	SOT-23-5, HSOP-8E	Industrial (-40℃ to +125℃)
NEW NJW4250	✓	4.0	40	50	2.5	36	± 5	0.1	80	40	80	Yes	-40	125	Overcurrent Protection Thermal High Immunity	SOT-23-5	
U.D. NJW4254	✓	4.0	40	70	2.5	36	± 5	0.2	80	40	80	Yes	-40	125	Overcurrent Protection Thermal High Immunity	SOT-89-5-2	

*1: Please refer to the product data sheet for the output voltage lineup.

DC/DC Switching Regulators (Buck) Maximum Input Voltage and Output Current Chart

※Main Product Only



DC/DC Switching Regulators

♡ : Products available in PRODUCT LONGEVITY PROGRAM

♡ xxxx : Products available in PRODUCT LONGEVITY PROGRAM with time limit

U.D. : Under Development NEW : New product

Seamless : Seamless Shift to ECO Mode
Thermal : Thermal Shutdown Circuit
Reverse : Reverse Current Protection Circuit
Soft-Start : Soft-start Circuit
Inrush : Inrush Current Limit Circuit
OVLO : Overvoltage Lockout Circuit
UVLO : Undervoltage Lockout Circuit
OVP : Overvoltage Protection Circuit
Shutdown : Shutdown Function
Discharge : Auto-discharge Function
Anti-Ringing : Anti-ringing Switch
Phase : Phase Compensation
Sequencing : Start-up Sequencing Control
Maxduty : Maximum Duty Cycle
LED Adjust : High-speed LED Adjustment
Diode : Diode Rectification
Synchro : Synchronous Rectification
PG : Power Good Function
Single-Wire : Single Wire Interface
SSCG : Spectrum Diffusion Type Oscillator

Buck

Part No.	Auto-motive	Application	Output Current [A]	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Voltage [V] min.	Output Voltage [V] max.	SW. Device	Number of Outputs	Oscillation Frequency Range [kHz] min.	Oscillation Frequency Range [kHz] max.	Stand-by Function	Power Good	Operating Temperature [°C] min.	Operating Temperature [°C] max.	Package Outline	Notes
R1800 ♡	—	Buck	0.001	2	5.5	2	4.5	Internal FET	1	Depends on conditions of Input/ Output Voltage and Output Current		Yes	—	-40	85	DFN(PL)2730-12	For Energy Harvest, VFM, 144 nA Low Quiescent Current, Maximum Power Voltage: 2.0V to 5.3V, Starting Power: 0.72μW, Reverse Synchro
R1801 ♡	—	Buck	0.001	2.3	5.5	2.3	4.5	Internal FET	1	Depends on conditions of Input/ Output Voltage and Output Current		Yes	Yes	-40	85	DFN(PL)2730-12	For Energy Harvest, VFM, 200 nA Low Quiescent Current, Maximum Power Voltage: 2.7V to 5.3V, Starting Power: 1μW Adjustable MPPC/VOUT Reverse Synchro
RP511 ♡ 2031	—	Buck	0.1	2	5.5	1	4	Internal FET	1	Max.1000 (Depends on conditions of Input/ Output Voltage and Output Current)		Yes	—	-40	85	WLCSP-8-P1, DFN(PL)2527-10, SOT-89-5	VFM, Ultra-Low Power Consumption: 0.3μA Synchro UVLO Soft-Start Discharge :xx1B

Part No.	Auto-motive	Application	Output Current [A]	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Voltage [V] min.	Output Voltage [V] max.	SW. Device	Number of Outputs	Oscillation Frequency Range [kHz] min.	Oscillation Frequency Range [kHz] max.	Stand-by Function	Power Good	Operating Temperature [°C] min.	Operating Temperature [°C] max.	Package Outline	Notes
RM517	—	Buck	0.3	1.8	5.5	0.3	1.2	Internal FET	1	Max.1000 (Depends on conditions of Input/ Output Voltage and Output Current)		Yes	—	-40	85	QFN2430-8	Built-in Inductor, VFM, Ultra-Low Power Consumption: 0.3μA Soft-Start Synchro UVLO Discharge : xx1D
RP512 ♡ 2031	—	Buck	0.3	2	5.5	1	4	Internal FET	1	Max.1000 (Depends on conditions of Input/ Output Voltage and Output Current)		Yes	—	-40	85	WLCSP-8-P1, DFN(PL)2527-10, SOT-89-5	VFM, Ultra-Low Power Consumption: 0.3μA Synchro UVLO Soft-Start Discharge :xx1D
RP515 ♡ 2031	—	Buck	0.3	1.8	5.5	1	4	Internal FET	1	Max.1000 (Depends on conditions of Input/ Output Voltage and Output Current)		Yes	—	-40	85	WLCSP-9-P2, DFN(PL)2527-10	VFM, + BM : with Battery Monitor Assist Function, Ultra-Low Power Consumption: 0.3μA (+BM:0.1μA) Synchro UVLO Soft-Start Discharge :xxxD
RP517 ♡ 2031	—	Buck	0.3	1.8	5.5	0.3	1.2	Internal FET	1	Max.1000 (Depends on conditions of Input/ Output Voltage and Output Current)		Yes	—	-40	85	WLCSP-8-P1, DFN(PL)2527-10	VFM, Ultra-Low Power Consumption:0.3μA, Synchro UVLO Soft-Start Discharge :xxxD
NJU7691	—	Buck	0.3	2.2	7	0.8 (Adj.)	6.5 (Adj.)	Internal FET	1	300	1000	Yes	—	-40	85	MSOP8(TVSP8)	VFM, Ultra-Low Power Consumption: 0.3μA Synchro Thermal Soft-Start UVLO Phase :Ext.
NJW4150A	—	Buck	0.3	6.2	40	1 (Adj.)	38 (Adj.)	Internal FET	1	1000 (Fix.)		Yes	—	-40	125	MSOP8(TVSP8)	PWM Diode Thermal Soft-Start UVLO Phase :Ext.
R5220	—	Buck	0.4	2.8	5.5	1	3.3	Internal FET	1	1200 (Fix.)		Yes	—	-40	85	DFN(PL)2514-6	+LDO, PWM, Protection Circuit Type : Latch, Built-in DC/DC and LDO Alternative Synchro Soft-Start UVLO
RM590 ♡ 2031	—	Buck	0.4	2.3	5.5	0.6 (Fix./ Adj.)	3.3 (Fix.) 5.5 (Adj.)	Internal FET	1	6000 (Fix.)		Yes	—	-40	85	QFN2220-8	Forced PWM,PWM/VFM, Inductor Built-in DC/DC Module, MODE Pin Synchro UVLO Soft-Start Thermal Discharge :xx2B/002D
NJW1616 ♡	—	Buck	0.5	4.5	20	1.245 (Adj.)	17.6 (Adj.)	Internal FET	1	500 (Fix.)		Yes	—	-40	105	SOT-23-6-1	Pin compatible with LT1616 and LT2736, PWM, Pulse-by-pulse current limit circuit Diode Soft-Start : Ext. Adjustable Thermal UVLO Phase :Int.
RP500	—	Buck	0.6	2.55	5.5	1.1	3.3	Internal FET	1	1200 (Fix.)		Yes	—	-40	85	DFN(PL)1820-6, SOT-23-6W	PWM,PWM/VFM, Protection Circuit Type : Latch Synchro UVLO Soft-Start Discharge :xx3A/xx4A
RP507 ♡	—	Buck	0.6	2.3	5.5	0.7 (Adj.)	5.5 (Adj.)	Internal FET	1	2000 (Fix.)		Yes	—	-40	85	DFN(PL)1616-6D	PWM/VFM Synchro UVLO Soft-Start Thermal Discharge
RP503	—	Buck	0.6	2.5	5.5	0.8	2.5	Internal FET	1	2000 (Fix.)		Yes	—	-40	85	DFN1616-6, SOT-23-5	PWM/VFM, Protection Circuit Type : Latch Synchro UVLO Soft-Start Discharge :xx2A
RP504	—	Buck	0.6	2.3	5.5	0.8	3.3	Internal FET	1	2250 (Fix.)		Yes	—	-40	85	DFN(PL)1216-6F, DFN1616-6B, SOT-23-5	Forced PWM,PWM/VFM, Protection Circuit Type : Latch, MODE Pin Synchro UVLO Soft-Start Discharge :xx1D

Power Management ICs

DC/DC Switching Regulators

Buck

Part No.	Auto-motive	Application	Output Current [A]	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Voltage [V] min.	Output Voltage [V] max.	SW. Device	Number of Outputs	Oscillation Frequency Range [kHz] min.	Oscillation Frequency Range [kHz] max.	Stand-by Function	Power Good	Operating Temperature [℃] min.	Operating Temperature [℃] max.	Package Outline	Notes
RP508 ♡	—	Buck	0.6	2.3	5.5	0.8	3.3	Internal FET	1	6000 (Fix.)		Yes	—	-40	85	DFN(PL)1212-6F	Forced PWM,PWM/VFM, MODE Pin Synchro UVLO Soft-Start Thermal Discharge :xx1B
NJW1933 ♡	—	Buck	0.6	4.5	40	1.245 (Adj.)	35.2 (Adj.)	Internal FET	1	500 (Fix.)		Yes	—	-40	105	SOT-23-6-1	Pin compatible with LT1933 and LT2842, PWM, Pulse-by-pulse current limit circuit Diode Soft-Start : Ext. Adjustable Thermal UVLO Phase :Int.
NJW4152B ♡	✓	Buck	0.6	4.6	40	0.8 (Adj.)	38 (Adj.)	Internal FET	1	300	1000	Yes	—	-40	85	MSOP8(VSP8)	PWM, Pulse-by-pulse current limit circuit, Diode Thermal Soft-Start UVLO Phase :Ext.
NJW4175	✓	Buck	0.6	3.4	40	0.8 (Adj.)	3.3,5.0 (Fix.) 26 (Adj.)	Internal FET	1	2100 (Fix.)		Yes	Yes	-40	125	HSOP8-M1	Forced PWM, PWM/PFM, Light Load Mode, External Clock Synchronization, Protection Circuit Type : Hiccup Synchro Thermal Soft-Start Phase :Int. UVLO Discharge
U.D. **NC2704MA**	—	Buck	0.6	3.4	40	0.8 (Adj.)	3.3/5.0 (Fix.) 10 (Adj.)	Internal FET	1	2100 (Fix.)		Yes	Yes	-40	125	QFN2848-14	Inductor Built-in , PWM/PFM, External Clock Synchronization, Protection Circuit Type : Hiccup Synchro UVLO Soft-Start
RP901	—	Buck	0.9	4.5	5.5	DC/DC:1.2 LDO:2.5	DC/DC:1.8 LDO:3.3	Internal FET	1	1200 (Fix.)		Yes	—	-40	85	DFN(PL)2527-10	+LDO, + VD : Detector Threshold Range 2.0V to 5.0V, for DVD drive, PWM,PWM/VFM, Protection Circuit Type : Reset Synchro Soft-Start UVLO Thermal Sequencing
RP519	—	Buck	1 or 0.5	2.3	5.5	0.6 (Fix.) 0.6 (Adj.)	3.3 (Fix.) 5.5 (Adj.)	Internal FET	1	6000 (Fix.)		Yes	—	-40	85	WLCSP-6-P8	Forced PWM,PWM/VFM, MODE Pin Synchro UVLO Soft-Start Thermal Discharge :xxxB/00xD
RP539 ♡ 2031	—	Buck	1 or 0.5	2.3	5.5	0.6 (Fix.) 0.6 (Adj.)	3.3 (Fix.) 5.5 (Adj.)	Internal FET	1	6000 (Fix.)		Yes	—	-40	105	WLCSP-6-P6	Forced PWM,PWM/VFM, Operating Temp.,Tj : -40 to +105℃ , MODE Pin Synchro UVLO Soft-Start Thermal Discharge :xxxB/00xD
R1232	—	Buck	1	2.6	5.5	0.9 (Fix.) 0.8 (Adj.)	3.3 (Fix.) VIN (Adj.)	Internal FET	1	A/C:1000 (Fix.) B/D:2250 (Fix.)		Yes	—	-40	85	SON-8	PWM, Protection Circuit Type : Latch, Synchro UVLO Soft-Start
RP501	—	Buck	1	2.5	5.5	1	3.3	Internal FET	1	2250 (Fix.)		Yes	—	-40	85	DFN(PL)2527-10	PWM,PWM/VFM, Protection Circuit Type : Latch, MODE Pin Synchro UVLO Soft-Start Discharge :xx1B
RP505 ♡	—	Buck	1	2.3	5.5	0.6 (Fix.) 0.8 (Adj.)	3.3 (Fix.) 3.3 (Adj.)	Internal FET	1	2250 (Fix.)		Yes	—	-40	85	DFN(PL)2020-8	Forced PWM,PWM/VFM, Protection Circuit Type: Latch, MODE Pin Synchro UVLO Soft-Start Thermal Discharge :xx1B
RP550 ♡	✓	Buck	1 × 2ch.	2.3	5.5	0.6 (Adj.)	3.3 (Adj.)	Internal FET	2	2250 (Fix.)		Yes	—	-40	85	DFN(PL)2730-12, DFN3030-12	Industrial(-40℃ to+105℃), 2CH, ForcedPWM,PWM/VFM, Protection Circuit Type : Latch Synchro UVLO Soft-Start Thermal

Part No.	Auto-motive	Application	Output Current [A]	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Voltage [V] min.	Output Voltage [V] max.	SW. Device	Number of Outputs	Oscillation Frequency Range [kHz] min.	Oscillation Frequency Range [kHz] max.	Stand-by Function	Power Good	Operating Temperature [℃] min.	Operating Temperature [℃] max.	Package Outline	Notes
RP509 ♡ 2031	—	Buck	1 or 0.5	2.3	5.5	0.6 (Fix.) 0.6 (Adj.)	3.3 (Fix.) 5.5 (Adj.)	Internal FET	1	6000 (Fix.)		Yes	—	-40	85	WLCSP-6-P6, SOT-23-6	Forced PWM,PWM/VFM, MODE Pin Synchro UVLO Soft-Start Thermal Discharge :xxxB/00xD
R1271 ♡ 2030	✓	Buck	1	3.6	30	3.3, 5.0		Internal FET	1	2000 (Fix.)		Yes	Yes	-40	105	DFN3030-12B, HSOP-18♡	Industrial (-40℃ to +125℃), Forced PWM, Protection Circuit Type : Latch or Hiccup Synchro Soft-Start :Ext. Adjustable SSCG :xx1C/D UVLO OVLO Thermal
NJW4152A	✓	Buck	1	4.6	40	0.8 (Adj.)	38 (Adj.)	Internal FET	1	300	1000	Yes	—	-40	85	HSOP8-M1	PWM, Pulse-by-pulse current limit circuit Diode Thermal Soft-Start UVLO Phase :Ext.
NJW4152-AB	✓	Buck	1	3.6	40	0.8 (Adj.)	38 (Adj.)	Internal FET	1	300	1000	Yes	—	-40	85	HSOP8-M1	PWM, Pulse-by-pulse current limit circuit Diode Thermal Soft-Start UVLO Phase :Ext.
NJW4153 ♡	✓	Buck/ Invert-ing	1	4.6	40	0.8 (Adj.)	34 (Adj.)	Internal FET	1	1000 (Fix.)		Yes	—	-40	85	SOT-89-5-2, DFN8-V1(ESON8-V1)	PWM, Protection Circuit Type : Hiccup Diode Thermal Soft-Start UVLO Phase :Int.
NJW4170	—	Buck	1	4.5	40	0.8 (Adj.)	31 (Adj.)	Internal FET	1	2400 (Fix., A ver.) 2100 (Fix., B ver.)		Yes	—	-40	125	SOT-89-5-2, DFN8-V1(ESON8-V1)	PWM, External Clock Synchronization, Protection Circuit Type : Hiccup Diode Thermal Soft-Start UVLO Phase :Int.
U.D. **NC2650**	—	Buck	1	1.8	5.5	0.8	3.3	Internal FET	1	5000 (Fix.)		Yes	—	-40	85	WLCSP-6-ZA2	PWM/PFM Synchro Soft-Start UVLO Discharge Thermal
R1240	—	Buck	1.2	4.5	30	0.8 (Adj.)	15.0 (Adj.)	Internal FET	1	1250 (Fix.)		Yes	—	-40	85	SOT-23-6W, DFN(PL)2527-10	PWM, Protection Circuit Type : Latch or Fold-back Diode UVLO Soft-Start Thermal
R1245 ♡	✓	Buck	1.2	4.5	30	0.8 (Adj.)	27.6 (Adj.)	Internal FET	1	A/B:330 (Fix.) C/D:500 (Fix.) E/F:1000 (Fix.) G/H:2400 (Fix.)		Yes	—	-40	105	DFN(PL)2020-8, DFN2020-8, SOT-23-6W, HSOP-8E	PWM, Protection Circuit Type : Latch or Fold-back Diode UVLO Soft-Start Thermal DFN2020-8:Automotive only
NJM2374A ♡	✓	Buck/ Boost/ Invert-ing	1.5	2.5	40	1.25 (Adj.)	38 (Adj.)	Inter-nal Tr.	1	0.1	100	—	—	-40	85	DIP8, DMP8♡, SOP8 JEDEC 150mil(EMP8), SSOP14	PWM control version(NJM2360), Pulse-by-pulse current limit circuit Diode Phase :Int.
NJM2344	—	Buck/ Boost/ Invert-ing	1.5	3	40	1.25 (Adj.)	38 (Adj.)	Inter-nal Tr.	1	1	150	Yes	—	-40	85	DIP8, DMP8	PWM, Standby function(NJM2392), Pulse-by-pulse current limit circuit Diode Phase :Int.
NJM2345	—	Buck	1.5	3	40	1.25 (Adj.)	38 (Adj.)	Inter-nal Tr.	1	1	150	Yes	—	-40	85	DIP8, DMP8	PWM, Buck (NJM2344), Pulse-by-pulse current limit circuit Diode Phase :Int.
NJM2392	—	Buck/ Boost/ Invert-ing	1.5	3	40	1.25 (Adj.)	38 (Adj.)	Inter-nal Tr.	1	1	150	—	—	-40	85	DIP8, DMP8	PWM control version(NJM2360), Pulse-by-pulse current limit circuit Diode Phase :Int.
NJM2393	—	Buck	1.5	3	40	1.25 (Adj.)	38 (Adj.)	Inter-nal Tr.	1	1	150	—	—	-40	85	DIP8, DMP8	PWM, Buck (NJM2392), Pulse-by-pulse current limit circuit Diode Phase :Int.

DC/DC Switching Regulators

Buck

Part No.	Auto-motive	Application	Output Current [A]	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Voltage [V] min.	Output Voltage [V] max.	SW. Device	Number of Outputs	Oscillation Frequency Range [kHz] min.	Oscillation Frequency Range [kHz] max.	Stand-by Function	Power Good	Operating Temperature [℃] min.	Operating Temperature [℃] max.	Package Outline	Notes
U.D. NC2905	✓	Buck	1.5	4.0	75	0.8	60	Internal FET	1	100	2400	Yes	Yes	-40	125	HSOP-8-AC	Industrial, PWM, External Clock Synchronization, Over Current Protection : Hiccup Diode UVLO SSCG Soft-Start Thermal Phase :Ext.
NJW4155	—	Buck/ Invert-ing	1.8	4.5	40	0.8 (Adj.)	36.8 (Adj.)	Internal FET	1	450 (Fix., A ver) 300 (Fix., B ver)		Yes	Yes	-40	125	HSOP8-M1, TO-252-5-L3	PWM, External Clock Synchronization, Over Current Protection : Hiccup Diode Thermal Soft-Start UVLO Phase :Int.
NC2600	—	Buck	2	2.3	5.5	0.6 (Fix.) 0.6 (Adj.)	3.3 (Fix.) 5.5 (Adj.)	Internal FET	1	4000 (Fix.)		Yes	Yes	-40	85	WLCSP-8-P11, DFN2020-8-GT	Forced PWM,PWM/PFM, MODE Pin Protection Circuit Type: Latch Synchro Soft-Start : Ext. Adjustable Discharge :Ver.A/C UVLO Thermal
U.D. NC2600MA	—	Buck	2	2.3	5.5	0.6 (Fix.) 0.6 (Adj.)	3.3 (Fix.) 5.5 (Adj.)	Internal FET	1	4000 (Fix.)		Yes	Yes	-40	85	QFN2434-16-MA	Built-in Inductor, Forced PWM,PWM/PFM, MODE Pin, Protection Circuit Type: Latch Synchro Soft-Start : Ext. Adjustable Discharge :Ver.A/C UVLO Thermal
NJW4122	—	Buck	2	2.7	5.5	0.6 (Adj.)	5 (Adj.)	Internal FET	1	100	2400	Yes	—	-40	125	DFN8-U1(ESON8-U1)	PWM, External Clock Synchronization, Over Current Protection : Hiccup Synchro Thermal Soft-Start UVLO Phase :Ext.
RP506 ♡ / RP506 ♡ 2032	✓	Buck	2	2.5	5.5	0.6/0.8 (Fix.) 0.6/0.8 (Adj.)	3.3 (Fix.) 4.0 (Adj.)	Internal FET	1	D/E/F:1200 (Fix.) A/B/C:2250 (Fix.)		Yes	Yes	-40	85	DFN(PL)2527-10 / DFN3030-12	Industrial (-40℃ to +105℃), MODE Pin, Forced PWM,PWM/VFM, Protection Circuit Type : Latch Synchro Soft-Start :Ext. Adjustable Discharge :xx1B/E UVLO Thermal
R1243 ♡	—	Buck	2	4.5	30	0.8 (Adj.)	18.0 (Adj.)	Internal FET	1	C/D:330 (Fix.) A/B/E:1000 (Fix.)		Yes	—	-40	85	DFN(PL)2527-10, HSOP-8E	Forced PWM, Protection Circuit Type : Latch or Fold-back, FLG Pin Diode Soft-Start :Ext. Adjustable UVLO Thermal
R1278 ♡ 2030	✓	Buck	2	3.6	30	3.3 (Adj.)	5.0 (Adj.)	Internal FET	1	2000 (Fix.)		Yes	Yes	-40	105	HSOP-18	Industrial (-40℃ to +125℃), Forced PWM, Ext.Synchronizable with PLL Circuit, Tracking function, Protection Circuit Type : Hiccup SSCG :Ver.003x Soft-Start :Ext. Adjustable Phase :Ext. Synchro UVLO Thermal OVLO
NJW4177	—	Buck	2	3.6	40	0.8 (Adj.)	38 (Adj.)	Internal FET	1	450 (Fix., A ver.) 300 (Fix., B ver.)		Yes	Yes	-40	125	HSOP8-M1	PWM, External Clock Synchronization, Over Current Protection : Hiccup Synchro Thermal Soft-Start UVLO Discharge Phase :Int.
NJW4119	✓	Buck	2.4	6.5	40	5.1 (Fix.)	5.185 (Fix.)	Internal FET	1	300 (Fix.)		Yes	Yes	-40	125	HTSSOP24-P1	USB Power SUpply, PWM, External Clock Synchronization, Protection Circuit Type : Hiccup Diode Thermal Soft-Start UVLO Phase :Ext.
NJW4171	✓	Buck	2.5	3.4	40	0.8 (Adj.)	38 (Adj.)	Internal FET	1	100	2400	Yes	Yes	-40	125	HSOP8-M1	Light Load Mode(A ver.), PWM, External Clock Synchronization, Protection Circuit Type : Hiccup Diode Thermal Soft-Start UVLO Phase :Ext.

Part No.	Auto-motive	Application	Output Current [A]	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Voltage [V] min.	Output Voltage [V] max.	SW. Device	Number of Outputs	Oscillation Frequency Range [kHz] min.	Oscillation Frequency Range [kHz] max.	Stand-by Function	Power Good	Operating Temperature [℃] min.	Operating Temperature [℃] max.	Package Outline	Notes
NJW4128	✓	Buck/ Invert-ing	2.5	4.5	40	0.8 (Adj.)	35.2 (Adj.)	Internal FET	1	450 (Fix., A ver) 300 (Fix., B ver)		Yes	Yes	-40	85	HSOP8-M1	PWM, External Clock Synchronization, Protection Circuit Type : Hiccup Diode Thermal Soft-Start UVLO Phase :Int.
NJW4110 ♡	✓	Buck	3	2.7	5.5	0.6 (Adj.)	5 (Adj.)	Internal FET	2	100	2400	Yes	Yes	-40	125	EQFN24-LE	PWM/PFM, External Clock Synchronization, Protection Circuit Type : Hiccup Soft-Start : Ext. Adjustable Synchro Thermal UVLO Phase :Ext. Discharge
R1276 ♡ 2030	✓	Buck	3	3.6	30	0.7 (Adj.)	6.5 (Adj.)	Internal FET	1	250	1000	Yes	Yes	-40	105	HSOP-18	Industrial (-40℃ to +125℃), Forced PWM,PWM/VFM, Ext.Synchronizable with PLL Circuit, Tracking function, Protection Circuit Type : Hiccup Synchro SSCG :Ver.xxxC Soft-Start :Ext. Adjustable Phase :Ext. UVLO Thermal OVLO
R1242	—	Buck	3	5	30	0.8 (Adj.)	15.0 (Adj.)	Internal FET	1	C/D:330 (Fix.) E/F:500 (Fix.) G/H:1000 (Fix.) A/B:300 to 1000		Yes	—	-40	85	HSOP-8E	PWM, Ext.Synchronizable with PLL Circuit, Protection Circuit Type : Latch or Fold-back Synchro :with external low side UVLO Soft-Start Thermal
R1270 ♡	✓	Buck	3	3.6	34	0.8 (Adj.)	31.6 (Adj.)	Internal FET	1	300	2400	Yes	—	-40	105	HSOP-18	Industrial (-40℃ to +125℃), PWM,PWM/VFM, Ext.Synchronizable with PLL Circuit Protection Circuit Type : Latch or Fold-back, FLG Pin Diode Soft-Start :Ext. Adjustable Phase :Ext. UVLO Thermal OVLO
NJW4154	✓	Buck	3	4.5	40	0.8 (Adj.)	35.2 (Adj.)	Internal FET	1	300 (Fix.)		Yes	Yes	-40	85	HSOP8-M1, TO-252-5-L3	PWM, External Clock Synchronization, Protection Circuit Type : Hiccup Diode Thermal Soft-Start UVLO Phase :Int.
NJW4196	—	Buck	3.5	4.45	40	1 (Adj.)	38 (Adj.)	Internal FET	1	450 (Fix.) 100	450 (Fix.) 1000	Yes	Yes	-40	125	HSOP8-M1	PWM, External Clock Synchronization Protection Circuit Type : Hiccup Diode Thermal Soft-Start UVLO Phase :Int.
RP510 ♡ 2032	✓	Buck	4	2.5	5.5	0.8 (Fix.) 0.8 (Adj.)	3.3 (Fix.) 3.3 (Adj.)	Internal FET	1	2300 (Fix.)		Yes	Yes	-40	85	DFN3030-12	Industrial (-50℃ to +105℃), Forced PWM, Protection Circuit Type : Latch or Fold-back Synchro Soft-Start :Ext. Adjustable Discharge :xxxH/N UVLO Thermal
NEW NC2700MA	—	Buck	20	4	28	0.7 (Adj.)	5.3 (Adj.)	Internal FET	1	250	1000	Yes	Yes	-40	85	QFN0910-65-MA	Industrial only, Built-in Inductor, Forced PWM, Protection Circuit Type : Latch or Hiccup, Ext.Synchronizable with PLL Circuit Synchro Soft-Start :Ext. Adjustable Phase :Ext. Maxduty UVLO Thermal
NEW NC2701MA			10														
NEW NC2702MA			6														

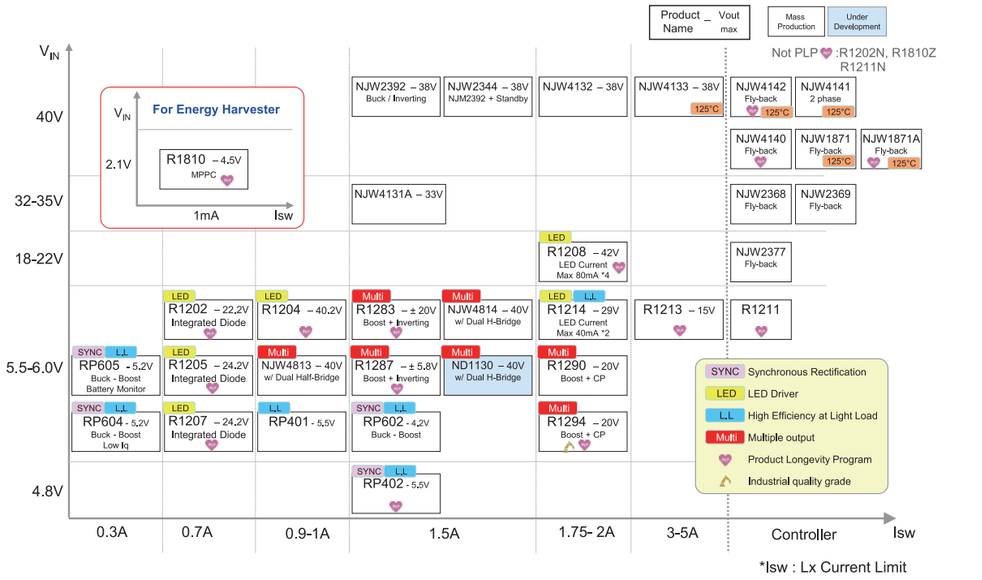
DC/DC Switching Regulators

Buck

Part No.	Auto-motive	Application	Output Current [A]	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Voltage [V] min.	Output Voltage [V] max.	SW. Device	Number of Outputs	Oscillation Frequency Range [kHz] min.	Oscillation Frequency Range [kHz] max.	Stand-by Function	Power Good	Operating Temperature [℃] min.	Operating Temperature [℃] max.	Package Outline	Notes
R1273	✓	Buck	14	4	34	0.7 (Adj.)	5.3 (Adj.)	Internal FET	1	250	1000	Yes	Yes	-40	105	QFN0505-32B	Industrial (-40℃ to +105℃), Forced PWM,PWM/VFM, Ext.Synchronizable with PLL Circuit, Tracking function, Protection Circuit Type : Latch or Hiccup SSCG :Ver.03x/13x Soft-Start :Ext. Adjustable Phase :Ext. Synchro UVLO OVP Thermal
R1282	—	Boost/ Buck	—	2.5	5.5	Adj.		Controller	2	700 (Fix.)		Yes	—	-40	85	SON-10	2CH, for LCD/CCD/OLED, PWM, Protection Circuit Type: Latch Diode Soft-Start :Ext. Adjustable Phase :Ext. UVLO
NJU7680	—	Buck/ Boost	—	2.3	7	1 (Adj.)	—	Controller	2	300	1000	Yes	—	-40	85	PCSP24-ED, SSOP16	SEPIC Circuit (2-channel) Diode Soft-Start UVLO Phase :Ext. Maxduty
NJU7630	—	Buck	—	2.2	8	1 (Adj.)	7.5 (Adj.)	Controller	1	300	1000	—	—	-40	85	DMP8, MSOP8(TVSP8)	PWM, Protection Circuit Type : Latch Diode Soft-Start UVLO Maxduty Phase :Ext.
NJU7631	—	Buck	—	2.2	8	1 (Adj.)	7.5 (Adj.)	Controller	1	300	1000	—	—	-40	85	MSOP8(TVSP8)	PWM, Protection Circuit Type : Latch Diode Soft-Start UVLO Maxduty Phase :Ext.
NJU7632	—	Buck	—	2.2	8	1 (Adj.)	7.5 (Adj.)	Controller	1	300	1000	Yes	—	-40	85	MSOP8(TVSP8)	PWM, Protection Circuit Type : Latch Diode Soft-Start UVLO Maxduty Phase :Ext.
NJU7640	—	Buck	—	2.2	8	1 (Adj.)	7.5 (Adj.)	Controller	1	300	1000	—	—	-40	85	MSOP8(TVSP8)	PWM, Pulse-by-pulse current limit circuit Diode Soft-Start UVLO Maxduty Phase :Ext.
NJU7650	—	Buck	—	2.2	8	1 (Adj.)	7.5 (Adj.)	Controller	1	300	1000	—	—	-40	85	MSOP8(TVSP8)	Constant voltage/current control for output voltage, PWM Diode Soft-Start UVLO Maxduty Phase :Ext.
NJU7690	—	Buck	—	2.2	8	1 (Adj.)	7.5 (Adj.)	Controller	1	300	1000	Yes	—	-40	85	MSOP10(TVSP10)	PWM, Protection Circuit Type : Latch Soft-Start UVLO Maxduty Phase :Ext. Synchro
R1223	—	Buck	—	2.3	13.2	1.5	5	Controller	1	A/C/E/G:300 (Fix.) B/D/F/H:500 (Fix.)		Yes	—	-40	85	SOT-23-5	PWM,PWM/VFM, Protection Circuit Type : Latch or Hiccup Diode Soft-Start
R1224	—	Buck	—	2.3	18.5	1.2 (Fix.) 1.0 (Adj.)	6.0 (Fix.) VIN (Adj.)	Controller	1	L/M:180 (Fix.) E/G:300 (Fix.) F/H:500 (Fix.)		Yes	—	-40	85	SOT-23-5	PWM,PWM/VFM, Over Current Protection:Hiccup Diode Soft-Start UVLO
R1225	—	Buck	—	2.3	18.5	1.2	6	Controller	1	J/K:180 (Fix.) A/C:300 (Fix.) B/D:500 (Fix.)		Yes	—	-40	85	SOT-23-6W	PWM,PWM/VFM, Protection Circuit Type : Latch Diode Soft-Start UVLO
NJM2309	—	Buck	—	3.6	32	0.52 (Adj.)	30 (Adj.)	Controller	1	5	500	—	—	-40	85	DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8	PWM, Protection Circuit Type : Latch Soft-Start : Ext. Adjustable Diode Soft-Start : Ext. Adjustable UVLO Maxduty Phase :Ext.
NJM2383	—	Buck	—	3.6	32	0.52 (Adj.)	30 (Adj.)	Controller	1	5	350	Yes	—	-40	85	DMP14	PWM, Current Sensing Amplifier Diode Soft-Start : Ext. Adjustable UVLO Phase :Ext.
NJM2384	—	Buck	—	3.6	32	0.52 (Adj.)	30 (Adj.)	Controller	1	5	500	—	—	-40	85	DMP14	PWM, Current Sensing Amplifier Soft-Start : Ext. Adjustable UVLO Diode Phase :Ext.
NJM2340	—	Buck	—	3.6	32	1 (Adj.)	30 (Adj.)	Controller	1	20	500	—	—	-40	85	DMP8, MSOP8(TVSP8)	Constant voltage/current control for output voltage, PWM Diode UVLO Phase :Ext.
R1272 ♡	✓	Buck	—	4	34	0.7 (Adj.)	5.3 (Adj.)	Controller	1	250	1000	Yes	Yes	-40	105	HSOP-18	Industrial (-40℃ to 105℃), Forced PWM,PWM/VFM, Ext.Synchronizable with PLL Circuit, Tracking Function, Protection Circuit Type : Latch or Hiccup Synchro SSCG :Ver.03x/13x Soft-Start :Ext. Adjustable Phase :Ext. Thermal OVP UVLO
NEW NC2780	✓	Buck	—	4.0	34	0.7 (Adj.)	5.3 (Adj.)	Controller	1	250	1000	Yes	Yes	-40	125	HSOP-18-AK	Industrial (-40℃ to 105℃), Forced PWM,PWM/VFM, Ext.Synchronizable with PLL Circuit, Tracking Function, Protection Circuit Type : Latch or Hiccup Synchro SSCG : Ver.A/C Soft-Start : Ext. Adjustable Phase :Ext. Thermal OVP UVLO
NJW4160 ♡	—	Buck	—	3	35	0.8 (Adj.)	33 (Adj.)	Controller	1	50	1000	Yes	—	-40	85	MSOP8(VSP8)♡, DMP8	UVLO Phase :Ext.
NJW4161	—	Buck	—	3.1	40	0.8 (Adj.)	38 (Adj.)	Controller	1	50	1000	Yes	—	-40	125	MSOP8(VSP8), DIP8	PWM, PWM/PFM, Protection Circuit Type : Hiccup or Latch Thermal Soft-Start UVLO Diode Phase :Ext.
NJW4162A	✓	Buck	—	4.3	40	0.8 (Adj.)	38 (Adj.)	Controller	2	100	1000	Yes	Yes	-40	125	SSOP20-C3	PWM, External Clock Synchronization, Protection Circuit Type : Hiccup Soft-Start : Ext. Adjustable Thermal UVLO Diode Phase :Ext.
R1260 ♡	✓	Buck	—	5	60	1 (Adj.)	16 (Adj.)	Controller	1	150	600	Yes	Yes	-40	105	HSOP-18	Industrial (-40℃ to +105℃), Forced PWM,PWM/VFM, Ext.Synchronizable with PLL Circuit, Tracking Function, Protection Circuit Type : Latch or Hiccup Synchro Soft-Start :Ext. Adjustable SSCG :xxxB/D Phase :Ext. UVLO OVLO Thermal

DC/DC Switching Regulators (Boost, Buck-Boost) Maximum Input Voltage and Output Current Chart

※Main Product Only



DC/DC Switching Regulators

Boost / Fly-Back

Part No.	Auto-motive	Switching Current [A]	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Voltage [V] min.	Output Voltage [V] max.	SW. Device	Oscillation Frequency Range [kHz] min.	Oscillation Frequency Range [kHz] max.	Stand-by Function	Operating Temperature[°C] min.	Operating Temperature[°C] max.	Package Outline	Notes
R1810 ♡ 2031	—	0.001	Boost	0.35	2.1	2.3	4.5	Internal FET	Depends on conditions of Input/ Output Voltage and Output Current		Yes	-40	85	WLCSP-15-P1	For Energy Harvest, VFM, 600 nA IQ Low Quiescent Current, Maximum Power Voltage: 0.2V to 2.1V, Starting Power: 9μW, Power Good Function: Output/Input Synchro Reverse PG : Output/ Input
R1810 ♡														DFN2735-14	
R1202 ♡	—	0.35 0.7	Boost	1.8/ 2.3	5.5	Up to 22.2 (Adj.)		Internal FET	1200 (Fix.)		Yes	-40	85	DFN1616-6B	For LED,PWM Diode OVP UVLO Soft-Start Shutdown Discharge : Ver.A LED Adjust
R1202 ♡ 2031														TSOT-23-6	
R1205 ♡	—	0.35 0.7	Boost	1.8	5.5	Up to 24.2 (Adj.)		Internal FET	1200 (Fix.)		Yes	-40	85	DFN1616-6B♡, TSOT-23-6	For LED, Succeeding Products : R1205N → R1207N Diode UVLO OVP Soft-Start Thermal LED Adjust
R1207 ♡	—	0.35 0.7	Boost	1.8	5.5	Up to 24.2 (Adj.)		Internal FET	1200 (Fix.)		Yes	-40	85	TSOT-23-6	For LED,PWM Diode UVLO OVP Soft-Start Thermal LED Adjust
R1200	—	0.7	Boost	2.3	5.5	Up to 20.0 (Adj.)		Internal FET	1200 (Fix.)		Yes	-40	85	DFN1616-6, SOT-23-6	For LED,PWM Diode OVP UVLO Soft-Start Shutdown Discharge : Ver.A
RP400	—	0.6	Boost	0.7	5.5	1.8 (Fix.) 1.8 (Adj.: DFN)	5.0 (Fix.) 5.0 (Adj.: DFN)	Internal FET	700 (Fix.)		Yes	-40	85	DFN(PL)1820-6 SOT-23-5	PWM/VFM Diode Soft-Start Anti-Ringing

Part No.	Auto-motive	Switching Current [A]	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Voltage [V] min.	Output Voltage [V] max.	SW. Device	Oscillation Frequency Range [kHz] min.	Oscillation Frequency Range [kHz] max.	Stand-by Function	Operating Temperature[°C] min.	Operating Temperature[°C] max.	Package Outline	Notes
R1203	—	0.7	Boost	1.8	5.5	Up to 28.7 (Adj.)		Internal FET	1200 (Fix.)		Yes	-40	85	SOT-23-6	For LED,PWM, Succeeding Products : R1203N → R1206N Diode UVLO OVP Soft-Start LED Adjust
R1206	—	0.7	Boost	1.8	5.5	Up to 28.7 (Adj.)		Internal FET	1200 (Fix.)		Yes	-40	85	SOT-23-6	For LED,PWM Diode UVLO OVP Soft-Start LED Adjust
R1218	—	0.7	Boost	1.8	5.5	Up to 30 (Adj.)		Internal FET	1200 (Fix.)		Yes	-40	85	SOT-23-6	For LED,PWM Diode UVLO OVP Soft-Start
R1204 ♡	—	0.9	Boost	2.3	5.5	Up to 40.2 (Adj.)		Internal FET	B/C:1000 (Fix.) E/F:750 (Fix.)		Yes	-40	85	DFN(PL)1820-6, TSOT-23-6	For LED,PWM,PWM/VFM Diode UVLO OVP Soft-Start Thermal LED Adjust
R1286	—	CH1 : 1.0 or 1.1 CH2 : 1.5 or 1.8	CH1 : Boost/ CH2 : Inverting	2.3	5.5	CH1:4.6 (Fix./ Adj.) CH2: -2.0 (Fix./ Adj.)	CH1:5.8 (Fix./ Adj.) CH2: -6.0 (Fix./ Adj.)	Internal FET	1750 (Fix.)		Yes	-40	85	DFN(PL)2730-12	2CH, For LCD/CCD/OLED, PWM, Protection Circuit Type: Latch Synchro Single-Wire :xxxA/C to G Soft-Start UVLO Sequencing Discharge Thermal Single-Wire : xxxA/C to G, Inverting output can be dynamically changed by S-wire control.
RP401	—	1	Boost	0.6	5.5	1.8 (Fix.) 1.8 (Adj.: DFN)	5.5 (Fix.) 5.5 (Adj.: DFN)	Internal FET	1200 (Fix.)		Yes	-40	85	DFN(PL)1820-6 SOT-23-5	PWM,PWM/VFM, Protection Circuit Type: Latch Diode Soft-Start
U.D. **NC4650**	—	1	Boost	0.9	5.5	1.8 (Fix.)	5.0 (Fix.)	Internal FET	Depends on conditions of Input/ Output Voltage and Output Current		Yes	-40	85	WLCSP-6-ZA1	PFM Synchro UVLO Discharge Shutdown Soft-Start Thermal
NJW4131B	—	1	Boost	4	35	4 (Adj.)	33 (Adj.)	Internal FET	300	1000	Yes	-40	85	MSOP8(VSP8)	PWM, Pulse-by-pulse current limit circuit Diode Thermal Soft-Start UVLO Phase :Ext.
R1287 ♡	—	CH1 : 1.1 CH2: 1.5	CH1 : Boost/ CH2:Inverting	2.5	5.5	CH1: 4.5 (Fix./ Adj.) CH2: -4.5 (Fix./ Adj.)	CH1: 5.8 (Fix./ Adj.) CH2: -5.8 (Fix.), -6.0 (Adj.)	Internal FET	CH1 B/F:900(Fix.) C/G:300(Fix.) D/H:1000(Fix.) CH2 B/F:1100(Fix.) C/G:300(Fix.) D/H:1000(Fix.)		Yes	-40	85	WLCSP-12-P1, DFN3030-12♡	2CH, For LCD/CCD/OLED, PWM,PWM/VFM, Protection Circuit Type: Latch Synchro Soft-Start UVLO OVP Sequencing Discharge Thermal
RP600	—	1.4	Boost	DC/DC : 0.8 LDO : 2.0	DC/DC : 5.5 LDO : 5.5	DC/DC: 2.3 (Fix./ Adj.) LDO:1.5 (Fix.)	DC/DC: 5.5 (Fix./ Adj.) LDO:5.0 (Fix.)	Internal FET	1200 (Fix.)		Yes	-40	85	DFN(PL)2527-10	+LDO, +VD:Operating Voltage Range 0.8V to 5.5V, Detector Threshold Range 1.0V to 4.5V, PWM,PWM/VFM Diode Soft-Start Sequencing Thermal :Except xxC
NJW4131A	—	1.4	Boost	4	35	4 (Adj.)	33 (Adj.)	Internal FET	300	1000	Yes	-40	85	HSOP8-M1	PWM, Pulse-by-pulse current limit circuit Diode Thermal Soft-Start UVLO Phase :Ext.
RP402 ♡	—	1.5	Boost	0.6	4.8	1.8 (Fix.) 1.8 (Adj.)	5.5 (Fix.) 5.5 (Adj.)	Internal FET	1A/B/C/D/E/F/G/H: 1200 (Fix.) 2A/B:1000 (Fix.)		Yes	-40	85	DFN(PL)2020-8 SOT-23-5	Forced PWM,PWM/VFM, Regulation available at VIN>VOUT, Reverse current protection at VIN=0V or open, Input and output cut off completely at standby:xxxA/B/E/F, Input and output bypass at standby: xxxC/D/G/H Protection Circuit Type: Latch Synchro Soft-Start OVP OVLO Shutdown Anti-Ringing :xx1/001

DC/DC Switching Regulators

Boost / Fly-Back

Part No.	Auto-motive	Switching Current [A]	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Voltage [V] min.	Output Voltage [V] max.	SW. Device	Oscillation Frequency Range [kHz] min.	Oscillation Frequency Range [kHz] max.	Stand-by Function	Operating Tempera-ture[℃] min.	Operating Tempera-ture[℃] max.	Package Outline	Notes
R1283 ♡	—	1.5	CH1 : Boost/ CH2:Invert-ing	2.5	5.5	CH1 : Up to 20 (Fix.) CH2 : Up to VDD-20 (Adj.)		Internal FET	A:300 (Fix.) B:700 (Fix.) C:1400 (Fix.)		Yes	-40	85	DFN(PL) 2730-12	2CH, For LCD/CCD/OLED, PWM, Protection Circuit Type: Latch Diode Discharge :Inverting output only Soft-Start UVLO Sequencing
NJM2374A ♡	✓	1.5	Buck/ Boost/ Inverting	2.5	40	1.25 (Adj.)	38 (Adj.)	Internal Tr.	0.1	100	—	-40	85	DIP8, DMP8♡, SOP8 JEDEC 150mil(EMP8), SSOP14	PWM control version(NJM2360), Pulse-by-pulse current limit circuit Phase :Int. Diode
NJM2344	—	1.5	Buck/ Boost/ Inverting	3	40	1.25 (Adj.)	38 (Adj.)	Internal Tr.	1	150	Yes	-40	85	DIP8, DMP8	PWM, Standby function(NJM2392), Pulse-by-pulse current limit circuit Phase :Int. Diode
NJM2392	—	1.5	Buck/ Boost/ Inverting	3	40	1.25 (Adj.)	38 (Adj.)	Internal Tr.	1	150	—	-40	85	DIP8, DMP8	PWM control version(NJM2360), Pulse-by-pulse current limit circuit Phase :Int. Diode
NJW4132 ♡	✓	1.75	Boost	4.5	40	4.5 (Adj.)	38 (Adj.)	Internal FET	300 (Fix.) 700 (Fix.) 2000 (Fix.)		Yes	-40	85	SOT-89-5-2	PWM, External Clock Synchroniza-tion, Over Current Protection (Hiccup type) Diode Thermal Soft-Start UVLO Phase :Int.
NJW4138	—	1.75	Boost	4.5	40	4.5 (Adj.)	38 (Adj.)	Internal FET	2000 (Fix.)		Yes	-40	125	SOT-89-5-2	Capacitor Charge application, PWM, External Clock Synchroniza-tion, Pulse-by-pulse current limit circuit Diode Thermal Soft-Start UVLO Phase :Int.
R1214 ♡ 2031	—	1.9	Boost	2.7	5.5	Up to 29 (Adj.)		Internal FET	221A/C:750 (Fix.) 211A/B/C/D:450 (Fix.)		Yes	-40	85	WLCSP-9-P1	For LED, 2 strings, PWM/VFM, PWM Diode UVLO OVP Soft-Start Thermal LED Adjust
R1290 ♡ 2032	✓	CH1:2	CH1:Boost/ CH2:Charge-pump, Boost/ CH3:Charge-pump, Invert-ing	2	5.5	CH1: Up to 20 (Adj.) CH2/3: Adj.		Internal FET	180	1400	Yes	-40	85	QFN0404-24	For LCD/CCD/OLED, PWM, Protection Circuit Type: Latch, The charge pump operates at 1/4th operating frequency. Diode UVLO Soft-Start :Ext.Adjustable Maxduty :Ext.Adjustable Sequencing Phase :Ext.
R1294 ♡	✓	CH1:2	CH1:Boost/ CH2:Charge-pump, Boost/ CH3:Charge-pump, Invert-ing	2	5.5	CH1: Up to 20 (Adj.) CH2/3: Adj.		Internal FET	210	1400	Yes	-40	85	QFN0404-24B	Industrial (-40℃ to 105℃) For LCD/CCD/OLED PWM Protection Circuit Type: Latch, The charge pump operates at 1/4th operating frequency. Diode UVLO Soft-Start :Ext.Adjustable Phase :Ext. Maxduty :Ext.Adjustable Sequencing
R1208 ♡	—	2	Boost	2.7	22	Up to 42 (Adj.)		Internal FET	A:750 (Fix.) B:450 (Fix.)		Yes	-40	85	DFN(PL)2730-12	For LED, 4 strings, PWM Diode UVLO OVP Soft-Start Thermal LED Adjust
R1293	—	3	Boost	DC/ DC / LDO: 2.2 Am-plifi-er: 5.0	DC/ DC / LDO: 5.5 Am-plifi-er: 16.0	DC/DC:Up to 16 (Adj.) LDO:1.8 to 2.5 (Fix.)		Internal FET	300	1000	Yes	-40	85	QFN(PL) 0404-32	+LDO, +Amplifier, For LCD/CCD/OLED, PWM, Protection Circuit Type: Latch, DC/DC output with noise reduction function, VCOM amplifier 1 channel, GAMMA amplifier 6 channel Diode Soft-Start :Ext.Adjustable Maxduty :Ext.Adjustable Thermal UVLO Phase :Ext.

Part No.	Auto-motive	Switching Current [A]	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Voltage [V] min.	Output Voltage [V] max.	SW. Device	Oscillation Frequency Range [kHz] min.	Oscillation Frequency Range [kHz] max.	Stand-by Function	Operating Tempera-ture[℃] min.	Operating Tempera-ture[℃] max.	Package Outline	Notes
R1213 ♡	—	3	Boost	2.3	5.5	3 (Adj.)	15.0 (Adj.)	Internal FET	1000 (Fix.)		Yes	-40	85	DFN(PL) 2730-12	PWM, Protection Circuit Type: Latch Diode Shutdown :FLAG pin Soft-Start :Ext.Adjustable UVLO Thermal Phase :Ext.
NJW4133	✓	5	Boost	3	40	3 (Adj.)	38 (Adj.)	Internal FET	100	2400	Yes	-40	125	HSOP8-M1	PWM, External Clock Synchroniza-tion, Over Current Protection (Hiccup type) Diode UVLO OVP Thermal Soft-Start Phase :Ext.
R1280	—	—	Boost/In-verting	2.5	5.5	Adj.		Control-ler	C:200 (Fix.) A/B:700 (Fix.)		Yes	-40	85	SON-10	2CH, For LCD/CCD/OLED, PWM, Protection Circuit Type: Latch Diode UVLO Soft-Start :Ext.Adjustable Phase :Ext., xxxA/C Phase :Int., xxxB, with stand-by
R1212	—	—	Boost	2.2	5.5	Adj.		Control-ler	C:300 (Fix.) A:700 (Fix.) B:1400 (Fix.)		Yes	-40	85	SON-8	For LCD/CCD/OLED, PWM, Protection Circuit Type: Latch Diode UVLO Soft-Start :Ext.Adjustable Phase :Ext. Maxduty :Ext.Adjustable
R1282	—	—	Boost/Buck	2.5	5.5	Adj.		Control-ler	700 (Fix.)		Yes	-40	85	SON-10	2CH, For LCD/CCD/OLED, PWM, Protection Circuit Type: Latch Diode UVLO Soft-Start :Ext.Adjustable Phase :Ext. Maxduty :Ext.Adjustable
R1215	—	—	Boost	1.8	5.5	Adj.		Control-ler	A/E:700 (Fix.) B/F:1400 (Fix.)		Yes	-40	85	SON-8	For LCD/CCD/OLED PWM Protection Circuit Type: Latch Soft-Start : Ext.Adjustable Diode UVLO Soft-Start :Ext.Adjustable Phase :Ext. Maxduty :Ext.Adjustable
R1211	✓	—	Boost	2.5	6	Adj.		Control-ler	A/B:700 (Fix.) C/D:300 (Fix.)		Yes	-40	85	SON-6	For LCD/CCD/OLED, PWM, Protection Circuit Type: Latch Diode Soft-Start UVLO Phase :Ext.:xxxA/C Phase :IInt., xxxB/D, with stand-by
R1211 ♡ 2031														SOT-23-6W	
NJU7677	—	—	Boost	1.8	7	1.8 (Adj.)	—	Control-ler	300	1000	—	-40	85	MSOP8(TVSP8)	PWM, Protection Circuit Type : Latch Diode Soft-Start UVLO Maxduty Phase :Ext.
NJU7680	—	—	Buck/ Boost	2.3	7	1 (Adj.)	—	Control-ler	300	1000	Yes	-40	85	PCSP24-ED, SSOP16	PWM, Protection Circuit Type : Latch Diode Soft-Start UVLO Maxduty Phase :Ext.
RN5RK	—	—	Boost	0.75	8	2	5.5	Internal FET	Depends on con-ditions of Input/ Output Voltage and Output Current		Yes	-40	85	SOT-23-5	VFM Diode
				0.7	8			Control-ler							
R1210	—	—	Boost	0.9	8	2.2	6.5	Internal FET	A/C:100 (Fix.) D:180 (Fix.)		Yes	-40	85	SOT-23-5	PWM, xx1A: with frequency change-over circuit Diode Soft-Start
				0.8	8			Control-ler							

DC/DC Switching Regulators

Boost / Fly-Back

Part No.	Auto-motive	Switching Current [A]	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Voltage [V] min.	Output Voltage [V] max.	SW. Device	Oscillation Frequency Range [kHz] min.	Oscillation Frequency Range [kHz] max.	Stand-by Function	Operating Tempera-ture[˚C] min.	Operating Tempera-ture[˚C] max.	Package Outline	Notes
NJU7600	—	—	Boost/ Fly-Back	2.2	8	2.2 (Adj.)	—	Control-ler	300	1000	—	-40	85	DMP8, MSOP8(TVSP8), MSOP10(TVSP10)	PWM, Protection Circuit Type : Latch Diode Soft-Start UVLO Maxduty Phase :Ext.
NJU7601	—	—	Boost/ Fly-Back	2.2	8	2.2 (Adj.)	—	Control-ler	300	1000	—	-40	85	DMP8, MSOP8(TVSP8)	PWM, Protection Circuit Type : Latch Diode Soft-Start UVLO Maxduty Phase :Ext.
NJU7602	—	—	Boost/ Fly-Back	2.2	8	2.2 (Adj.)	—	Control-ler	300	1000	Yes	-40	85	DMP8, MSOP8(TVSP8)	PWM, Protection Circuit Type : Latch Diode Soft-Start UVLO Maxduty Phase :Ext.
NJU7606	—	—	Boost/ Fly-Back	2.2	8	2.2 (Adj.)	—	Control-ler	300	1000	Yes	-40	85	MSOP10(TVSP10)	With load SW. function, PWM, Protection Circuit Type : Latch Diode Soft-Start UVLO Maxduty Shutdown Phase :Ext.
NJU7610	—	—	Boost/ Fly-Back	2.2	8	2.2 (Adj.)	—	Control-ler	300	1000	—	-40	85	DMP8, MSOP8(TVSP8)	PWM Pulse-by-pulse current limit circuit Diode Soft-Start UVLO Maxduty Phase :Ext.
NJU7620	—	—	Boost/ Fly-Back	2.2	8	2.2 (Adj.)	—	Control-ler	300	1000	—	-40	85	MSOP8(TVSP8)	Constant voltage/current control for output voltage, PWM Diode Soft-Start UVLO Maxduty Phase :Ext.
NJM2377	✓	—	Boost/ Fly-Back	2.7	18	2.7 (Adj.)	—	Control-ler	10	500	—	-40	85	DIP8, DMP8, SSOP8, MSOP8(VSP8)	PWM, Protection Circuit Type : Latch Diode Soft-Start : Ext.Adjustable UVLO Maxduty Phase :Ext.
NJM2368	✓	—	Boost/ Fly-Back	3.6	32	3.6 (Adj.)	—	Control-ler	5	350	—	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8	PWM, Tr. Drive, Protection Circuit Type : Latch Diode Soft-Start : Ext.Adjustable UVLO Maxduty Phase :Ext.
NJM2369	✓	—	Boost/ Fly-Back	3.6	32	3.6 (Adj.)	—	Control-ler	5	350	—	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8	PWM, MOSFET Drive, Protection Circuit Type : Latch Diode Soft-Start : Ext.Adjustable UVLO Maxduty Phase :Ext.
NJM2379	—	—	Boost/ Fly-Back	3.6	32	3.6 (Adj.)	—	Control-ler	5	350	—	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8	PWM, MOSFET Drive, Only External Clock Synchronization, Protection Circuit Type : Latch Diode Soft-Start : Ext.Adjustable UVLO Maxduty Phase :Ext.
NEW **NJW1871A** ♡	✓	—	Boost/ Fly-Back	4.5	40	4.5 (Adj.)	—	Control-ler	1000	2000	Yes	-40	125	MSOP10(VSP10)	5.2V Gate Drive, PWM, RUN function, External Clock Synchronization, Over Current Protection (Hiccup type) Diode Thermal Soft-Start UVLO OVP Phase :Ext.
NJW4148 ♡	✓	—	Boost/Fly-Back	7	40	7 (Adj.)	—	Control-ler	40	1000	Yes	-40	125	MSOP8(VSP8)	5.3V Gate Drive, Load Switch, PWM, Pulse-by-pulse current limit circuit Diode Soft-Start UVLO Phase :Ext.

Part No.	Auto-motive	Switching Current [A]	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Voltage [V] min.	Output Voltage [V] max.	SW. Device	Oscillation Frequency Range [kHz] min.	Oscillation Frequency Range [kHz] max.	Stand-by Function	Operating Tempera-ture[˚C] min.	Operating Tempera-ture[˚C] max.	Package Outline	Notes
NJW4140 ♡	✓	—	Boost/ Fly-Back	3	40	3 (Adj.)	—	Control-ler	40	1000	Yes	-40	85	DMP8, MSOP8(VSP8) ♡	PWM, Pulse-by-pulse current limit circuit Diode Soft-Start UVLO Phase :Ext.
NJW1871 ♡	✓	—	Boost/ Fly-Back	2.5	40	2.5 (Adj.)	—	Control-ler	50	1000	Yes	-40	125	MSOP10(VSP10)	5.2V Gate Drive, PWM, RUN Function, External Clock Synchronization, Over Current Protection (Hiccup type) Diode Thermal Soft-Start UVLO OVP Phase :Ext.
NJW4141	✓	—	Boost	3	40	3 (Adj.)	—	Control-ler	50	500	Yes	-40	125	SSOP20-C3	2 Phase, PWM, Pulse-by-pulse current limit circuit Diode Soft-Start :Ext.Adjustable UVLO Maxduty Phase :Ext.
NJW4142 ♡	✓	—	Boost/ Fly-Back	2.5	40	2.5 (Adj.)	—	Control-ler	50	1000	Yes	-40	125	MSOP10(VSP10)	10V Gate Drive, PWM, RUN Function, External Clock Synchronization, Over Current Protection (Hiccup type) Diode Thermal Soft-Start UVLO OVP Phase :Ext.

Inverting

Part No.	Auto-motive	Appli-cation	Operating Voltage[V] min.	Operating Voltage[V] max.	Switching Current [A] min.	Output Voltage [V] min.	Output Voltage [V] max.	SW. De-vice	Oscillation Frequency Range [kHz] min.	Oscillation Frequency Range [kHz] max.	Stand-by Func-tion	Operating Tempera-ture [˚C] min.	Operating Tempera-ture [˚C] max.	Package Outline	Notes
NJW4153 ♡	✓	Buck Con-verter/ Invert-ing	4.6	40	1	0.8 (Adj.)	34 (Adj.)	Inter-nal FET	1000 (Fix.)		Yes	-40	85	SOT-89-5-2, DFN8- V1(ESON8-V1)	PWM, Over Current Protection (Hiccup type) Diode Thermal Soft-Start UVLO Phase :Int.
NJM2374A ♡	✓	Buck/ Boost/ Invert-ing	2.5	40	1.5	1.25 (Adj.)	38 (Adj.)	Inter-nal Tr.	0.1	100	—	-40	85	DIP8, DMP8 ♡, SOP8 JEDEC 150mil(EMP8), SSOP14	PWM control version(NJM2360), Pulse-by-pulse current limit circuit Diode Phase :Int.
NJM2344	—	Buck/ Boost/ Invert-ing	3	40	1.5	1.25 (Adj.)	38 (Adj.)	Inter-nal Tr.	1	150	Yes	-40	85	DIP8, DMP8	PWM, Standby function(NJM2392), Pulse-by-pulse current limit circuit Diode Phase :Int.
NJM2392	—	Buck/ Boost/ Invert-ing	3	40	1.5	1.25 (Adj.)	38 (Adj.)	Inter-nal Tr.	1	150	—	-40	85	DIP8, DMP8	PWM control version(NJM2360), Pulse-by-pulse current limit circuit Diode Phase :Int.
NJW4155	—	Buck Con-verter/ Invert-ing	4.5	40	1.8	0.8 (Adj.)	36.8 (Adj.)	Inter-nal FET	450 (Fix., A ver.) 300 (Fix., B ver.)		Yes	-40	125	HSOP8-M1, TO-252-5-L3	PWM, External Clock Synchronization, Over Current Protection (Hiccup type) Diode Thermal Soft-Start UVLO Phase :Int.
NJW4128	✓	Buck Con-verter/ Invert-ing	4.5	40	2.5	0.8 (Adj.)	35.2 (Adj.)	Inter-nal FET	450 (Fix., A ver) 300 (Fix., B ver)		Yes	-40	85	HSOP8-M1	PWM, External Clock Synchronization, Over Current Protection (Hiccup type) Diode Thermal Soft-Start UVLO Phase :Int.
R1286	—	CH1: Boost / CH2: Invert-ing	2.3	5.5	CH1:1.0 or 1.1 CH2:1.5 or 1.8	CH1 : 4.6 (Fix. / Adj.) CH2 : -2.0 (Fix. / Adj.)	CH1 : 5.8 (Fix. / Adj.) CH2 : -6.0 (Fix. / Adj.)	Inter-nal FET	1750 (Fix.)		Yes	-40	85	DFN(PL)2730-12	2CH, For LCD/CCD/OLED, PWM, Protection Circuit Type: Latch Synchro Soft-Start UVLO Sequencing Discharge Thermal Single-Wire :xxxA/C to G, Inverting output can be dynamically changed by S-wire control

Power Management ICs

DC/DC Switching Regulators

Inverting

Part No.	Auto-motive	Appli-cation	Operating Voltage[V] min./max.		Switching Current [A]	Output Voltage [V]		SW. De-vice	Oscillation Frequency Range [kHz]		Stand-by Func-tion	Operating Tempera-ture [℃]		Package Outline	Notes
			min.	max.	min.	min.	max.		min.	max.		min.	max.		
R1287 ♡	—	CH1: Boost / CH2: Invert-ing	2.5	5.5	CH1:1.1 CH2:1.5	CH1 : 4.5 (Fix. / Adj.) CH2 : -4.5 (Fix. / Adj.)	CH1 : 5.8 (Fix. / Adj.) CH2 : -5.8 (Fix.) -6.0 (Adj.)	Inter-nal FET	CH1 B/F:900 (Fix.) C/G:300 (Fix.) D/H:1000 (Fix.) CH2 B/F:1100 (Fix.) C/G:300 (Fix.) D/H:1000 (Fix.)		Yes	-40	85	WLCSP-12-P1, DFN3030-12♡	2CH, For LCD/CCD/OLED, PWM,PWM/VFM, Protection Circuit Type: Latch Synchro Soft-Start UVLO OVP Sequencing Discharge Thermal
R1283 ♡	—	CH1: Boost / CH2: Invert-ing	2.5	5.5	1.5	CH1: Up to 20 (Adj.) CH2: Up to VDD-20 (Adj.)		Inter-nal FET	A:300 (Fix.) B:700 (Fix.) C:1400 (Fix.)		Yes	-40	85	DFN(PL)2730-12	2CH, For LCD/CCD/OLED, PWM, Protection Circuit Type: Latch Diode Discharge :Inverting output only Soft-Start UVLO Sequencing
R1280	—	Boost / Invert-ing	2.5	5.5	—	Adj.		Con-troller	C:200 (Fix.) A/B:700 (Fix.)		Yes	-40	85	SON-10	2CH, For LCD/CCD/OLED, PWM, Protection Circuit Type: Latch Diode UVLO Soft-Start :Ext.Adjustable Phase :Ext., xxxA/C Phase :Int., xxxB, with stand-by

Buck-Boost

Part No.	Auto-motive	Applica-tion	Voltage [V]		Switching Current [A]	Output Voltage [V]		SW. Device	Oscillation Frequency Range [kHz]		Stand-by Func-tion	Operating Temperature [℃]		Package Outline	Notes
			min.	max.		min.	max.		min.	max.		min.	max.		
RP604 ♡ 2031	—	Buck Boost	1.8	5.5	0.3	1.6	5.2	Internal FET	Depends on con-ditions of Input/ Output Voltage and Output Cur-rent		Yes	-40	85	WLCSP-20-P2, DFN(PL)2730-12	VFM, Ultra-Low Power Consumption : 0.3μA Synchro UVLO OVP Thermal Soft-Start Discharge :xx1B
RP605 ♡ 2031	—	Buck Boost	1.8	5.5	0.3	1.6	5.2	Internal FET	Depends on con-ditions of Input/ Output Voltage and Output Cur-rent		Yes	-40	85	WLCSP-20-P3, DFN(PL)2730-12	VFM, + BM : Battery Monitor Assist Function, Ultra-Low Power Consumption: 0.3μA (+BM:0.1μA) Synchro UVLO OVP Thermal Soft-Start Discharge :xxxB
RP602 ♡ 2031	—	Buck Boost	2.3	5.5	1.5	2.7	4.2	Internal FET	2600(Fix.)		Yes	-40	85	WLCSP-20-P1♡, DFN(PL)2730-12	Forced PWM,PWM/VFM, Protection Circuit Type: Latch type or Hiccup type Synchro UVLO OVP Thermal Soft-Start Discharge :A/C/E/G

Boost for White LEDs

Part No.	Version	Auto-motive	Operating Tempera-ture [℃]		Operating Voltage [V]		Lx Current Limit*2 [mA]	Output Voltage [V]	Diode	Appli-cation	SW. Device	VFB Voltage Accuracy [mV]	Switching Frequency [kHz]	OVP Voltage [V]	Package Outline	Notes
			min.	max.	min.	max.								Typ.		
R1202 ♡	3xxD	—	-40	85	1.8	5.5	350 700	Up to 22.2 (Adj.)	Inter-nal	Boost	Inter-nal FET	0.2V ± 10	1200 (Fix.)	14	DFN1616-6B	For LED, PWM Diode OVP UVLO Soft-Start Shutdown LED Adjust
	7xxD													23		
R1202 ♡ 2032	3xxD													14	TSOT-23-6	
	7xxD													23		
R1205 ♡	8x1B	—	-40	85	1.8	5.5	350 700	Up to 24.2 (Adj.)		Boost	Inter-nal FET	0.2V ± 10	1200 (Fix.)	25	DFN1616-6B♡	Succeeding Products : R1205N → R1207N Diode UVLO OVP Soft-Start Thermal LED Adjust
	8x1C											0.4V ± 10				
	8x3B											0.2V ± 10			TSOT-23-6 *3	

Part No.	Version	Auto-motive	Operating Tempera-ture [℃]		Operating Voltage [V]		Lx Current Limit*2 [mA]	Output Voltage [V]	Diode	Appli-cation	SW. Device	VFB Voltage Accuracy [mV]	Switching Frequency [kHz]	OVP Voltage [V]	Package Outline	Notes
			min.	max.	min.	max.								Typ.		
R1207 ♡	8x3B	—	-40	85	1.8	5.5	350 700	Up to 24.2 (Adj.)	Inter-nal	Boost	Inter-nal FET	0.2V ± 10	1200 (Fix.)	25	TSOT-23-6 *3	PWM Diode UVLO OVP Soft-Start Thermal LED Adjust
	8x3C															
R1218	021A	—	-40	85	1.8	5.5	700	Up to 17 (Adj.)		Boost	Inter-nal FET	0.2V ± 10	1200 (Fix.)	9.5	SOT-23-6	PWM Diode UVLO OVP Soft-Start
	031A													14		
	041A													18.5		
R1203	071B	—	-40	85	1.8	5.5	700	Up to 28.7 (Adj.)		Boost	Inter-nal FET	0.2V ± 10	1200 (Fix.)	29.5	SOT-23-6 *3	PWM, Succeeding Products : R1203N → R1206N Diode UVLO OVP Soft-Start LED Adjust
R1206	071B	—	-40	85	1.8	5.5	700	Up to 28.7 (Adj.)	Exter-nal	Boost	Inter-nal FET	0.2V ± 10	1200 (Fix.)	29.5	SOT-23-6 *3	PWM Diode UVLO OVP Soft-Start LED Adjust
R1218	052A	—	-40	85	1.8	5.5	700	Up to 30 (Adj.)		Boost	Inter-nal FET	0.2V ± 10	1200 (Fix.)	23	SOT-23-6	PWM Diode UVLO OVP Soft-Start
	062A													27.5		
	072A													31.5		
R1204 ♡	11xA/D	—	-40	85	2.3	5.5	900	Up to 40.2 (Adj.)		Boost	Inter-nal FET	0.2V ± 10	A:1000 (Fix.) D:750 (Fix.)	23	DFN(PL)1820-6, TSOT-23-6	PWM Diode UVLO OVP Soft-Start Thermal LED Adjust
	21xA/D													33		
	31xA/D													42		
	11xG/H											0.4V ± 10	G:1000 (Fix.) H:750 (Fix.)	23		
	21xG/H													33		
	31xG/H													42		

*1 Output voltage is different by version. *2 Lx current limit is different from output current. *3 The pin-layout of R1205N and that of R1207N are different by 180 degrees. Also, the pin-layout of R1203N and that of R1206N are different by 180 degrees.

Boost for 2 or 4 Strings of White LEDs

Part No.	Version	Auto-motive	Operating Tempera-ture[℃]		Operating Voltage [V]		Lx Current Limit*2 [A]	Output Voltage [V]	Diode	Applica-tion	SW. Device	Max LED Current [mA]	LED Current Accuracy [%]	Switching Frequency [kHz]	OVP Voltage [V]	Package Outline	Notes
			min.	max.	min.	max.									Typ.		
R1208 ♡	112A/B	—	-40	85	2.7	22	2	Up to 42 (Adj.)	Exter-nal	Boost	Inter-nal FET	80 × 4	± 3	A:750 (Fix.) B:450 (Fix.)	23 33 43.5	DFN(PL)2730-12	4 strings, PWM Diode UVLO OVP Soft-Start Thermal LED Adjust
	212A/B																
	312A/B																
R1214 ♡ 2031	211A/C	—	-40	85	2.7	5.5	1.9	Up to 29 (Adj.)			Inter-nal FET	40 × 2	A/B: ± 2 C/D : ± 1.5	221A/C:750 (Fix.) 211A/B/C/ D:450 (Fix.)	35	WLCSP-9-P1	2 strings, PWM,PWM/VFM Diode UVLO OVP Soft-Start Thermal LED Adjust
	221A/C																
	211B																
	211D																

*1 Output voltage is different by version. *2 Lx current limit is different from output current.

Boost for PMOLEDs and General Use

Part No.	Ver-sion	Auto-motive	Operating Tempera-ture[℃]		Operating Voltage [V]		Lx Current Limit*2 [mA]	Output Voltage [V]	Diode	Appli-cation	SW. Device	VFB Voltage Accuracy [mV]	Switching Frequen-cy [kHz]	OVP Voltage [V]	Package Outline	Notes
			min.	max.	min.	max.								Typ.		
R1202 ♡	3xxA/B	—	-40	85	2.3	5.5	350 700	Uo to 22.2 (Adj.)	Inter-nal	Boost	Internal FET	1.0V ± 15	1200 (Fix.)	14	DFN1616-6B	PWM Diode OVP UVLO Soft-Start Shutdown Discharge : Ver.A
	4xxA/B													17		
	5xxA/B													19		
	6xxA/B													21		
	7xxA/B													23		
R1202 ♡ 2032	3xxA/B													14	TSOT-23-6	
	4xxA/B													17		
	5xxA/B													19		
	6xxA/B													21		
	7xxA/B													23		
R1205 ♡	8x1A	—	-40	85	2.3	5.5	350 700	Up to 24.2 (Adj.)	Inter-nal	Boost	Internal FET	1.0V ± 15	1200 (Fix.)	25	DFN1616-6B♡	Succeeding Prod-ucts : R1205N → R1207N,PWM Diode UVLO OVP Soft-Start Thermal
	8x3A														TSOT-23-6 *3	
R1207 ♡	8x3A	—	-40	85	2.3	5.5	350 700	Up to 24.2 (Adj.)	Inter-nal	Boost	Internal FET	1.0V ± 15	1200 (Fix.)	25	TSOT-23-6 *3	PWM Diode UVLO OVP Soft-Start Thermal

*1 Output voltage is different by version. *2 Lx current limit is different from output current. *3 The pin-layout of R1205N and that of R1207N are different by 180 degrees.

Power Management ICs

DC/DC Switching Regulators

Boost for PMOLEDs and General Use

Part No.	Version	Automotive	Operating Temperature[℃] min.	Operating Temperature[℃] max.	Operating Voltage [V] min.	Operating Voltage [V] max.	Lx Current Limit*2 [mA]	Output Voltage [V]	Diode	Application	SW. Device	VFB Voltage Accuracy [mV]	Switching Frequency [kHz]	OVP Voltage [V] Typ.	Package Outline	Notes
R1200	001x	—	-40	85	2.3	5.5	700	Up to 20 (Adj.)	Internal	Boost	Internal FET	1.0V ± 15	1200 (Fix.)	17	DFN1616-6, SOT-23-6	PWM Diode OVP UVLO Soft-Start Shutdown Discharge : Ver.A
	002x													19		
	003x													21		
R1204 ♡	11xB/C/E/F	—	-40	85	2.3	5.5	900	Up to 40.2 (Adj.)	External	Boost	Internal FET	1.0V ± 15	B/C:1000 (Fix.) E/F:750 (Fix.)	23	DFN(PL)1820-6, TSOT-23-6	PWM,PWM/VFM Diode UVLO OVP Soft-Start Thermal
	21xB/C/E/F															
	31xB/C/E/F															

*1 Output voltage is different by version. *2 Lx current limit is different from output current. *3 The pin-layout of R1205N and that of R1207N are different by 180 degrees.

PMICs

Part No.	Automotive	Package Outline	Operating Temperature[℃] min.	Operating Temperature[℃] max.	Operating Voltage [V] min.	Operating Voltage [V] max.	Interface	Main Function BuckDC/DC	LDO	VD	Charge	Battery-Gauge (Fuel-Gauge)	WDT	ADC	RTC	GPIO
RN5T566A ♡	—	QFN0606-36	-40	85	2.7	5.5	PIN	2	5	2	—	—	—	—	—	—
RN5T567 ♡	—	QFN0606-48-P14	-40	85	2.7	5.5	I²C	4 DVS *1	7	4	—	—	1	—	—	4
RN5T568 ♡	—	QFN0707-48-P25	-40	85	2.7	5.5	I²C	4 DVS *1	7	4	—	—	1	—	—	4
RN5T569	✓	QFN0707-48-P27	-40	105	2.7	5.5	I²C	4 DVS *1	7	4	—	—	1	—	—	4
RN5T5610 *2 ♡	—	QFN0707-48-P25	-40	105	2.7	5.5	I²C	4 DVS *1	7	4	—	—	1	—	—	4
RN5T5611	✓	QFN0505-32-P7	-40	125	3.0	5.5	I²C	2	1	4 Window VD	—	—	—	—	—	—
RN5T5612 ♡	—	QFN0707-48-P25	-40	85	2.7	5.5	I²C	4 DVS *1	7	4	—	—	1	—	—	4
RN5T614	—	QFN0606-48-P14	-40	85	3.1	5.5	I²C	3 DVS *1	8	2	Wall USB	—	—	—	—	—
RN5T618 ♡	—	QFN0606-48-P22	-40	85	2.7	5.5	I²C	3 DVS *1	7	4	Wall USB	1	1	1	—	4
RC5T619	—	CSP0606-85	-40	85	2.7	5.5	I²C	5 DVS *1	12	4	Wall USB	1	1	1	1	5
RC5T619x		CSP0608-80														

*1: DVS (Dynamic Voltage Scaling) allows the output voltages to be programmed through I2C. *2: Industrial (-40℃ to 105℃)

PMICs

Part No.	Automotive	No. of Outputs	Configuration	Operating Voltage[V] min.	Operating Voltage[V] max.	Output Current [A]	Oscillation Frequency [kHz] min.	Oscillation Frequency [kHz] max.	Package Outline	Notes
NJW4750T1 ♡	✓	4	HV Buck	3.9	40	1.2	280	2400	EQFN26-HH	Ch3: Selectable Reg
			LV Buck	2.4	5.5	0.6	280	2400		
			LV Buck	2.4	5.5	0.6	280	2400		
			LV LDO	2.4	5.5	0.3	—			
NEW **NJW4760** ♡	—	12	HV LDO	4.5	40	0.05	400	2000	EQFN48-SN	OTP, I²C, Sequence Interface, SSFM, Digital Watchdog Timer
			HV LDO	4.5	40	0.05				
			LV Buck	2.4	5.5	3.0				
			LV Buck	2.4	5.5	3.0				
			LV Buck	2.4	5.5	3.0				
			LV Buck	2.4	5.5	3.0				
			LV Buck	2.4	5.5	2.0				
			LV LDO	2.4	5.5	0.1				
			LV LDO	2.4	5.5	0.1				
			LV LDO	2.4	5.5	0.1				
			LV LDO	2.4	5.5	0.1				
			LV LDO	2.4	5.5	0.5				
U.D. **NP8700**	✓	4	HV Buck	3.9	20	1.2	2000		QFN3426-26-NC	SSFM, Sequence Interface, Ch3: Selectable Reg
			LV Buck	2.4	5.5	1.0	2000			
			LV Buck / LV LDO	2.4	5.5	1.0/0.3	2000/-			
			LV LDO	2.4	5.5	0.3	—			

Switching Drivers

Gate Drivers

Part No.	Automotive	Channels	Operating Voltage [V] min.	Operating Voltage [V] max.	UVLO	Operating Temperature Range [℃] min.	Operating Temperature Range [℃] max.	Output Peak Current [A]	Output Rise Time [nsec.] typ.	Output Fall Time [nsec] typ.	Key Features	Package Outline
NJW4840	✓	1	8	20	Yes	-40	105	± 4	27.5	27.5	Built-in Thermal Shut Down, Under Voltage Lockout, Short Circuit Protection	MSOP8(VSP8)
NJW4841 ♡	✓	1	4	20	Yes	-40	85	± 2	25	20	Built-in Thermal Shut Down, Under Voltage Lockout	MSOP8(VSP8)
NJW4860	—	2	4	20	Yes	-40	125	± 1	15	15	Built-in Thermal Shut Down, Under Voltage Lockout, LDO	HSOP8-M1, DFN8-V1 (ESON8-V1)
NJW4868	✓	2	4	6	Yes	-40	125	± 1.3	10	10	Built-in Thermal Shut Down, Under Voltage Lockout, Comparator	MSOP8(VSP8)

Half/Full Bridge Drivers

Part No.	Automotive	Channels	Operating Voltage [V] min.	Operating Voltage [V] max.	UVLO	Operating Temperature Range [℃] min.	Operating Temperature Range [℃] max.	Output Peak Current [A]	Output Rise Time [nsec] typ.	Output Fall Time [nsec] typ.	Fault	Key Features	Package Outline
NJU7386 ♡	—	2(Half)	1.8	5.5	Yes	-40	125	1.5 (VDD=5V)	115	25	—	Low voltage operation, Low ON resistance	MSOP8(TVSP8)
NJU7386A ♡	—	2(Half)	1.8	5.5	Yes	-40	125	1.7 (VDD=5V)	115	25	—	Low voltage operation and low ON resistance, 1.8V IF regardless of VDD	DFN8-V1 (ESON8-V1)
NJW4801	—	1(Half)	8	35	Yes	-40	85	± 0.45	5	5	Yes	35V/450mA, Half Bridge Driver(P/N ch.)	MSOP8(VSP8)
NJW4810A	—	2(Half)	8	40	Yes	-40	85	± 1	3	5	Yes	Dual Half Bridge Driver	HSOP8-M1
NJW4813	—	2(Half)	2.7(VDD_SW) 8(VDD_HB)	5.5(VDD_SW) 35(VDD_HB)	Yes	-40	85	+0.28 /-0.25	400	400	Yes	Dual Half Bridge Driver with Boost Converter	PCSP20-E3
NJW4814	—	4(Half)	2.7(VDD_SW) 7(VDD_HB)	5.5(VDD_SW) 35(VDD_HB)	Yes	-40	85	± 0.3	400	340	Yes	Dual H Bridge Driver with Boost Converter	EQFN24-LE
U.D. **ND1130**	—	4(Half)	2.7(VDD_SW) 7(VDD_HB)	5.5(VDD_SW) 35(VDD_HB)	Yes	-40	125	± 0.3	400	340	Yes	Dual H Bridge Driver with Boost Converter	WLCSP-30-ZA1

Switch ICs

High Side Switches/ Low Side Switches/ Load Switches

♡ : Products available in PRODUCT LONGEVITY PROGRAM

♡ xxxx : Products available in PRODUCT LONGEVITY PROGRAM with time limit

U.D. : Under Development

Thermal : Thermal Shutdown Circuit

Reverse : Reverse Current Protection Circuit

Soft-Start : Soft-start Circuit

OVLO : Overvoltage Lockout Circuit

Discharge : Auto-discharge Function

PG : Power Good Function

Part No.	Auto-motive	Channels	Drain -Source Voltage [V]	Input Voltage Range [V]		Input Current [μA]	Drain Current [A]	On Resistance [mΩ]	Operating Temperature [℃]		Function	Package Outline
			max.	min.	max.				min.	max.		
NJW4820 ♡	—	1	40	2.64	5.5	80	0.5	270	-40	85	Low Side Switch(N ch.), Active Clamp Circuit Thermal	SOT-23-5
NJW4822 ♡	—	1	40	2.64	5.5	160	0.2	1100	-40	125	Low Side Switch(N ch.), Active Clamp Circuit Thermal	DFN6-H1(ESON6-H1)
NJW4830 ♡	✓	1	40	2.64	5.5	150	0.5	350	-40	85	High Side Switch(P ch.), Active Clamp Circuit Thermal	SOT-89-5-2
NJW4832 ♡	—	1	40	2.64	5.5	150	0.2	750	-40	125	High Side Switch(P ch.), Active Clamp Circuit Thermal	DFN6-H1(ESON6-H1)
R5528 ♡ 2031	—	1	36	2.3	36	—	3.0	54	-40	85	External Power SW. / Load SW. IC, Debounce Time Delay Circuit, Internal FET: Nch. Thermal Soft-Start OVLO UVLO Reverse :OFF PG	WLCSP-9-P1
R5527 ♡	—	1	5.5	1.8	5.5	—	3.0	45	-40	85	Load SW. IC / Battery Line SW. IC, Internal FET: Nch. Soft-Start Reverse :ON/OFF=001x, OFF=002x Discharge :xxxC/D	DFN(PL)1612-4D
R5524 ♡	✓	1	5.5	2.7	5.5	—	0.55	100	-40	85	Industrial (-40℃ to 105℃), USB SW. IC / Load SW. IC, FLG Internal FET: Nch. Thermal Soft-Start UVLO Reverse :OFF Discharge :xxxA	DFN(PL)1820-6, SOT-23-5 ♡
R5520	—	1	5.5	4	5.5	—	0.5	100	-40	85	USB SW. IC FLG Internal FET: Pch. Thermal Soft-Start UVLO	SOT-89-5
R5523 ♡ 2032	✓	1	5.5	2.2	5.5	—	0.5	130	-40	85	USB SW. IC FLG Internal FET: Pch. Thermal Soft-Start UVLO	SOT-23-5
R5533	—	1	5.5	3	5.5	—	—	—	-40	85	PC Card Power SW. IC Internal FET: Nch.	SSOP-16
R5550	—	1	5.25	2.3	5.25	—	1.0	180	-40	85	Intelligent Power SW. IC, Internal FET: Pch. UVLO	DFN(PL)1010-4F
R5590	—	1	5.25	0.9	5.25	—	—	400 or 500	-40	85	Rectifier SW. IC, Internal FET: Nch.	SON1612-6, SOT-23-5
R5541 ♡	—	1	4.8	VIN: 0.6 VBAIAS: 2.5	VIN: 4.8 VBAIAS: 5.5	—	3.0	18	-40	85	Load SW. IC, Internal FET: Nch. Thermal UVLO Reverse :OFF Discharge :xxxD Soft-Start :Ext.Adjustable	DFN(PL)1216-6G
R5543 ♡	—	1	4.8	VIN: 0.6 VBAIAS: 2.5	VIN: 4.8 VBAIAS: 5.5	—	3.0	18	-40	105	Load SW. IC, Operating Temp.,Tj: -40 to +105℃ , Internal FET: Nch. Thermal UVLO Reverse :OFF Discharge :xxxD Soft-Start :Ext.Adjustable	DFN(PL)1216-6G
R5540 ♡	—	1	3.6	0.75	3.6	—	0.45	120	-40	85	Load SW. IC, Internal FET: Nch. Discharge :xxxC/D Reverse :OFF Soft-Start	DFN(PL)1010-4F
R5538	—	1	3.6	1.35	3.6	—	—	40	-40	85	Express Card Power SW. IC, Internal FET: Nch.	QFN0404-20
U.D. **ND1160**	—	1	60	—	—	—	0.2	—	-40	125	IO-Link Device Transceiver (COM3 compatible) UVLO	DFN3030-8-GG (ESON8-WA), WLCSP-12-ZA1

Shunt Regulators

Part No.	Auto-motive	Reference Voltage [V]	Ref. tol.	Cathode Voltage [V]	Cathode Current [mA]	Minimum Cathode Current [μA]	Operating Temperature [℃]		Package Outline	Notes
		typ.		max.	max.	typ.	min.	max.		
NJM1431A ♡	✓	2.465	± 1	36	100	400	-40	125	DFN4-F1(ESON4-F1), SOT-23-5, SOT-89-3	
NJM17431 ♡	—	2.5 2.495	± 0.8	36	100	250	-40	125	SOT-23-5, SOT-89-3	Wide Safety Operating Boundary Condition, Replacement from HA17431 (Renesas)
NJM2373	—	1.25	± 2	13	30	80	-40	85	SOT-23-5	
NJM2373A	—	1.25	± 1	13	30	80	-40	85	SOT-23-5, SOT-89-3	
NJM2376	—	1.25	± 1	13	30	80	-40	85	SOT-23-5, SOT-89-3	
NJM2820 ♡	✓	1.25	± 0.7	13	30	80	-40	85	SOT-23-5	
NJM2821	—	1.25	± 0.7	13	30	80	-40	85	SOT-23-5	
NJM2822	—	1.25	± 0.7	13	30	80	-40	85	SOT-23-5	
NJM2823 ♡	✓	1.136	± 0.4	13	12	20	-40	85	SOT-23-5	
NJM2825	—	1.2	± 0.5	13	12	0.7	-40	85	SOT-23-5	
NJM431	✓	2.495	± 2.2	36	100	400	-40	85	DIP8, DMP8, SOT-89-3	
NJM431S	—	2.495	± 1.8	36	100	400	-40	125	SOT-89-3, SOT-23-5	
NJM432S	—	2.495	± 1.8	36	100	400	-40	125	SOT-89-3, SOT-23-5	Variation of Pin Configuration (NJM431S)

Charge Pumps

Part No.	Auto-motive	Output Function	Operating Voltage [V]		Output Resistance [ohm]	Oscillation Frequency [kHz]	Quiescent Current [mA]	Package Outline	Notes
			min.	max.	max.	typ.	max.		
NJU7660A ♡	—	For Negative voltage converter, For Twofold voltage converter	1.5(Negative) 3(Twofold)	10	100	5	0.13	DMP8, SSOP8	
NJU7665A	—	Inverting type	1.5	5.5	1000	7.5	0.1	SOT-23-5	
NJU7665B	—	Inverting type	1.5	5.5	100	75	0.65	SOT-23-5	
NJU7665C	—	Inverting type	1.5	5.5	75	150	1.4	SOT-23-5	
NJU7670	—	Duble Inverting, Tripple Inverting	1.5	10	14	2.5	0.12	DMP14, SSOP14	
NJW4190	✓	Doubler type	5	17	42	300	1.25	MSOP8(VSP8), DMP8	Maximum Output Voltage: 34V, ON/OFF Function
NJW4191	—	Inverting type	4.7	17	34	300	1.22	MSOP8(VSP8), DMP8	Maximum Output Voltage: -17V, ON/OFF Function

Spread Spectrum Modulation(SSFM) Oscillator ICs

Part No.	Auto-motive	Operating Voltage [V]		Frequency Spreading [%]	Clock Generation Method	Clock Frequency [kHz]		SSFM Modulation Frequency	Frequency Spreading [%]	Operating Temperature [℃]		Stand-by Function	Package Outline	Notes
		min.	max.			max.	min.			max.	min.			
NJW4201	—	2.7	5.5	± 5	External resistor sets the oscillating frequency	280	2400	A1 ver./ fOSC/512, fOSC/128 A2 ver./ fOSC/2048, fOSC/512	± 5	-40	125	Yes	DFN8-U1(ESON8-U1), SOT-23-6-1	Anti-phase operation for each output
NJW4203	✓	2.7	5.5	± 4.4	External clock synchronization	120	2400	fCLK/2048, fCLK/512, fCLK/128	± 4.4	-40	125	Yes	MSOP8(VSP8)	Anti-phase operation for each output

LED Drivers/Controllers

♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡ XXXX : Products available in PRODUCT LONGEVITY PROGRAM with time limit

Thermal : Thermal Shutdown Circuit　UVLO : Overvoltage Lockout Circuit　OVP : Overvoltage Protection Circuit

White LED Drivers

Part No.	Automotive	Key Features	Operating Voltage [V] min.	Operating Voltage [V] max.	LED Serial Connect	Number of channel [ch.]	LED Current [mA/ch.]	LED Pin Voltage [V] max.	Brightness control	Package Outline	Notes
NJU6080	—	Linear Type, Constant Current	2.5	5.5	1 Series	1	100	5.5	PWM	SOT-23-6-1	
NJW4615A ♡	—	Linear Type, Constant Current	2.5	35	10 Series	1	100	35	PWM	SOT-23-6-1	
NJW4616 ♡	—	Linear Type, Constant Current	2.5	40	10 Series	1	300	40	PWM	SOT-89-5-2	
NJW4617 ♡	—	Linear Type, Constant Current	2.5	40	10 Series	1	500	40	PWM	TO-252-5-L3	

Constant Current LED Driver Controller

Part No.	Automotive	Input Voltage [V] min.	Input Voltage [V] max.	Absolute Max. Ratings [V]	Max. SOURCE Pin Voltage Accuracy [mV]	Signal Input Circuit	Dimming Control [%]	Standby Current [μA] typ.	Supply Current [μA]	Package Outline	Notes
R1580 ♡	✓	3.6	34	36	400 ± 8	Comparator Input, H=1.3V, L=1.1 V	1 to 100	140	320	SOT-23-6	Industrial Thermal UVLO OVP
					800 ± 16	Comparator Input, H=1.3 V, L=1.1 V	0.5 to 100	140			
					400 ± 8	Inverter Input, H=1.2 V, L=0.4 V	1 to 100	28			

RGB LED Drivers

Part No.	Automotive	Operating Voltage [V] min./max. mia.	Operating Voltage [V] min./max. max.	Number of channel [ch.]	LED Current [mA/ch.]	Brightness control	PWM steps [steps/ch.]	Package Outline	Notes
NJU6061	—	1.7	5.5	3	30	PWM	128	SSOP14	
NJU6062	—	1.8	5.5	4	30	PWM	256	SSOP14	
NJU6063	—	1.8	5.5	3	30	PWM	128	SSOP14	

IO Port Expansion ICs (LED)

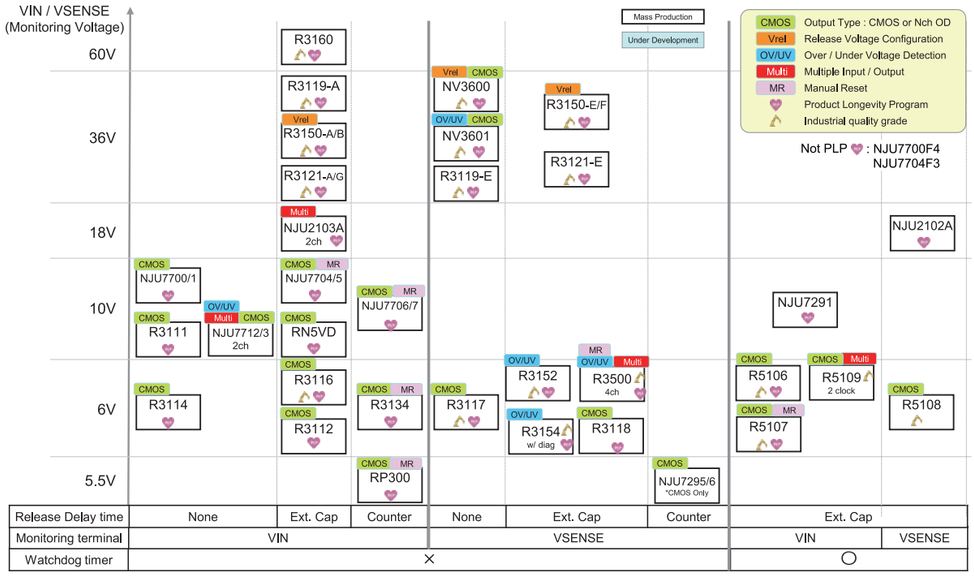
Part No.	Automotive	Operating Voltage [V] min./max. min.	Operating Voltage [V] min./max. max.	Output Current [mA]	Output Port	Interface	Cascade	Package Outline	Notes
NJU3711A	—	2.4	5.5	25	8	Series	—	SSOP14	
NJW4828-B	—	3	5.5	300	8	Parallel	—	HTSSOP24-P1	
NJW4829	—	3	5.5	300	8	Series	Yes	HTSSOP24-P1	

DDR Termination Regulator

Part No.	Automotive	Key Features	Operating Voltage [V] min.	Operating Voltage [V] max.	Package Outline	Notes
NJW4118	✓	± 2.0A DDR Termination Regulator	2.7	5.5	EQFN16-JE	VREF Voltage Accuracy : VDDQ x 0.49 to 0.51V, VTT Voltage Accuracy : VREF ± 40mV

Voltage Detectors (Reset ICs) and Watchdog Timers (WDT) Supervisor Features

※Main Product Only



NEW : New product　♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡ XXXX : Products available in PRODUCT LONGEVITY PROGRAM with time limit

Voltage Detectors (Reset ICs)

Part No.	Auto motive	Key Features	Operating Voltage [V]	Manual Reset	Voltage Detection [V]	Voltage Detection (Deviation) [%]	Hysteresis Voltage [V] typ.	Quiescent Current [μA] typ.	Package Outline	Notes
NJU7700 ♡	✓	Nch. Open Darin Type	10	—	1.3 to 6 (0.1step)	± 1.0	VDET x 0.05	0.8	SOT-23-5	
NJU7700 ♡ 2031									SC-82AB	
NJU7701 ♡	✓	C-MOS Output Type	10	—	1.3 to 6 (0.1step)	± 1.0	VDET x 0.05	0.8	SC-82AB, SOT-23-5♡	
NJU7702	—	Nch. Open Darin Type	10	—	1.3 to 6 (0.1step)	± 1.0	VDET x 0.05	0.8	SOT-23-5	
NJU7703	—	C-MOS Output Type	10	—	1.3 to 6 (0.1step)	± 1.0	VDET x 0.05	0.8	SOT-23-5	
NJU7704 ♡	✓	Nch. Open Drain Type, Adjustable Delay Time with External Capacitor	10	Yes	1.5 to 6 (0.1step)	± 1.0	90m	0.9	SOT-23-5	
NJU7704 ♡ 2031									SC-88A	
NJU7705 ♡	✓	C-MOS. Output Type, Adjustable Delay Time with External Capacitor	10	Yes	1.5 to 6 (0.1step)	± 1.0	90m	0.9	SC-88A, SOT-23-5♡	
NJU7706 ♡	—	Nch. Open Drain Type, Delay Time(Built-in Fixed Type) (50ms /100ms /200ms)	10	Yes	1.5 to 6 (0.1step)	± 1.0	90m	1.3	SOT-23-5	
NJU7707 ♡	—	C-MOS. Output Type, Delay Time(Built-in Fixed Type) (50ms /100ms /200ms)	10	Yes	1.5 to 6 (0.1step)	± 1.0	90m	1.3	SOT-23-5	
NJU7708	—	Nch. Open Drain Type, Delay Time (Built-in Fixed Type) (0ms/50ms/100ms/200ms)	10	—	1.5 to 6 (0.1step)	± 1.0	90m	1.3	SOT-23-5	
NJU7709	—	C-MOS. Output Type, Delay Time (Built-in Fixed Type) (0ms/50ms/100ms/200ms)	10	—	1.5 to 6 (0.1step)	± 1.0	90m	1.3	SOT-23-5	
NJU7711	—	C-MOS Output Type	10	—	1.3 to 6 (0.1step)	± 1.0	VDET x 0.05	0.8	SC-88A, SOT-23-5	2ch.
NJU7712	—	Nch. Open Darin Type	10	—	1.3 to 6 (0.1step)	± 1.0	VDET x 0.05	0.8	SC-88A, SOT-23-5	2ch.
NJU7713	—	C-MOS Output Type	10	—	1.3 to 6 (0.1step)	± 1.0	VDET x 0.05	0.8	SC-88A, SOT-23-5	2ch.
NJU7719	—	Nch. Open Darin Type	10	—	1.3 to 6 (0.1step)	± 1.0	VDET x 0.05	0.8	SOT-89-3	

Reset & Watchdog Timer ICs

NEW : New product ♡ : Products available in PRODUCT LONGEVITY PROGRAM ♡XXXX : Products available in PRODUCT LONGEVITY PROGRAM with time limit

Voltage Detectors (Reset ICs)

Part No.	Auto-motive	Operating Voltage Range [V]	Detector Threshold Range [V]	Detector Threshold Accuracy [%]	Reset Signal	SENSE Pin	MR Pin*1	Adjustable Release Output Delay Time	Output Delay Time Accuracy [%]	Supply Cur-rent*2 [μA]	Hys-tere-sis	Package Outline	Notes
R3111 ♡	—	0.7 to 10.0	0.9 to 6.0	± 2.0	L/H *3	—	—	—	—	1	Yes	SON1612-6, SC-82AB♡, SC-88A, SOT-23-3, SOT-23-5♡, SOT-89♡	
R3112 ♡	—	0.7 to 6.0	0.9 to 5.0	± 2.0	L	—	—	Ext. Ca-pacitor	Not specified	0.5	Yes	SON1612-6, SC-82AB♡, SOT-23-5♡	
R3114 ♡	—	0.5 to 6.0	0.7 to 5.0	± 0.8	L	—	—	—	—	0.35	Yes	DFN(PL)1010-4♡, SC-82AB, SOT-23-5	
R3116 ♡	✓	0.5 to 6.0	0.7 to 5.0	± 0.8	L	—	—	Ext. Ca-pacitor	± 15	0.35	Yes	DFN(PL)1010-4, SC-82AB, SOT-23-5	Industrial (-50℃ to +105℃)
R3117 *5 ♡	✓	1.0 to 6.0	0.7 to 5.0	± 1.0	L	Yes	—	—	—	0.29	Yes	DFN(PL)1010-4, SC-88A, SOT-23-5	Industrial (-40℃ to +105℃)
R3118 ♡	✓	1.0 to 6.0	0.6 to 5.0	± 1.5	L	Yes	—	Ext. Ca-pacitor	± 30	0.4	Yes	DFN(PL)1212-6, SC-88A, SOT-23-5	
R3119xxxxA *5 ♡	✓	1.2 to 36.0	2.3 to 12.0	± 1.5	L	—	—	Ext. Ca-pacitor	-50, +80	3.3	Yes	DFN(PL)1820-6, SOT-23-5	Industrial (-50℃ to +105℃)
R3119xxxxE *5 ♡	✓	2.1 to 6.0 *4				Yes	—	—	—				
R3120xxxxA *5 ♡	✓	1.2 to 36.0	2.3 to 12.0	± 1.5	L	—	—	Ext. Ca-pacitor	-50, +80	3.3	Yes	SOT-23-5	Automotive only
R3120xxxxE *5 ♡	✓	2.1 to 6.0 *4				Yes	—	–	–				
R3130	—	1.0 to 6.0	1.6~4.8	± 1.5	L	—	—	Int. Count-er	50ms ± 10 240ms ± 10	1.4	—	SOT-23-3	
R3132	—	0.75 to 6.0	1.0 to 5.0	± 2.0	L	—	Yes	Int. Count-er	240ms ± 15	0.8	—	SON1612-6, SC-82AB	
R3133	—	0.8 to 6.0	1.0 to 5.0	± 2.0	H	—	Yes	Int. Count-er	240ms ± 15	0.8	—	SON1612-6	
R3134 ♡	✓	0.75 to 6.0	1.0 to 5.0	± 1.8	L	—	Yes	Int. Count-er	240ms ± 15	0.8	—	SOT-23-5	
RN5VD ♡	—	0.7 to 10.0	0.9 to 6.0	± 2.5	L	—	—	Ext. Ca-pacitor	Not specified	1	Yes	SOT-23-5	
RP300 ♡	—	0.72 to 5.50	1.1, 2.32, 2.63, 2.7, 2.8, 2.93, 3.08, 4.2, 4.38, 4.6	± 0.8	L	—	Yes	Int. Count-er	50ms ± 5 200ms ± 5	0.95	—	DFN(PL)1010-4B, SOT-23-5	
R3121xxxxA/G ♡	✓	1.4 to 36.0	3.0 to 12.0	± 1.5	L	—	—	Ext. Ca-pacitor	-35, +40	3.8	A/E: Yes, G: No	SOT-23-6	Industrial (-40℃ to +125℃)
R3121xxxxE ♡	✓	2.4 to 6.0 *4				Yes				3.5			
R8300xxxxA/G *6 ♡2032	✓	1.4 to 36.0	3.0 to 12.0	± 1.5	L	—	—	Ext. Ca-pacitor	-35, +40	3.8	A/E: Yes, G: No	SOT-23-6	Automotive only
R8300xxxxE *6 ♡2032	✓	2.4 to 6.0 *4				Yes				3.5			
R3150xxxxA *5 ♡	✓	1.4 to 36.0	Detector Threshold Range: 5.0 to 10.0 Release Threshold Range: 5.3 to 11.0	Detector Threshold Accuracy: ± 1.5 Release Threshold Accuracy: ± 1.5	L	—	—	Ext. Capacitor, Detector Output Delay Time and Release Output De-lay Time are also adjustable using external capacitors	Output Delay Time Accuracy: -35, +40 Detector Output Delay Time Accuracy: -35, +40	3.8	Yes	SOT-23-6	Industrial (-40℃ to +105℃)
R3150xxxxB *5 ♡	✓				H								
R3150xxxxE *5 ♡	✓	3.6 to 6.0 *4			L	Yes				3.5			
R3150xxxxF *5 ♡	✓				H								

Part No.	Auto-motive	Operating Voltage Range [V]	Detector Threshold Range [V]	Detector Threshold Accuracy [%]	Reset Signal	SENSE Pin	MR Pin*1	Adjustable Release Output Delay Time	Output Delay Time Accuracy [%]	Supply Cur-rent*2 [μA]	Hys-tere-sis	Package Outline	Notes
R3151xxxxA *5 ♡	✓	1.4 to 36.0	Detector Threshold Range: 5.0 to 10.0, Release Threshold Range: 5.3 to 11.0	Detector Threshold Accuracy: ± 1.5, Release Threshold Accuracy: ± 1.5	L	—	—	Ext. Capacitor, Detector Output Delay Time and Release Output De-lay Time are also adjustable using external capacitors	Output Delay Time Accuracy: -35, +40, Detector Output Delay Time Accuracy: -35, +40	3.8	Yes	SOT-23-6	Automotive only
R3151xxxxB *5 ♡	✓				H	Yes	—						
R3151xxxxE *5 ♡	✓	3.6 to 6.0 *4			L					3.5			
R3151xxxxF *5 ♡	✓				H								
R8315xxxxA *6 ♡2032	✓	1.4 to 36.0	Detector Threshold Range: 5.0 to 10.0 Release Threshold Range: 5.3 to 11.0	Detector Threshold Accuracy: ± 1.5 Release Threshold Accuracy: ± 1.5	L	—	—	Ext. Capacitor, Detector Output Delay Time and Release Output De-lay Time are also adjustable using external capacitors	Output Delay Time Accuracy: -35, +40 Detector Output Delay Time Accuracy: -35, +40	3.8	Yes	SOT-23-6	Automotive only
R8315xxxxB *6 ♡2032	✓				H								
R8315xxxxE *6 ♡2032	✓	3.6 to 6.0 *4			L	Yes	—			3.5			
R8315xxxxF *6 ♡2032	✓				H								
R3152 *5 ♡	✓	3.0 to 42.0	OV: 1.1 to 5.9 UV: 1.0 to 4.8	± 0.5	L	Yes	—	Ext. Ca-pacitor	-37.5, +100	1.5	A: Yes, B: No	SOT-23-6	Industrial (-50℃ to +125℃)
R3154 *5 *7 ♡	✓	3.0 to 42.0	OV: 0.75 to 3.7 UV: 0.55 to 3.3	± 0.5	L	Yes	—	Ext. Ca-pacitor	-37.5, +100	2.0	Yes	SOT-23-6	Industrial (-40℃ to +125℃)
R3160 *5 ♡	✓	2.7 to 60.0	10.0 to 48.0	± 1.0	H/L	—	—	Ext. Ca-pacitor	± 50	1.8	Yes	SOT-23-6	Industrial (-50℃ to +125℃)
R3500 *5 *7 ♡	✓	3.0 to 42.0	OV: 1.0 to 5.9 UV: 0.9 to 5.0	± 0.5	L	Yes	Yes	Ext. Ca-pacitor	-37.5, +100	10.0	Yes	HSOP-18	4CH, Industrial (-40℃ to +125℃)
NEW **NV3600** *6 ♡	✓	2.4 to 6.0 *8	Detector Threshold Range: 3.3 to 19.8 Release Threshold Range: 4.5 to 22.2	± 0.5	—	Yes	—	—	—	1.4	A/C/E/G: Yes, B/D/F/H: No	SOT-23-5-DC	Industrial, -VDET & +VDET Individually set voltage
NEW **NV3601** *6 ♡	✓	2.4 to 6.0 *8	UV:3.3 to 19.8 OV:4.5 to 22.2	± 0.5	—	Yes	—	—	—	1.4	—	SOT-23-5-DC	Industrial, Window Voltage Detector

*1: Manual Reset Pin *2: Detector Threshold (-VDET) = 1.5 V, Detection released. *3: SON1612-6, SC-82AB and SC-88A generates a high reset signal. *4: Input Voltage of SENSE Pin: 0V to 36.0V
*5: Operating Temperature Rang = -40℃ to 105℃
*6: Operating Temperature Rang = -40℃ to 125℃ *7: Applicable to failure diagnosis *8 Input Voltage of SENSE Pin: 0V to 42.0V

NEW : New product ♡ : Products available in PRODUCT LONGEVITY PROGRAM ♡XXXX : Products available in PRODUCT LONGEVITY PROGRAM with time limit

System Reset ICs

Part No.	Auto motive	Key Features	Operating Voltage [V] max.	Watch Dog Timer	Voltage Detection (Arbitray)	Voltage Detection (Setting by Inside) [V]	Quies-cent Current [μA]	Oper-ating Voltage [V] min.	Package Outline	Notes
NJU2103A ♡	—	Suitable for replacement from MB3771 / NJM2103	18	—	Yes	4.2	280	2.5	DMP8♡, DIP8, MSOP8(TVSP8)♡	
NJU2103B	—	Suitable for replacement from MB3771 / NJM2103	18	—	Yes	4.2	280	2.5	SOP8 JEDEC 150mil (EMP8)	V_{SB}, V_{SC}, t_{PD} MB3771 com-patible
NJU7291 ♡	✓	Detector Threshold Range: 3 V to 4.6 V (0.1V Step), Setting Delay Time with External Capacitor	7	Yes	Yes	3	170	2.5	DIP8, MSOP8(TVSP8)♡	
NJU7295	✓	With Delay Circuit (Rising / Falling independent setting)	5.5	—	Yes	1 (Adjustable)	1.7	1.5	SOT-23-6-1	
NJU7296	—	With Delay Circuit (Rising / Falling independent setting)	5.5	—	Yes	1 (Adjustable)	1.7	1.5	SOT-23-6-1	

Watchdog Timers (WDT)

● **Watchdog Timers +Voltage Detectors+Voltage Regurators**

Part No.	Auto-motive	Operating Voltage Range [V] min.	Operating Voltage Range [V] max.	Voltage Detector Section: Detector Threshold Range [V]	Voltage Detector Section: Detector Threshold Accuracy [%]	Voltage Detector Section: Output Delay Time*1 [ms] min.	Output Delay Time*1 [ms] typ.	Output Delay Time*1 [ms] max.	Watchdog Timer Section: WDT Timeout Period*2 [ms] min.	WDT Timeout Period*2 [ms] typ.	WDT Timeout Period*2 [ms] max.	Inhibit Pin	LDO Regulator Section: Output Voltage Range [V]	Output Voltage Accuracy [%]	Output Current [mA]	Supply Current [μA] typ.	Package Outline	Notes
R5110xxx1A *5 ♡	✓	3.5	36	1.6 to 5.5	± 1.8 *4	194	242	290	14.4	18	21.6	×	1.8 to 5.0	± 1.5 *4	500	25	HSOP-8E	
R5110xxx1B *3, *5 ♡																		
R5110xxx2C *5 ♡	✓											○					HSOP-18	
R5110xxx2D *3, *5 ♡																		
R5110xxx2C *5 ♡	✓																HQFN0808-28	
R5110xxx2D *3, *5 ♡																		
R5111xxx1A *5 ♡	✓	3.5	36	1.6 to 5.5	± 1.8 *4	194	242	290	14.4	18	21.6	×	1.8 to 5.0	± 1.5 *4	300	25	HSOP-8E	Industrial
R5111xxx1B *3, *5 ♡																		
R5111xxx2C *5 ♡	✓											○					HSOP-18	
R5111xxx2D *3, *5 ♡																		
R5111xxx2C *5 ♡	✓																HQFN0808-28	
R5111xxx2D *3, *5 ♡																		
R5114xxx1 *5 ♡	✓	3.5	42	2.5 to 4.8	± 1.6 *4	184	220	253	14.8	18	21.9	○	3.3 to 5.0	± 1.6 *4	250	8.5	HSOP-8E	Industrial (-40℃ to +125℃)
R5114xxx2 *5 ♡	✓																HSOP-18	
R5114xxx2 *5	✓																HQFN0808-28	
R5115xxx1 *3, *5 ♡	✓	3.5	42	2.5 to 4.8	± 1.6 *4	184	220	253	14.8	18	21.9	○	3.3 to 5.0	± 1.6 *4	250	8.5	HSOP-8E	Industrial (-40℃ to +125℃)
R5115xxx2 *3, *5 ♡	✓																HSOP-18	
R5115xxx2 *3, *5 ♡	✓																HQFN0808-28	
R8360xxx1 *3, *4, *6 ♡2032	✓	3.5	36	1.6 to 5.5	± 1.8 *4	194	242	290	14.4	18	21.6	×	1.8 to 5.0	± 1.5 *4	500	25	HSOP-8E	Automotive only
R8360xxx2 *3, *4, *6 ♡2032	✓											○					HSOP-18	

*1: R5110/R5111/R5114/R5115: CD = 0.22μF *2: R8360: CW = 0.01μF, R5110/R5111/R5114/R5115: CTW = 0.01μF
*3: Window Watchdog Timer. Window watchdog timer monitors microprocessor activity and asserts a reset signal if the watchdog pulse dœs not occur witin the defined time window (open window) or if the watchdog pulse occurs within the defined time widown (close window).
*4: Detector Threshold Accuracy in all temperature range. *5: Operating Temperature Rang = -40℃ to +105℃ *6: Operating Temperature Rang = -40℃ to +125℃

● **Watchdog Timers +Voltage Detectors**

Part No.	Auto-motive	Operating Voltage Range [V] min.	Operating Voltage Range [V] max.	Voltage Detector Section: Detector Threshold Range [V]	Voltage Detector Section: Detector Threshold Accuracy [%]	Voltage Detector Section: Output Delay Time Accuracy [%]	Watchdog Timer Section: WDT Timeout Period Accuracy [%]	Watchdog Timer Section: Inhibit Pin	Supply Current [μA] typ.	Package Outline	Key Features
R5105 *1 ♡	✓	0.9	6	1.5 to 5.5	± 1.0	± 16	± 33	×	11	SOT-23-6	Automotive only
R5106 *1 ♡	✓							○			Industrial(-40℃ to +125℃), CD Pin and CTW Pin are combined.
R5107 *1 ♡	✓									SSOP-8G	Industrial(-40℃ to +125℃), MR Pin is included.
R5108 *1 ♡2032	✓	1.5	6								Industrial(-40℃ to +125℃), SENSE Pin is included.
R5109 *1 ♡2032	✓	0.9	6						11.5		Industrial(-40℃ to +125℃), 2 Clock Input Type
R8355 *2 ♡2032	✓	0.9	6	1.5 to 5.5	± 1.0	± 16	± 33	×	11	SOT-23-6	Automotive only
R8356 *2 ♡2032	✓							○			CD Pin and CTW Pin are combined. Automotive only
R8357 *2 ♡2032	✓									SSOP-8G	MR Pin is included, Automotive only
R8358 *2 ♡2032	✓	1.5	6								SENSE Pin is included, Automotive only
R8359 *2 ♡2032	✓	0.9	6						11.5		2 Clock Input Type, Automotive only

*1: Operating Temperature Rang = -40℃ to +105℃ *2: Operating Temperature Rang = -40℃ to +125℃

● **System Reset IC with Watchdog Timer**

Part No.	Auto-motive	Key Features	Operating Voltage [V] min.	Operating Voltage [V] max.	Watch Dog Timer	Voltage Detection (Arbitray)	Voltage Detection (Setting by Inside) [V]	Quiescent Current [μA] typ.	Package Outline	Notes
NJU2102A ♡	—	Suitable for replacement from MB3773 / NJM2102	3.5	18	Yes	Yes	4.2	320	DMP8	

Reset Timer ICs

Part No.	Auto-motive	Operating Voltage Range [V]	Reset Input	Reset Output	Supply Current [μA]	Output Delay Time [s]	Output Release Time [s]	Package Outline	Notes
R3200x001x	—	1.65 to 5.5	$\overline{SR0}$, $\overline{SR1}$	xxxA: $\overline{RST}$ xxxB: $\overline{RST}$, RST2	0.28: at standby	7.5, 11.25	—	DFN(PL)2020-8B, DFN1216-8	
R3200x002x						7.5	0.234		
R3200x052B						10	0.313	DFN1216-8	
R3200x053B						10	0.078	DFN1216-8	
R3200x064A						3	0.188	DFN1216-8	
R3201x001	—	2.2 to 5.5	RST0, RST1	SRO nSRO DCHGx	0.35: at standby, at shipping mode	8	0.4	QFN014018-10	With shipping mode
R3201x002						10			
R3201x003						12			
R3201x004						16			

Li-ion Battery Protection ICs

1-Cell

♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡ XXXX : Products available in PRODUCT LONGEVITY PROGRAM with time limit
U.D. : Under Development　NEW : New product　High-Side : High-side Nch. MOFET gate can be drived by boosting.

Part No.	Sens-ing Type	Supply Current [μA] typ.	Standby Current [μA] max.	Detection Threshold Range [V] Detection Voltage Accuracy [mV] Over Volt-age (OVP)	Under Volt-age (UVP)	Discharge Over Current (DOCP)	Charge Over Current (COCP)	Short-Circuit (SCP)	Release Method OVP / UVP	0V Charge [V]	Package	Other Features
NB7140	RSENS	1.5	UVP Latch type: 0.04, UVP Auto Release type: 0.20	4.2 to 4.7, ± 15	2.1 to 3.2, ± 35	VD3-1: 0.005 to 0.050, ± 1.0 or ± 1.5 VD3-2: 0.011 to 0.100, ± 2.0 or ± 4.0%	-0.005 to -0.050, ± 1.0 or ± 1.5	0.030 to 0.200 ± 4.0 or ± 5.0	Latch or Auto Release	Acceptable or Inhibition 1.0 to 2.5 ± 4.0%	WLCSP-8-P10	Forced Standby Func-tion, Two Phase Discharge Over Current Detection, High Accuracy Detection, Forced Rest Function
NB7141	RSENS	2.0	UVP Latch type: 0.04, UVP Auto Release type: 0.20	4.2 to 4.7, ± 15	2.1 to 3.2, ± 35	VD3-1: 0.005 to 0.050, ± 1.0 or ± 1.5 VD3-2: 0.011 to 0.100, ± 2.0 or ± 4.0%	-0.005 to -0.050, ± 1.0 or ± 1.5	0.030 to 0.200 ± 4.0 or ± 5.0	Latch or Auto Release	Acceptable or Inhibition 1.0 to 2.5 ± 4.0%	WLCSP-8-P10	Forced Standby Func-tion, Two Phase Discharge Over Current Detection, High Accuracy Detection, WDT Function
NEW **NB7142**	FET	1.5	UVP Latch type: 0.04, UVP Auto Release type: 0.5	4.2 to 4.8, ± 20	2.0 to 3.0, ± 50	0.015 to 0.150, ± 3, ± 5% or ± 5	-0.020 to -0.150, ± 3, ± 5% or ± 5	0.060 to 0.400 ± 5%	Latch or Auto Release	Acceptable or Inhibition 1.2 ± 0.3	DFN1212-6-GK	Ultra Low Comsuption Current, High-accuracy Detection
NEW **NB7143**	FET	1.5	UVP Latch type: 0.04, UVP Auto Release type: 0.5	4.2 to 4.8, ± 20	2.0 to 3.0, ± 50	0.015 to 0.150, ± 3, ± 5% or ± 5	-0.020 to -0.150, ± 3, ± 5% or ± 5	0.060 to 0.400 ± 5%	Latch or Auto Release	Acceptable or Inhibition 1.2 ± 0.3	DFN1814-6-GN	Ultra Low Comsuption Current, High-accuracy Detection
R5442	FET	3.0	0.1	4.1 to 4.6, ± 20	2.1 to 3.0, ± 1.5%	0.020 to 0.160, ± 5 or ± 10	-0.120 to -0.020, ± 5 or ± 10	0.120 to 0.500	Auto Release	Acceptable or Inhibition 0.7 ± 0.3	DFN1814-6B SOT-23-6	
R5449	RSENS	5.0	0.04	4.2 to 4.6, ± 10	2.0 to 3.4, ± 35	0.012 to 0.150, ± 2, ± 5% or ± 3	-0.150 to -0.012, ± 2, ± 5% or ± 3	0.032 to 0.200	Latch	Inhibition 1.25 to 2.0 ± 0.05	WLCSP-8-P8	High-Side Shipping Mode Function, Over Temp. Protection (External NTC, Over Temp. Protection for Charge/Discharge)
R5480	RSENS	4.0	0.1	4.1 to 4.5, ± 20 or ± 25	2.1 to 3.0, ± 35	0.020 to 0.050, ± 15% or ± 4.5	-0.057 to -0.020, ± 15%	0.140, 0.180, 0.250 or 0.500	Latch	Inhibition 0.7 ± 0.3	DFN(PL)1414-6	
R5486	RSENS	4.0	0.1	4.1 to 4.6, ± 20 or ± 25	2.1 to 3.0, ± 35	VD3-1: 0.015 to 0.046, ± 8% or ± 3.1, VD3-2: 0.025 to 0.080, ± 8% or ± 3.1	-0.060 to -0.015, ± 15% or ± 3	0.150 to 0.300, ± 45	Latch	Inhibition 0.7 , 1.5 ± 0.3	DFN(PL)1414-6	Two Phase Discharge Over Current Detection
R5487	FET	3.0	0.1 or 0.5	4.2 to 4.6, ± 20	2.0 to 3.0, ± 35	0.025 to 0.150, ± 10, ± 10% or ± 5	-0.15 to -0.02, ± 10% or ± 5	0.15 to 0.40	Latch or Auto Release	Acceptable or Inhibition 1.2 ± 0.4	DFN1814-6B, DFN1414-6B	
R5492	FET	4.0	0.5	4.0 to 4.5, ± 20	2.0 to 3.0, ± 2.5%	0.050 to 0.200, ± 15	-0.200 to -0.050, ± 15	0.800	Auto Release	Acceptable	SOT-23-6	
R5494	RSENS	3.0	0.5	4.1 to 4.5, ± 20	2.1 to 3.0, ± 35	0.030 to 0.048, ± 10% or ± 4	-0.035 to -0.020, ± 15%	VDET3=0.030V to 0.047V : VDET3 × 3 VDET3=0.048V : VDET3 × 3 -1mV	Auto Release	Acceptable or Inhibition 0.7 ± 0.3	DFN1814-6C	
R5497	FET	3.0	0.1 or 0.5	4.2 to 4.6, ± 20	2.0 to 3.0, ± 35	0.025 to 0.150, ± 10, ± 10% or ± 5	-0.15 to -0.02, ± 10% or ± 5	0.15 to 0.40	Latch or Auto Release	Acceptable or Inhibition 1.2 ± 0.4	DFN1414-6B	
R5610	RSENS	3.0	0.5	4.470 to 4.535, ± 20	4.470 to 4.535, ± 55	0.015 to 0.025, ± 3	-0.045 to -0.026, ± 3	0.050 to 0.200, ± 20	Auto Release	Acceptable	DFN1816-6	Two Phase Discharge Over Current Detection, Low Resistance RSENS, High Accuracy Detection
R5611	RSENS	3.0	0.5	4.430 to 4.495, ± 20	4.030 to 4.495, ± 55	0.015 to 0.025, ± 3	-0.024 to -0.017, ± 3	0.050 to 0.200, ± 20	Auto Release	Acceptable	DFN1616-8	Two Phase Discharge Over Current Detection, Low Resistance RSENS, High Accuracy Detection, Bult-in REST Function
R5612	RSENS	2.0 or 2.5	0.2 or 0.04	4.2 to 4.7, ± 20	2.1 to 3.2, ± 35	VD3-1: 0.007 to 0.030, ± 1 VD3-2: 0.011 to 0.060, ± 2	-0.030 to -0.007, ± 1	0.030 to 0.200, ± 4 or ± 5	Latch or Auto Release	Acceptable or Inhibition 1.0 , 1.2 ± 0.25	DFN1814-6C	Two Phase Discharge Over Current Detection, Low Resistance RSENS, High Accuracy Detection
R5613 ♡	RSENS	2.0 or 2.5	0.2 or 0.04	4.2 to 4.7, ± 20	2.1 to 3.2, ± 35	VD3-1: 0.007 to 0.030, ± 1 VD3-2: 0.011 to 0.060, ± 2	-0.030 to -0.007, ± 1	0.030 to 0.200	Latch or Auto Release	Acceptable or Inhibition 1.0 , 1.2 , 1.5 ± 0.25 2.2 +0.3/-0.2 2.35 +0.2/-0.3	DFN1616-8B	Two Phase Discharge Over Current Detection, Low Resistance RSENS, High Accuracy Detection, Reset/Forced Standby Function

Part No.	Sens-ing Type	Supply Current [μA] typ.	Standby Current [μA] max.	Detection Threshold Range [V] Detection Voltage Accuracy [mV] Over Volt-age (OVP)	Under Volt-age (UVP)	Discharge Over Current (DOCP)	Charge Over Current (COCP)	Short-Circuit (SCP)	Release Method OVP / UVP	0V Charge [V]	Package	Other Features
R5617	RSENS	2.0	UVP Latch type: 0.04, UVP Auto Release type: 0.20	4.2 to 4.7, ± 10	2.0 to 3.2, ± 35	VD3-1: 0.003 to 0.030, ± 0.75 VD3-2: 0.010 to 0.100, ± 2	-0.030 to -0.003, ± 0.75	0.020 to 0.150 ± 4.0	Latch or Auto Release	Acceptable or Inhibition 1.0 to 2.2 ± 0.1	WLCSP-6-P13 DFN1814-6B	Two Phase Discharge Over Current Detection, Low Resistance RSENS, High Accuracy Detection
R5619	RSENS	2.0	UVP Latch type: 0.04, UVP Auto Release type: 0.2	4.2 to 4.7, ± 10	2.0 to3.2, ± 35	VD3-1: 0.0030 to 0.0300, ± 1 VD3-2: 0.010 to 0.100, ± 2	-0.0300 to -0.0030, ± 1	0.020 to 0.150, ± 4	Latch or Auto Release	Acceptable or Inhibition 1.000V to 2.200V	DFN1814-6B	
R5660	RSENS	2.5	0.04	4.2 to 4.6, ± 10	2.0 to3.4, ± 2%	0.015 to 0.150, ± 3, ± 10% or ± 5	-0.075 to -0.015, ± 4	0.040 to 0.300, ± 5	Latch	Acceptable	WLCSP-6-P7	
NEW **R5668**	RSENS	3.0	0.04	4.2 to 4.6, ± 10	2.0 to 3.4, ± 35	0.010 to 0.080, ± 2, ± 5% or ± 3	-0.080 to -0.010, ± 2, ± 5% or ± 3	0.025 to 0.125, ± 3 or ± 5	Latch or Auto Release	Acceptable or Inhibi-tion 1.0V to 2.0V, ± 0.05mV	WLCSP-8-P14	
U.D. **NB7120**	RSENS	5.0	0.04	4.2 to 4.6, ± 12	2.0 to 3.4, ± 35	VD3-1: 0.0100 to 0.0300, ± 1.5 VD3-2: 0.0301 to 0.0600, ± 5% VD3-3: 0.0601 to 0.0800, ± 3	VD4-1: 0.0100 to 0.0325, ± 1.5 VD4-2: 0.0326 to 0.0600, ± 5% VD4-1: 0.0601 to 0.0800, ± 3	0.025 to 0.125, ± 2.5	Latch	Inhibition 1.25 to 2.0 ± 0.05	WLCSP-8-P15	High-Side Shipping Mode Function, Over Temp. Protection (External NTC, Over Temp. Protection for Charge/Discharge)

2-Cell

Part No.	Sens-ing Type	Supply Current [μA] typ.	Standby Current [μA] max.	Detection Threshold Range [V] Detection Voltage Accuracy [mV] Over Voltage (OVP)	Under Voltage (UVP)	Discharge Over Current (DOCP)	Charge Over Cur-rent (COCP)	Short-Circuit (SCP)	Release Method OVP / UVP	0V Charge [V]	Package	Other Features
NB7200	RSENS	3.0	UVP Latch Type: 0.04, UVP Auto Release type: 0.30	4.2 to 4.8, ± 15	2.0 to 3.2, ± 35	VD3-1: 0.003 to 0.030, ± 1.0 VD3-2: 0.010 to 0.040, ± 2 0.040 to 0.050, ± 5% 0.050 to 0.090, ± 2.5	-0.0030 to -0.0300, ± 1.0	0.020 to 0.100, ± 4	Auto Release/ Latch	Acceptable or Inhibition	DFN1616-8-GM	
R5460	FET	4.0	0.1 or 2.0	4.1 to 4.5, or 3.5 to 4.0, ± 25	2.0 to 3.0 ± 2.5%	0.05 to 0.20, ± 15	-0.1, -0.2, -0.4, ± 30, ± 30, ± 40	1.1 ± 0.4	Auto Release/ Latch or Auto Release	Acceptable	DFN(PL)1820-6, SOT-23-6	
NEW **R5460N5**	FET	4.0 or 4.5	0.1	4.1 to 4.5, ± 20	2.0 to 3.0, ± 2.0%	0.05 to 0.20, ± 12	-0.4 to -0.1, ± 22	0.3 ± 0.5, ± 0.1	Auto Release/ Latch or Auto Release	Acceptable or Inhibition	SOT-23-6	
R5461	FET	4.0 or 5.0	0.1	3.60 to 4.35, +10 -15	2.0 to 3.0, ± 2.5%	0.05 to 0.24, ± 15	-0.22 to -0.1, ± 30	1	Auto Release/ Latch	Acceptable or Inhibition	DFN(PL)2527-10	Built-in Alarm Notific-tion Function
R5462	FET	4.0	0.1 or 2.0	3.65 to 4.32, ± 10	2.0 to 3.2, ± 1%	0.05 to 0.20, ± 10	-0.2 to -0.1, ± 20	1	Auto Release/ Latch or Auto Release	Acceptable or Inhibition	DFN(PL)1820-6B	High Accuracy Detection
R5463	FET	4.0	0.1	3.65 to 4.32, ± 20	2.0 to 3.2, ± 1%	0.05 to 0.20, ± 10 0.20 to 0.40, ± 10%	-0.2 to -0.1, ± 20	1	Auto Release/ Latch	Inhibition	DFN(PL)1820-6B	
R5464	FET	5.0 or 6.0	0.1	3.6 to 4.5, +10 -15	2.0 to 3.0, ± 2.5%	0.05 to 0.24, ± 15	-0.22 to -0.1, ± 20	1	Auto Release/ Latch	Acceptable or Inhibition	DFN(PL)2527-10	Built-in Alarm Noti-fiction Function
R5466	FET	5.0	0.1	3.6 to 4.3, +20 -25	2.0 to 3.0, ± 2.5%	0.05 to 0.24, ± 15	-0.22 to -0.1, ± 20	1	Auto Release/ Latch	Acceptable	DFN(PL)2527-10	Built-in Alarm Noti-fiction Function

Li-ion Battery Protection ICs

U.D. : Under Development　NEW : New product

♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡xxxx : Products available in PRODUCT LONGEVITY PROGRAM with time limit

Multi-Cell

Part No.	Sensing Type	Supply Current [μA] typ.	Supply Current [μA] max.	Detection Threshold Range [V] Detection Voltage Accuracy [mV] Over Voltage (OVP)	Under Voltage (UVP)	Discharge Over Current (DOCP)	Charge Over Current (COCP)	Short-Circuit (SCP)	Release Method OVP / UVP	0V Charge [V]	Package	Other Features
R5432 ♡	3 to 5	12.0	—	3.6 to 4.5, ± 25	2.0 to 3.0, ± 2.5%	VD3-1 0.1 to 0.3, ± 20, VD3-2 BA: 0.45 or 0.60, ± 100, BB/BC: 0.25 to 0.40, ± 70, BD: 0.25 or 0.30, ± 55 (VD3-2 ≧ VD3-1 + 0.1V)	-0.05, -0.1, -0.2, -0.4 ± 30, ± 30, ± 30, ± 40	BA: 1.0 BB/BC: 0.75 BD: VD3-2 × 1.67	Auto Release	Acceptable or Inhibition	SSOP-24	Built-in Cascadable, Cell Balance Function, Open Wire Detection
R5433 ♡	3 to 5	6.0	—	3.6 to 4.5, ± 25	2.0 to 3.0, ± 2.5%	—	—	—	Auto Release	Acceptable	SSOP-16	Over Charge/Discharge Control by Output Signal from COUT/DOUT Pin to MCU, Built-in Open Wire Detection
R5436	3 to 5	12.0	6.0	3.6 to 4.5, ± 25	2.0 to 3.2, ± 2.5%	VD3-1: 0.05 to 0.25, ± 20 VD3-2: 3 × VD3-1, ± 50	-0.05, -0.1, -0.2 ± 30, ± 30, ± 30	0.25 to 1.0	Auto Release/ Latch or Auto Release	Acceptable	TSSOP-28	Built-in Cascadable, Cell Balance Function, Open Wire Detection, Over Temp. Protection (External NTC, Over Charge/Discharge Temp. Detection)
R5650 ♡	3 to 5	12.0	5.0	3.6 to 4.5, ± 25	2.0 to 3.2, ± 50	VD3-1: 0.03 to 0.05, ± 5, 0.05 to 0.1, ± 10%, VD3-2: 2, 2.5 or 3 × VD3-1, 0.06 to 0.10, ± 12.5, 0.10 to 0.30, ± 12.5%	-0.015 to -0.025, ± 5, -0.030 to -0.050, ± 20%, or disable	0.1 to 0.6	Auto Release	Acceptable or Inhibition	TSSOP-20	Built-in Temp. Protection (External NTC, Over Temp. Protection for Charge/ Discharge)
R5651	3 to 5	13.0	6.0	3.6 to 4.5, ± 25	2.0 to 3.2, ± 50	VD3-1: 0.01 to 0.03, ± 3, 0.035 to 0.15, ± 10%, VD3-2: 0.03 to 0.08, ± 8, 0.09 to 0.45, ± 10%	-0.008 to -0.03, ± 3, -0.035 to -0.090, ± 10%	0.1 to 0.6, ± 30%	Auto Release	Inhibition	TSSOP-24	Built-in Open Wire Detection, Temp. Protection (External NTC, Over Temp. Detection for Charge/ Discharge, Under Temp. Detection for Charging)

Second Protection ICs

Product Name	No. of Cells	Supply Current [μA] typ.	Standby Current [μA] max.	Detection Threshold Range[V] Detection Voltage Accuracy [mV]	COUT Output H Voltage [V]	Shutdown Detection Voltage [V]	Package	Other Features
R5434 ♡	2 to 5	3.0	—	3.6 to 4.6, ± 25	3.7	—	SON-8	
R5435	2 to 3	3.0	0.1	4.10 to 4.55, ± 20	4.7	3.5	DFN(PL)1616-6B, TSOT-23-6	
R5437 ♡	1 to 3	0.85	0.1	4.10 to 4.65, ± 20	4.7	3.5	DFN1814-6C	
R5438 ♡	1 to 3	0.85	0.1	4.10 to 4.7, ± 20	4.7	3.5	DFN1814-6C	
R5439 ♡	2 to 4	4.0: VCELLn=4.15V (n=1, 2, 3, 4) 2.5: VCELLn=3.1V (n=1, 2, 3, 4)	0.2	4.20 to 4.60, ± 20	4.7	Shutdown1 detector threshold:3.8, Shutdown2 detector threshold:2.3 to 2.8	DFN(PL)2020-8	Bult-in Regulator : 2.9V to 3.7V
R5458	1	1.5	0.5	4.00 to 4.70, ± 20	VDD	—	DFN1814-6C	
R5459	1	1.8	0.5	4.00 to 4.70, ± 20	VDD	—	DFN1814-6C	
R5641 ♡	2 to 4	2.8	0.2	4.10 to 4.60, ± 16	4.7	2.5 or 3.7	DFN2020-8C	Over Temp. Protection (External PTC)
R5640 ♡	2 to 5	2.5	0.2	2.90 to 4.60, ± 16	4.7	2.1, 2.5 or 3.7	MSOP-8	Built-in Cascadable
R5642 ♡	1 to 3	0.85	0.1	4.10 to 4.65, ± 15	4.7	3.5	DFN2020-6	
U.D. **NB7400**	2 to 4	4.0: VCELLn=4.15V (n=1, 2, 3, 4)	0.2	4.20 to 4.85, ± 20	4.7	Shutdown2 detector threshold:2.3 to 2.8	DFN(PL)2020-8-GH	Regulator: 1.5V to 3.3V

Battery Management AFEs

Product Name	No. of Cells	Supply Current [μA] typ.	Standby Current [μA] max.	Voltage Monitor Accuracy [mV]	Current Monitor Accuracy	External Reference Voltage [V]	LDO Output Voltage [V]	LDO Output Current [mA]	Communication I/F	ADC	Package	Other Features
R5601 ♡	3 to 5	36.0	2	± 9	Gain Accuracy H AA: 40 ± 2.0%, AC: 10 ± 1.0% Gain Accuracy L AA: 10 ± 1.0%, AC: 5 ± 0.8%	3.0000 ± 0.0035	3.3 ± 1.5%	30	I²C	—	TSSOP-16, QFN0303-20-P28	Wake-up Function, Short-Circuit Current Detection, Built-in Switch for Cell Balance
R5602 ♡	4 to 7	150.0	1	± 30	*RSNS=5m Ω Gain=20: ± 1.0A Gain=10: ± 1.4A Gain=2.5: ± 2.4A	—	3.4 ± 5%	10	I²C/SPI with/ without CRC8	12bit	QFN0505- 32C	Monitoring Speed: Less than 1ms / 1monitor, Die Temp./External 2NTC Monitoring, Over Current Detection: Over Charge/Over Discharge/Short-Circuit, High Side FET Control, Built-in Open-Wire Detection Switch and Cell Balance Switch, Sequence Free for Cell Connection
U.D. **NB7500**	3 to 5	230.0	2	± 1 8	*RSNS=1m Ω Gain=40: ± 1.5A Gain=10: ± 4.0A Gain=2.5: ± 8.0A		3.4 + 0.1/-0.2	10	I²C	12bit	QFN3030-20-NE	External NTC monitoring, Overcharge voltage / Current, Overdischarge voltage / Current, Short circuit current, Hight /Low temperature (chg / Dischg) , Sequence Free for Cell Connection

Battery Charger ICs

Part No.	Automotive	Key Features	Operating Voltage [V] min.	Operating Voltage [V] max.	Quiescent Current [mA] typ.	Package Outline	Notes
NJM2146B	—	Constant Voltage, Constant Current Control	2.5	18	1	DIP8, DMP8, MSOP8(VSP8)	VREF=1.5V ± 1%, VIO=2mV
NJM2336	—	Constant Voltage, Constant Current Control	2.2	13	0.2	SOT-23-6-1	VREF(A)=A version=75mV, B version=109mV, C version=151mV VREF(B)=1.24V ± 1%
NJM2337	—	Constant Voltage, Constant Current Control	2.2	13	0.2	SOT-23-6-1	VREF(A)=A version=75mV, B version=109mV, C version=151mV VREF(B)=1.24V ± 1%
NJM2346	—	Constant Voltage, Constant Current Control	2.2	13	0.25	DMP8, MSOP8(TVSP8)	VREF=1.24V ± 1%, VIO=0.5mV
NJW4100	—	Lithium-ion Battery Charger Controller with Timer, 1cell/2cell Charge protective function	2.4	14	2	DMP20, SSOP20	
NJW4108	—	Lithium-ion Battery Charger Controller with Timer, Adjustable Charge Voltage, Adjustable Pre-Charge and Full Charge Current	—	14	2	SSOP20	
NJW4120	—	Lithium-ion Battery Charger Controller with Timer, 1cell/2cell Charge protective function, Charge Control Feedback by Photocoupler	2.7	14	2	DMP20, SSOP20	

Battery Back-up ICs

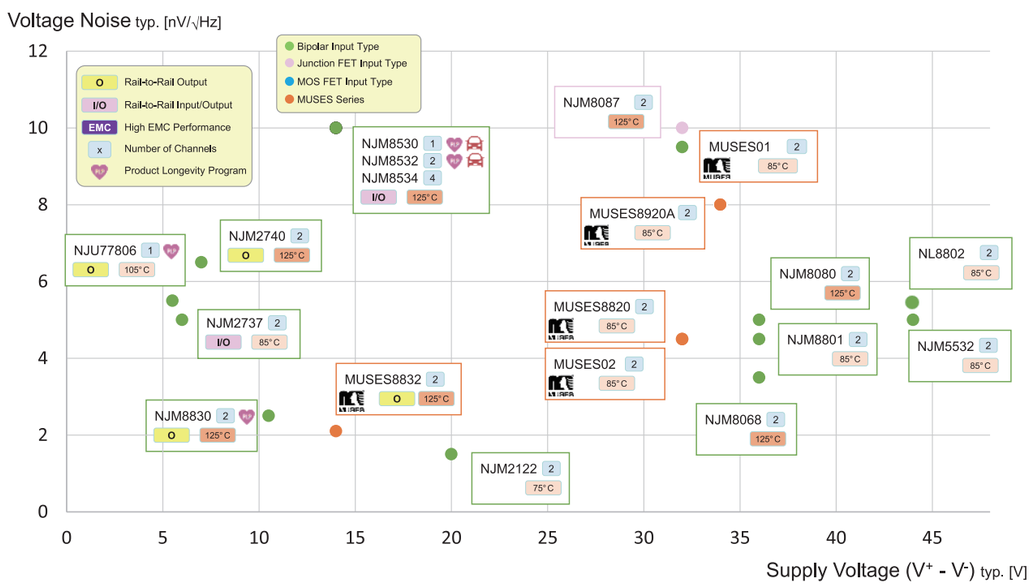
Part No.	Automotive	Key Features	Operating Voltage [V]	Quiescent Current [μA] Normal Operation	Quiescent Current [μA] Back-up Mode	Δ V I-O (Reg1.2.3) [V] typ.	Package Outline	Notes
NJU7286	—	Low Dropout Voltage(2-channel), Voltage Detection(2-channel)	10	12	2.1	reg1/0.06 (IRO=3mA) reg2/0.3 (IO=23mA)	SSOP8, MSOP8(TVSP8)	
NJU7287	—	Low Dropout Voltage(3-channel), Voltage Detection(2-channel)	10	13	2.1	reg1/0.06 (IRO=3mA) reg2/0.3 (IOUT=23mA) reg3/0.06 (ICH=3mA)	MSOP8(TVSP8)	

U.D. : Under Development NEW : New product

♡ : Products available in PRODUCT LONGEVITY PROGRAM ♡XXXX : Products available in PRODUCT LONGEVITY PROGRAM with time limit

Audio ICs

※Main Product Only



Audio Amplifiers

High Quality Audio Operational Amplifiers

Part No.	Auto-motive	No.of Cir-cuit	Power Sup-ply	Supply Voltage [V] min.	Supply Voltage [V] max.	Icc/ch. [mA] typ.	VIO [mV] max.	IB [nA] typ.	IIO [nA] typ.	SR [V/μsec] typ.	GBW [MHz] typ.	fT [MHz] typ.	Noise typ. VNI [μVrms]	Noise typ. en [nV/√Hz]	Package Outline	Notes
MUSES01	—	2	Dual	± 9	± 16	4.25	5	0.2	0.1	12	3.3	3	1.2	9.5	DIP8	THD(typ.)=0.002%, J-FET Input
MUSES02	—	2	Dual	± 3.5	± 16	4	3	100	5	5	11	5.8	0.8	4.5	DIP8	THD(typ.)=0.001%, Bipolar Input
MUSES8820	—	1	Dual	± 3.5	± 16	4	3	100	5	5	11	5.8	0.8	4.5	DIP8, SOP8 JEDEC 150mil(EMP8)	THD(typ.)=0.001%, Bipolar Input
MUSES8832	—	2	Dual	± 1.35	± 7	3.75	0.5	4000	100	1	10	—	0.3	2.1	SOP8 JEDEC 150mil(EMP8), SSOP8-A3, DFN8-W1(ESON8-W1)	THD(typ.)=0.0009%, Bipolar Input, Rail to Rail Output
NEW **MUSES8920A**	—	2	Dual	± 3.5	± 17	4.5	5	0.005	0.002	25	11	10	1.1	8.0	DIP8	High Quality Audio, J-FET Input
MUSES8920A															SOP8 JEDEC150mil(EMP8), DFN8-X7(ESON8-X7)	
NJM8801	—	2	Dual	± 2	± 18	3	3	100	5	5	15	—	0.8	4.5	SOP8 JEDEC 150mil(EMP8), SSOP8-A3	THD(typ.)=0.0005%, Bipolar Input
NJM8830 ♡	—	2	Dual	± 2.0	± 5.25	3.25	2	150	10	30	90	60	0.34	2.5	HSOP8-M1, DFN8-W1(ESON8-W1)♡	Rail to Rail Output
NEW **NL8802**	—	2	Dual	± 3.0	± 22	4	5	500	10	11	45	16	0.9	5.5	EMP-8-AN, DFN3030-8-GQ	THD=0.00005V, Bipolar Input

Power Amplifiers/ Headphone Amplifiers

Part No.	Auto-mo-tive	Operating Voltage [V] min.	Operating Voltage [V] max.	Chan-nel	Output Power Po	Output Power V+	Output Power RL	Stand-by Function	Mute	Key Features	Package Outline	Notes
NJM2113	—	2	16	BTL 1ch.	400mW min.	12	100	Yes	Yes	Low Voltage Operation	DIP8, DMP8 SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(VSP8)	
NJM2135	—	2	16	BTL 1ch.	400mW min.	12	100	Yes	Yes	Low Voltage Operation	DIP8, DMP8, SSOP8, MSOP8(VSP8)	
NJM2149	—	2	6	BTL 1ch.	250mW min.	6	32	Yes	Yes	Low Voltage Operation	DIP8, DMP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	
NJM2151A	—	2.7	8.5	BTL 1ch. (SP) 2ch. (HP)	50mW typ.	5	8	Yes	Yes	BEEP Level Control Function, Electronic Volume	DMP20, SSOP20-F1, SSOP20	Power Amplifier/ Headphone Amplifier
NJM2166	—	2.7	8.5	BTL 1ch.	500mW typ.	5	8	Yes	Yes	Controlled by DC Voltage, Electronic Volume	SSOP14, MSOP10(VSP10)	
NJM2768B	—	2.8	5.5	2ch.	100mW typ.	5	16	—	Yes	Fix Gain 0dB typ.	DMP8, MSOP8(TVSP8)	Headphone Amplifier
NJM2769B	—	2.8	5.5	2ch.	100mW typ.	5	16	—	Yes	Fix Gain 6dB typ.	DMP8, MSOP8(TVSP8)	Headphone Amplifier
NJM2770	—	2	4.5	BTL 1ch.	250mW typ.	3	8	Yes	Yes	Low Voltage Operation	MSOP8(TVSOP8), MSOP8(VSP8)	
NJM2775A	—	1.8	6	BTL 1ch. (SP) 1ch. (Pre)	500mW typ.	4	8	—	—	Auto level control (ALC) Function	DMP16	
NJM2776	—	1.8(V+1) 0.9(V+2)	4.5	2ch.	8.5mW typ.	2.3	16	Yes	Yes	Low Voltage Operation	MSOP10(TVSP10)	Headphone Amplifier
NJM2777	—	8	10	2ch.	100mW typ.	9	100	—	Yes	Controlled by DC Voltage, Electronic Volume	DMP14, SSOP14	Headphone Amplifier
NJU7082B	—	2.4	5.5	2ch.	—	—	—	Yes	—	—	DMP8, SSOP8	
NJU7084	✓	2.8	5.5	BTL 1ch.	1W typ.	5	8	Yes	Yes	—	MSOP8(VSP8)	
NJU7085	—	2.8	5.5	BTL 2ch.	400mW typ.	3	4	Yes	Yes	Surround Sound Technology	PCSP32-F7, SSOP32	
NJU7086	—	2.8	5.5	BTL 2ch.	1W typ.	5	8	Yes	Yes	Three Input Selector, I²C Bus Interface, Electronic Volume, Headphone Detecting Function	LQFP48-R3	
NJU7089 ♡	✓	1.8	5.5	BTL 1ch.	1.2W typ.	5	8	Yes	Yes	Low Operating Voltage, Single-end/Differential Input	DFN8-V1(ESON8-V1), SSOP20-C3, MSOP8(VSP8), HTSSOP24-P1	
NJU72040	—	2.7	3.6	2ch.	80mW typ.	3.3	32	—	Yes	Output Coupling Capacitorless, Single-end/Differential Input, Gain: +6.4dB/+12.4dB (RL=32ohm), +7.1dB/+13.1dB (RL=10kohm), 2Vrms output(RL=10kohm)	SSOP14	Headphone Amplifier
NJU72060	✓	2.7	5.5	BTL 1ch.	500mW typ.	5	8	Yes	Yes	Single-end/Differential Input	MSOP8(VSP8), HSOP8-M1, DFN8-V1(ESON8-V1)	
NJU72065 ♡	—	2.7	5.5	BTL 1ch.	1.2W typ.	5	8	Yes	Yes	Electronic Volume, Single-end/Differential Input	MSOP10(TVSP10), SSOP20-C3	
NJW1109	—	7.5	10	2ch.	100mW typ.	9	100	—	Yes	Electronic Volume, I²C Bus Interface	DMP14, SSOP14	Headphone Amplifier

Audio Amplifiers

U.D. : Under Development　NEW : New product

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Class D Amplifiers

Part No.	Auto-motive	Operating Voltage [V]		Chan-nel	Input Signal	Output Power/Output Voltage					Output Filterless	Stand-by Function	Key Features	Package Outline
		min.	max.			Po	Vout	V+ [V]	RL [ohm]	CL [nF]				
U.D. NA1150	✓	2.6	5.5	BTL 1ch.	PWM	1.2W min.	—	5	8	—	Yes (Depend-ing on the input signal)	Yes	Load DiagnostICs, Over Current, Over Temperature, Thermal Shutdown	DFN2323-8-GS, VSP-8-AF
NJU72501	—	2.3	5	BTL 1ch.	PWM/ PDM	—	18Vpp typ.	3	—	15	—	Yes	Built-in Multi-Mode Charge Pump (1x/2x/3x), Adjust Output Voltage, For Piezo-Sounder	EQFN12-JE, EQFN16-G2, SSOP14
NJU8758	—	1.8	5.5	BTL 1ch.	Analog	1.5W typ.	—	5	8	—	Yes	Yes	—	SSOP14
NJU8759	—	1.8	5.5	BTL 1ch.	Analog	3W typ.	—	5	4	—	Yes	Yes	Single-end input, Differential input corresponds	WCSP9
NJU8759A	✓	1.8	5.5	BTL 1ch.	Analog	3W typ.	—	5	4	—	Yes	Yes	Single-end input, Differential input corresponds	HSOP8-M1
NJW1280	—	2	5.5	BTL 1ch.	PWM/ PDM	—	30Vpp typ.	5	—	30	—	Yes	Built-in Charge Pump, For Piezo-Sounder	EQFN16-G2, MSOP10(TVSP10)

Line Amplifiers

Part No.	Auto-motive	Operating Voltage [V]		Chan-nel	Voltage Gain	Output Voltage			Output Coupling Capacitor -less	Pop Noise Suppres-sion Circuit	Mute	Key Features	Package Outline
		min.	max.			Vom	V+ [V]	RL [ohm]					
NJM2160B	—	6	12	2ch.	+8dB typ.	5.2Vrms typ.	9	10k	—	—	—	Boost output Function (VO=14Vpp:@V+=9V), Noise Output Voltage (6μVrms typ.)	DMP16, SSOP16
NJM2792	—	6	11	4ch.	+8dB typ.	5.2Vrms typ.	9	10k	—	—	—	Boost output Function (VO=14Vpp:@V+=9V), Noise Output Voltage (5μVrms typ.)	SSOP20
NJU72013	—	2.7	3.6	2ch.	+6.2dB typ.	2.3Vrms typ.	3.3	47k	Yes	Yes	Yes	Pop Noise Suppression Circuit, Output Coupling Capacitor-less	MSOP10(TVSP10)
NJU72014	—	2.7	3.6	2ch.	+10.5dB typ.	2.3Vrms typ.	3.3	47k	Yes	Yes	Yes	Pop Noise Suppression Circuit, Output Coupling Capacitor-less	MSOP10(TVSP10)
NJU72015	—	3	3.6	2ch.	Adjustable	2.3Vrms typ.	3.3	10k	Yes	Yes	Yes	Pop Noise Suppression Circuit Output Coupling Capacitor-less	SSOP14
NJU72040	—	2.7	3.6	2ch.	+7.1dB typ. +13.1dB typ.	2.2Vrms typ.	3.3	32	Yes	Yes	Yes	Output Coupling Capacitor-less, Sin-gle-end/Differential Input, Pop Noise Suppression Circuit, Gain: +6.4dB/+12.4dB (RL=32ohm), +7.1dB/+13.1dB (RL=10kohm), 2Vrms output(RL=10kohm)	SSOP14
NJW1240	—	6	10	6ch.	+6dB typ. +8.3dB typ.	5Vrms min.	8	47k	Yes	Yes	Yes	Pop Noise Suppression Circuit, Output Coupling Capacitor-less	SSOP32
NJW1241	—	6	10	BTL 3ch.	+12dB typ. +16dB typ.	10Vrms min.	8	47k	Yes	Yes	Yes	Pop Noise Suppression Circuit, Output Coupling Capacitor-less	SSOP32

Microphone Amplifiers

Part No.	Auto-motive	Operating Voltage [V]		Channel	Voltage Gain	Mute	Key Features	Package Outline
		min.	max.					
NJM2173A	—	2.7	4.5	2ch.	+13dB typ. +29dB typ.	Yes	Built-in Regulator for Microphone	SSOP14
NJM2781	—	2.7	4.5	1ch.	Adjustable	—	Built-in Regulator for Microphone	SSOP8, MSOP8(TVSP8)
NJM2783	—	2.7	13	1ch.	+20 to +63dB	—	Auto level control (ALC) function	SSOP14
NJU72090	—	1.8	16	1ch.	+24 to +40dB	—	2-Wired, FET for impedance converter, Fine Tune Sensitivity	MSOP10(TVSP10)
NJU72097	—	2.7	16	1ch.	+24 to +40dB	—	2-Wired, Fine Tune Sensitivity, Built-in Regulator for microphone capsule, Wide Dynamic Range	MSOP10(TVSP10)
NJU7907A	—	4.5	16	1ch.	+24 to +40dB	—	2-Wired, Wide Dynamic Range	MSOP10(TVSP10)

Isolation Amplifiers

Part No.	Automotive	Operating Voltage [V]		Channel	Voltage Gain	Key Features	Package Outline
		min.	max.				
NJM2794	—	4.3	13	2ch.	0dB typ.	CMRR=60dB typ.	SSOP14, MSOP10(TVSP10)
NJM2795	—	4.3	20	2ch.	+6 to +52dB	CMRR=80dB typ.	SSOP14

Audio Signal Processing ICs

Electronic Volume ICs

Part No.	Auto-mo-tive	Operating Voltage [V]		Chan-nel	Volume Range	Tone Control	Input Selector	Control	Function	Package Outline
		min.	max.							
MUSES72320	—	± 8.5 3	± 18 6	2	0 to -111.5dB (0.5dB step) +31.5 to 0dB (0.5dB step)	—	—	Three-wired Serial	Zero Cross Detection, Selectable External Op-Amp	SSOP32
MUSES72323	—	± 10 3	± 18 5.5	2	0 to -111.75dB (0.25dB step) +21 to 0dB (3dB step)	—	—	Three-wired Serial	Zero Cross Detection, Soft- Step, Selectable External Op-Amp	SSOP32
NJM2172	—	2.7	5.5	2	-3 to -95dB	—	—	DC Control	Include Op-Amp	SSOP14
NJU72315	—	± 3 1.6	± 5.5 3.6	2	0 to -62dB (2dB step)	—	—	I²C BUS	Zero Cross Detection, Soft- Step, Selectable External Op-Amp	WCSP16
NJU72322	—	± 10 3	± 18 5.5	2	0 to -111.5dB (0.5dB step) +21 to 0dB (3dB step)	—	—	Three-wired Serial	Zero Cross Detection, Selectable External Op-Amp	SSOP32
NJU72341	—	4.5	14.5	2	0 to -95dB (1dB step)	—	—	I²C BUS	Zero Cross Detection	SSOP14
NJU72342	—	4.5	14.5	4	0 to -95dB (1dB step)	—	—	I²C BUS	Zero Cross Detection	SSOP14
NJU72343	—	± 4.5 9	± 7.5 15	8	+31.5 to -95dB (0.5dB step)	—	2-input (4 of 8-channels)	Two-wired Serial	Zero Cross Detection	SSOP32
NJU72344	—	± 4.5	± 7.5	2	0 to -95dB (1dB step) 0,+3,+6,+12,+18,+24	—	—	Two-wired Serial	Zero Cross Detection	SSOP14
NJU7391A	—	4.7	9.7	2	0 to -95dB (1dB step)	2-Band 0 to ± 14dB (2dB step)	Stereo 5-input/ 1-Output	Three-wired Serial	eala Surround	SSOP32
NJU7392	—	2.7	5.5	2	0 to -68dB	—	2-input/1-output (Differential 1/ Single end 1)	Push Button	eala Stereo Expander, Bass Boost	SSOP32
NJU7394	—	2.7	5.5	2	+6 to -62dB	—	—	Push Button	Standby	SSOP20-C3
NJW1119A	—	± 4.5	± 7.5	2	—	0 to ± 12dB (1dB step)	—	Three-wired Serial	Mute Function	SSOP32
NJW1159	—	± 4.5	± 7.5	2	0 to -95dB (1dB step)	—	—	Three-wired Serial	Selectable External Op-Amp	DMP16, SSOP16
NJW1192	—	7.5	13	4	+6 to -30dB (1dB step) -30 to -68dB (2dB step)	2-Band 0 to ± 14dB (2dB step)	4-input/1-Output (Stereo:3/Mono :1)	I²C BUS	Surround, Bass Boost	SSOP32
NJW1194	—	± 4.5	± 7.5	2	+31.5 to -95dB (0.5dB step)	2-Band 0 to ± 10dB (1dB step)	Stereo 4-input/1-Output	Three-wired Serial	Zero Cross Detection	SSOP32
NJW1195A	—	± 3.5 15	± 7.5 15	4	+31.5 to -95dB (0.5dB step)	—	Stereo 4-input/1-Output, Differential 2-input/1-Output	Three-wired Serial	Zero Cross Detection, Differential Transmission Select Function	SSOP32
NJW1200	—	2.7	5.5	2	0 to -78dB (2dB step)	—	Differential 2-input/1-Output	I²C BUS	eala Surround, Bass Boost	SSOP32
NJW1201A	—	7.5	10	2	0 to -90dB	0 to ± 14dB (2dB step, Treble, Middle) 0 to ± 17.5dB (2.5dB step, Bass)	6-input/1-output (Differential 1/ Single end 5)	I²C BUS	eala Surround, Bass Boost	LQFP52-H2
NJW1298	—	± 4.5	± 7.5	8	+31.5 to -95dB (0.5dB step)	—	Stereo 13-input/4-output (8ch. 2-input/ 1-output)	Three-wired Serial	Multi-Channel Selector, REC Out	QFP100-U1

Audio Signal Processing ICs

Audio Processors

Part No.	Auto-motive	Function	Operating Voltage [V] min.	Operating Voltage [V] max.	Input [ch.]	Output [ch.]	Original Surround: eala	Original Surround: Base Boost	Original Surround: Simulated Surround	License: BBE	License: SRS 3D Steteo	License: SRS TruSur-round	Aux: Input	Aux: Output	Package Outline
NJW1142A	—	3channel Output (Lch, Rch, Line output)	8	10	4(x2)	3	Yes	—	Yes	—	—	—	—	—	SSOP32
NJW1143A	—	—	8	13	2	2	Yes	—	Yes	—	—	—	—	2	SSOP32
NJW1163	—	3channel Output (Lch, Rch, Subwoofer ch.)	7.5	13	2	3	Yes	Yes	Yes	—	—	—	—	2	SSOP32
NJW1173	—	—	8	13	2	2	Yes	—	Yes	—	—	—	2	2	SSOP20
NJW1185	—	Voice Enhancement, I²C Bus Ineterface	7.5	13	6	1	Yes	—	Yes	—	—	—	—	—	SSOP32

3D Surround & Sound Enhancement ICs

Part No.	Automotive	Function	Key Features	Operating Voltage [V] min.	Operating Voltage [V] max.	Package Outline
NJM2702	—	3D Surround Audio Processor	eala Stereo	4.7	13	DMP14, SSOP10
NJM2703	—	3D Surround Audio Processor for Headphone	eala Headphone	1.8	6	MSOP10(TVSP10)

Audio Switches

Part No.	Automo-tive	Function	Operating Voltage [V] min.	Operating Voltage [V] max.	Input	Output	Package Outline	Notes
NJM2750	—	Stereo Audio Selector	4.7	13	4	1	DMP16	
NJM2752	—	Stereo Audio Selector	4.7	10	2	1	SSOP14, MSOP10(TVSP10)	
NJM2753	—	Stereo Audio Selector	4.7	10	3	1	SSOP14	
NJM2754	—	Stereo Audio Selector, With Ground Noise Isolation Amplifier	4.7	12	4	1	SSOP20	CMRR=60dB typ.
NJM2755	—	Stereo Audio Selector	4.7	10	4	1	SSOP16	
NJU72750A	—	Stereo Analog Switch, 2-wired Serial BUS Control	± 4.5 9	± 7.5 15	7	3	SSOP32	
NJU72751A	—	Stereo Analog Switch, 2-wired Serial BUS Control	± 4.5 9	± 7.5 15	4	4	SSOP32	
NJW1110	—	Stereo Audio Selector, I²C Bus Interface, Gain Control (0, +3 to +8 dB/0.5dB step)	7.5	15	9	3	SSOP32	
NJW1111	—	Stereo Audio Selector, Three-wired Serial, Gain Control (0, +3 to +8 dB/0.5dB step)	± 4.5	± 7.5	9	3	SSOP32	
NJW1112	—	Stereo Audio Selector, Three-wired Serial, Output Switch	± 4.5	± 7.5	8	4	SSOP32	
NJW1156A	—	Stereo Audio Selector, I²C Bus Interface, Gain Control (0 to -39.5 dB/0.5dB step)	8	13	5	1	SSOP20	

MEMS Microphone Elements

U.D. : Under Development NEW : New product
♡ : Products available in PRODUCT LONGEVITY PROGRAM ♡ XXXX : Products available in PRODUCT LONGEVITY PROGRAM with time limit

MEMS Transducers

Part No.	Function	Operating Voltage [V]	Static Capaci-tance [pF]	Package Outline	Chip Size
NJD3004	MEMS Transducer for Microphone	12.5	0.86	Wafer	1.1 × 1.1
NJD3006	MEMS Transducer for Microphone	12.5	0.65	Wafer	0.8 × 0.8
NJD3007	MEMS Transducer for Microphone	12.5	1.15	Wafer	1.3 × 1.3
NJD3015	MEMS Transducer for Microphone	12.5	0.42	Wafer	0.7 × 0.7
U.D. **NS1101**	MEMS Transducer for Microphone	12.5	0.65	Wafer	0.8 × 0.8
U.D. **NS1102**	MEMS Transducer for Microphone	11.5	1	Wafer	1.1 × 1.1

MEMS Microphone Amplifiers

Part No.	Function	Operating Voltage [V] min.	Operating Voltage [V] max.	Quiescent Current [uA]	SNR	Maximum Output Voltage	Package Outline	Notes
NJU72086	Pre-Amplifier for MEMS Microphone	1.5	3.6	42	—	-11dBV@ THD<5%	Wafer	Low Power, High PSRR
NJU72087	Pre-Amplifier for MEMS Microphone	1.5	3.6	115	—	-6dBV@ THD<5%	Wafer	High AOP, Tight Sensitivity Tolerance, Support Operating Tem-perature of 105℃
NJU72088	Pre-Amplifier for MEMS Microphone	1.5	3.6	50	—	-6dBV@ THD<5%	Wafer	Low Power, High AOP, High PSRR, Fast Start-up time
NEW **NJU72089K**	Pre-Amplifier for MEMS Microphone	1.5	3.6	130	—	-6dBV@ THD<10%	Wafer	High AOP, Sensitivity Matching, Fast Start-up time, Support Operating Temperature of 105℃
NJU72089S	Pre-Amplifier for MEMS Microphone	1.5	3.6	130	—	-6dBV@ THD<10%	Wafer	High AOP, Sensitivity Matching, Fast Start-up time, Support Operating Temperature of 105℃
NJU9555	Digital Pre-Amplifier for MEMS Micro-phone	1.64	3.6	600	62.5dBFS	—	Wafer	PDM Output, Tight Sensitivity, Low Power
U.D. **NS2101**	Pre-Amplifier for MEMS Microphone	1.5	3.6	82	—	-6dBV@ THD<5%	Wafer	Low Power, High AOP

Video Amplifiers

V: Composite Video Signal S: S-Video Signal(Y/C) C: Component Signal(Y/Pb/Pr)/RGB Signal

Part No.	Auto-motive	Operating Voltage [V]		Ch.	Input			output			Gain [dB]	LPF [th order]	75ohm Driver	Function	Package Outline
		min.	max.		V	S	C	V	S	C					
NJM2274	—	2.8	5.5	1	—	1	—	1	—	—	12	—	Yes	Low Operating Voltage, Y/C MIX, Sag Correction	MSOP8(VSP8)
NJM2274A	—	2.8	5.5	1	—	1	—	1	—	—	6	—	Yes	Low Operating Voltage, Y/C MIX, Sag Correction	MSOP8(VSP8)
NJM2504	✓	4.5	9	1	1	—	—	2	—	—	6	—	Yes	Video Differential Transmission, Single-end Input, Differential Output	MSOP8(TVSP8)
NJM2505A	—	4.5	9	1	1	—	—	1	—	—	0	—	—	Isolation Amplifier	SOT-23-5
NJM2507	✓	4.5	9	1	2	—	—	1	—	—	6 (Re-verse Phase)	—	Yes	Video Differential Transmission, Differential Input, Single-end Output	MSOP8(TVSP8)
NJM2512	✓	3	6	1	1	—	—	1	—	—	6	6	Yes	Low Operating Voltage, 47uF AC-Coupling Capacitor	MSOP8(TVSP8)
NJM2512A	—	3	6	1	1	—	—	1	—	—	12	6	Yes	Low Operating Voltage, 47uF AC-Coupling Capacitor	MSOP8(TVSP8)
NJM2515	—	4.5	5.5	3	—	—	3	—	—	1	6	Bypass 13.5MHz	Yes	Wide frequency range, 3-input 1-output	SSOP32
NJM2516	—	4.5	9.5	3	—	—	1	—	—	1	6	4	Yes	47uF AC-Coupling Capacitor, Sag Correction, Wide Band	SSOP20-C3
NJM2538	—	4.5/2.7	5.3	3	—	1	—	1	1	—	6	4	Yes	Y/C MIX, Sag Correction	SSOP20
NJM2559	✓	4.5	5.5	1	1	—	—	1	—	—	12	6	Yes	Output Capacitor-less (0.5V DC Output), Power Supply Short-circuit Protection	MSOP8(TVSP8)
NJM2561	✓	2.8	5.5	1	1	—	—	1	—	—	6	6	Yes	Low Operating Voltage, Sag Correction	DFN6-G1(ESON6-G1), SOT-23-6-1
NJM2561A	—	2.6	5.5	1	1	—	—	1	—	—	6	6	Yes	Low Operating Voltage, Sag Correction, DC Coupling Screening Type	DFN6-G1(ESON6-G1)
NJM2561B	—	2.6	5.5	1	1	—	—	1	—	—	6	6	Yes	DC Coupling Screening Type	SOT-23-6-1
NJM2562	✓	2.8	5.5	1	1	—	—	1	—	—	12	6	Yes	Low Operating Voltage, Sag Correction	SOT-23-6-1
NJM2563	—	2.8	5.5	1	1	—	—	1	—	—	16	6	Yes	Low Operating Voltage, Sag Correction	SOT-23-6-1
NJM2564	—	2.8/4.5/ -5.5	3.5/5.5/ -2.8	6	—	1	1	1	1	1	6	4	Yes	Dual Supply Voltage, Y/C MIX, Wide Band	SSOP32
NJM2565	—	4.5	5.5	6	—	1	1	1	1	1	6	2	Yes	Sag Correction, Y/C MIX, Wide Band	SSOP32
NJM2566A	—	4.5	5.5	6	1	1	1	1	1	1	6	4	Yes	SDC Interface (S1/ S2), Y/C MIX, Wide Band	SSOP32
NJM2567	—	2.8	5.5	3	—	1	—	1	1	—	6	6	Yes	Low Operating Voltage, Y/C MIX, Sag Correction	SSOP14
NJM2570A	—	4.5	5.5	3	—	1	—	1	1	—	12	6	Yes	Y/C MIX, Sag Correction, DC Output for Aspect Ratio	SSOP16
NJM2573	—	2.8	5.5	3	1	1	—	1	1	—	6	2	Yes	Low Operating Voltage, CLAMP/BIAS Switch, Sag Correction	SSOP14
NJM2574	—	2.8	5.5	1	1	—	—	1	—	—	12	3	Yes	Low Operating Voltage, CLAMP/BIAS Switch, LPF/ Through Switch	MSOP8(TVSP8)
NJM2575	—	2.8	5.5	1	1	—	—	1	—	—	6	2	Yes	Low Operating Voltage, Sag Correction	SOT-23-6-1
NJM2580	—	4.5	5.5	3	—	—	1	—	—	1	6	—	Yes	Wide Band, Sag Correction	DMP14, SSOP14
NJM2581	—	± 4.5	± 5.5	3	—	—	1	—	—	1	6	—	Yes	Wide Band, Dual Voltage	DMP14
NJM2582	—	4.5/ -5.5/10.5	5.5/ -4.5/11.5	4	1	1	1	1	1	1	6	3	Yes	DC Output for SCART	SSOP32
NJM2583A	—	4.5	5.5	6	—	1	1	1	1	1	6	4	Yes	Wide Band, Sag Correction, Y/C MIX	SSOP32
NJM2589	—	4.5	5.5	6	1	1	1	1	1	1	6	4	Yes	LPF for 480p, Sag Correction	SSOP32
NJM41001T	✓	3	7	1	1	—	—	1	—	—	6	—	Yes	Low Operating Voltage, Wide Band (-3dB at 70MHz typ.)	SOT-23-6-1
NJM41005T	✓	4.5	5.5	1	1	—	—	1	—	—	0	—	Yes	Isolation Amplifier with Video Driver	SOT-23-5
NJM41030	—	4.5	5.5	1	1	—	—	1	—	—	3	—	—	3dB Gain	SOT-23-6-1
NJM41031	—	4.5	5.5	1	1	—	—	1	—	—	6	6	Yes	Sag Correction	SOT-23-6-1
NJM41033	—	2.6	5.5	3	3	—	1	3	—	1	0	—	—	Low Operating Voltage, Isolation Amplifier	SSOP14
NJM41035	—	2.7	9.5	1	1	—	—	1	—	—	ADJ	6	—	Low Operating Voltage, Isolation Amplifier, Internal LPF , Gain Adjust	MSOP8(TVSP8)
NJM41041	—	4.5	5.5	4	1	1	1	1	—	1	6	2(SD) 3(HD)	Yes	Wide Band, Y/C MIX	SSOP20-C3
NJM41042	—	4.5	5.5	4	1	1	1	1	—	1	6	2(SD) 3(HD)	Yes	Wide Band, Y/C MIX	SSOP20-C3
NJM41045	—	4.5/ ± 3	9.5/ ± 5	3	—	—	1	—	—	1	6	—	Yes	High Definition, Wide Band (400MHz)	SSOP20-C3
NJU71031	—	2.5	3.45	1	1	—	—	1	—	—	6	3	Yes	Low Operating Voltage, Output Capacitor-less (0V DC Output)	MSOP8(TVSP8), DFN8-U1(ESON8-U1)
NJU71032	—	2.5	3.45	1	1	—	—	1	—	—	12	3	Yes	Low Operating Voltage, Output Capacitor-less (0V DC Output)	MSOP8(TVSP8)
NJU71041	—	2.5	3.45	1	1	—	—	1	—	—	6	3	Yes	Output Capacitor-less (0V DC Output), Coaxial Receiver	MSOP10(TVSP10)
NJU71044	—	2.5	3.45	1	—	1	—	1	—	—	12	3	Yes	Output Capacitor-less (0V DC Output), Coaxial Receiver	MSOP10(TVSP10)
NJU71074	—	2.5	3.45	1	—	1	—	1	—	—	12	3	Yes	Y/C MIX, Output Capacitor-less	MSOP10(TVSP10)
NJU71091T1	✓	2.65	3.45	1	1	1	—	—	1	—	6	6	Yes	1ch. Video Driver with Short to Battery Protection, Output Capacitor-less (0V DC output)	DFN8-U1(ESON8-U1)
NJU71094T1	✓	2.65	3.45	2	2	1	—	—	2	—	6	6	Yes	Differential Output Video Driver with Short to Battery Protection, Output Capacitor-less (0V DC output)	DFN8-W2(ESON8-W2)
NJW1230	—	2.8	3.6	1 (Video) /2 (Audio)	1	—	—	1	—	—	6	6(1st)	Yes	Video: AC or DC Coupling Output, Audio: Ground Referenced Output	SSOP16
NJW1350	—	2.5	3.45	1	1	—	—	1	—	—	12	6	Yes	Low Operating Voltage, Output Capacitor-less (0V DC Output)	DFN10-K1(SON10-K1), MSOP8(TVSP8)
NJW1351	✓	2.5	3.45	1	1	—	—	1	—	—	6	6	Yes	Low Operating Voltage, Output Capacitor-less (0V DC Output)	DFN10-K1(SON10-K1), MSOP8(TVSP8), DFN8-U1(ESON8-U1)
NJW1352	—	2.5	3.45	1	1	—	—	1	—	—	9	6	Yes	Low Operating Voltage, Output Capacitor-less (0V DC Output)	DFN10-K1(SON10-K1), MSOP8(TVSP8)
NJW1353	—	2.5	3.45	1	1	—	—	1	—	—	16	6	Yes	Low Operating Voltage, Output Capacitor-less (0V DC Output)	DFN10-K1(SON10-K1), MSOP8(TVSP8)

Video Switches

V: Composite Video Signal S: S-Video Signal(Y/C) C: Component Signal(Y/Pb/Pr)/RGB Signal

Part No.	Auto-motive	Operating Voltage [V]		Input			output			Clamp	Bias	6dB AMP	75ohm Driver	Function	Package Outline
		min.	max.	V	S	C	V	S	C						
NJM2526	—	4.5	9	4	—	—	1	—	—	Yes	—	—	—	Isolation Amplifier for CVBS	SSOP16
NJM2533	—	4.75	13	2	—	—	1	—	—	—	Yes	—	—	—	DIP8, DMP8, SSOP8
NJM2534	—	4.5	13	3	—	—	1	—	—	—	Yes	—	—	—	DIP8, DMP8, SSOP8
NJM2535	—	4.5	13	3	—	—	1	—	—	Yes	—	—	—	—	DIP8, DMP8, SSOP8
NJM2584A	—	4.5	9	—	—	2	—	—	1	Yes	Yes	—	—	High Definition	DMP16
NJM2586A	—	± 4.5	± 5.5	—	—	3	—	—	1	—	Yes	Yes	Yes	High Definition	SDIP22, SSOP20-C3
NJM41010	—	4.5	5.5	2	—	—	1	—	—	Yes	—	Yes	Yes	—	SOT-23-6-1
NJM41050	✓	4.5	9.5	3	—	—	1	—	—	Yes	—	Yes	Yes	LPF, Mute, 47uF AC-Coupling Capacitor	SSOP14
NJW1327	—	3/-3	3.45/-5.5	9	—	6	5	—	4	—	Yes	Yes	Yes	Wide Band, I²C BUS control function	QFP100-U1
NJW1328	—	4.5	5.5	7	—	3	3	—	2	Yes	Yes	Yes	Yes	Wide Band, Differential Input Signal Detector, I²C BUS Control Function	LQFP52-H2
NJW1329	—	3/-3	3.45/-5.5	7	—	3	2	—	1	—	Yes	Yes	Yes	Wide Band, Signal Detector, I²C BUS Control Function	LQFP52-H3
NJW1340	—	4.5	5.5	5	3(x2)	—	1	1	—	Yes	Yes	—	—	I²C BUS Control Function, 6th order LPF	SSOP32
NJW1341	—	4.5	9.5	8	—	—	2	—	—	—	Yes	Yes	Yes	47μF AC-Coupling Capacitor, Isolation Amplifier, I²C BUS Control Function	SSOP20-C3

Audio & Video misc.

Part No.	Automotive	Key Features	Operating Voltage [V]		Package Outline	Notes
			min.	max.		
NJD2201	—	For ECM, THD (0.1% typ.)	1	10	DFN4-E1(ESON4-E1)	
NJM2761	—	Audio Limiter for Speaker Protection, Variable Limit Level: 0.2V to 1V, Mixed L+Rch signal detection	2.7	13	SSOP14, MSOP10(TVSP10)	
NJM2762	—	Audio Limiter for Speaker Protection, Limit Level: 0.2V to 1V, Independent L/Rch signal detection	2.7	13	SSOP14, MSOP10(TVSP10)	
NJU3610	—	1bit Delta-Sigma stereo ADC, Single power supply: 3.0 to 3.6V(Built-in regulator using together), Two power supply: Analog(3.0 to 3.6V)/Digital(1.65 to 2.0V)	3	3.6	LQFP48-R3	
NJU7181	—	Power Saving for battery operated devices, Muting Application, Memory saving for recording devices, Half- duplex transmission application	0.9	5.5	DFN8-U1(ESON8-U1), MSOP8(TVSP8)	
NJW1124	—	Voice Switched Speakerphone circuit, Amplifiers(Microphone , Receive ,Line), level detector, All external capacitors are ceramic capacitors	2.9	4.5	SSOP32	
NJW1128	—	Voice Switched Speakerphone circuit, Amplifiers(Microphone , Receive ,Line), level detector, All external capacitors are ceramic capacitors	3.9	5.5	LQFP48-R3	

U.D. : Under Development　NEW : New product

♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡xxxx : Products available in PRODUCT LONGEVITY PROGRAM with time limit

FM IF Demodulator ICs

Part No.	Auto-motive	Function	Key Features	Operating Voltage [V] min.	Operating Voltage [V] max.	Operating Current [mA] typ.	IF	Mixer [MHz]	RSSI	Filter Amp	FSK Comp	Quick Charge	Others	Package Outline
NJM14570	—	Wide Band FM IF Demodulator	Up to 15MHz IF	1.8	9	2.9	10.7M	—	Yes	—	—	—	—	MSOP8 (TVSP8)
NJM2294	—	FM IF for Pager	Suitable for battery use	1.1	4	1	455k	—	Yes	Yes	Yes	—	Battery Save, Battery Alarm	SSOP16
NJM2295A	—	FM IF for Remote Keyless Entry System, Mixer Included, 450MHz Input, IF=10.7MHz	Suitable to 10.7MHz application	2.7	7	5	10.7M	~ 450	Yes	Yes	Yes	Yes	Battery Save	SSOP20
NJM2537	—	FM IF for Pagers	Suitable for battery use	1.1	4	1.2	455k	~ 50	Yes	Yes	Yes	—	Battery Save Battery Alarm	SSOP20
NJM2549	—	Wide Band FM IF Demodulator	Up to 15MHz IF, IF Amplifier with Balanced Output	2.7	9	3	10.7M	—	Yes	—	—	—	—	MSOP10 (TVSP10)
NJM2550	—	10.7MHz Input FM IF Demodulator	IF 5MHz to 50MHz, Adjust RSSI 's Thermal CharacteristICs	2	9	4.4	10.7M	—	Yes	Yes	Yes	Yes	—	SSOP16
NJM2552	—	100MHz Input Mixer and 450kHz FM/AM IF Demodulator	Up to 2MHz IF, Built-in AGC circuit in AM section	2.2	9	2.5(FM) 5(AM)	450k	~ 100	Yes	Yes	—	—	AM AGC, AM SW	SSOP20
NJM2590	—	455kHz Input FM IF Demodulator	Low current	1.6	5.5	0.55	455k	—	Yes	Yes	Yes	Yes	RSSI Comparator	SSOP14
NJM2591	—	100MHz Input 450kHz FM IF De-modulator IC for VOICE	Low current, Wide Operating Voltage (1.8V to 9V)	1.8	9	2.5	450k	~ 100	Yes	Yes	—	—	Noise Detector Noise, Compara-tor	SSOP16
NJM2592	—	470MHz Input Mixer and 455kHz FM IF Demodulator IC	Mixer Input Resistance (50ohm), Maximum Input Frequency 470MHz	1.8	9	2.2	455k	~ 470	Yes	Yes	Yes	Yes	RSSI Comparator	SSOP20
NJM2593	—	50MHz Input Mixer and 450kHz FM IF Demodulator IC	Low current	1.8	9	1.2	450k	~ 50	Yes	Yes	Yes	Yes	RSSI Comparator	SSOP20
NJM2597	—	455kHz Input FM IF Demodulator	Low current	1.6	5.5	0.55	455k	—	Yes	Yes	Yes	Yes	RSSI Comparator	SSOP14
NJW2311	—	Phase Shifter-less Wide Band FM IF Demodulator IC for Voice	Phase Shifter-less,, SNR: 80dB, THD: 0.015%	4.5	5.5	23	1.5M to 15M	—	—	—	—	—	Low Noise Amp. For Voice	SSOP14

Amplifiers / PLL ICs

Part No.	Automo-tive	Function	Key Features	Operating Voltage [V] min.	Operating Voltage [V] max.	Operating Current [mA] typ.	Operating Frequency (Reference) [MHz]	Amp	Mixer	PLL	Package Outline
NJM2275	—	VHF/UHF Band RF Amplifier	Low Current, Low Voltage, Narrow Band Amplifier	1.8	6	0.8	~ 800	Yes	—	—	SOT-23-6-1
NJM2278	—	300/400MHz Band 20mW Pow-er Amplifier	Narrow Band, Small Signal Amplifier	2	5.5	20	300 ~ 500	Yes	—	—	SOT-23-6-1
NJM2287	—	100MHz Input Mixer and 450kHz IF Gain Control IC	Dynamic range (Up to 80dB), Built-in RSSI	2.7	5.5	4.7	RF: ~ 100 IF: 0.45	Yes	Yes	—	SSOP14

Modulation /Demodulation /Mixer ICs

Part No.	Auto-motive	Function	Key Features	Operating Voltage [V] min.	Operating Voltage [V] max.	Operating Current [mA] typ.	Operating Frequency (Reference) [MHz]	Mixer	Modulation /Demodu-lation	Package Outline
NJM2288	—	300/400MHz Band Down Mixer with Amplifier	Low Current, Gain Flat-ness for Temp.	2	5.5	2.8	300 ~ 500	Yes	—	SOT-23-6-1
NJM2299	—	Wave Shaping Circuit for FSK	Low data error rate, Short wake-up time	1.8	5.5	0.6	~ 2kHz (~ 4kbps)	—	Yes	MSOP10(TVSP10)
NJM2519A	—	RF Modulator for VHF Band	—	4.5	5.5	15.3	—	—	Modulation	DMP8
NJM2536A	—	RF Modulator for VHF Band	Carrier-off switch func-tion on chip, Regulator on chip	4.5	5.5	16	—	—	Modulation	DMP14, SSOP14
NJM2542	—	VIF/SIF Demodulator	AFT: Adjustment Free, FM-PLL Demodulator: Adjustment Free	4.75	5.25	51	—	—	Demodula-tion	SSOP20
NJM2594	—	Double Balanced Modulation/ Demodulation	Excellent Carrier Sup-pression, Simplification of External Circuit	4.5	9	11	~ 200	Yes	Yes	DMP8, SSOP8
NJU7512	—	1200bps MSK Modem for Data Communication	High Receiving Sensitivi-ty, Noise Susceptibility	1.8	5.5	1.9	14.7456 (1200bps)	—	Modem	SSOP20
NJW2307	—	FM modulation/ Demodula-tion with PLL	Includes VCO, PLL and AFC(Auto Frequency Cali-bration), Adjustment-free	3.8	5.5	Mod: 9 Dem: 9.5	2.3 2.8	—	Modem	SSOP20-C3

Power Line Communication IC

Part No.	Auto-mo-tive	Key Features	Operating Voltage [V] min.	Operating Voltage [V] max.	Operating Current1 (Trans-mit) [mA]	Operating Current2 (Transmit) [mA]	Transmit Amplifier Zo [ohm]	Transmit Amplifier V_{IO} [mV]	Transmit Amplifier I_B [uA]	Transmit Amplifier SR [V/us]	Transmit Amplifier GBW [MHz]	Receive Amplifier Noise Fig-ure[dB]	Receive Amplifier SR [V/us]	Receive Amplifier GBW [MHz]	Receive Amplifier THD [%]	Package Outline
NJM45001	—	Higher transmit performance (High output current 3A typ.), Flexible receive gain control (-18dB /-6dB /0dB /+12dB)	8	22	50	6	0.05	10	1	40	50	26	15	8.5	0.003	HSSOP24

Power Amplifiers

Part No.	Auto-motive	Applications	Bands	Gain [dB]	Pout [dBm]	ACLR_UTRA [dBc]	PAE [%]	Supply Voltage[V]	Package Size [mm]	Package Outline
NJG1330LEC	—	LTE Ultra High Band PAM	Band 42,43,48	30	28	-40	32	3.4	2.5 × 2 × 0.8	EMCM10-EC

Front-End Modules

Part No.	Auto-mo-tive	Applications	Gain [dB]	NF [dB]	P-1dB [dBm]	IIP3 [dBm]	Frequen-cy Range [MHz]	Operating Voltage[V]	Operating Current [mA]	Package Size [mm]	Package Outline	Notes
NJG1156PCD ♡	—	GPS	18.5/17.5	1.55/1.60	-15/-17	-4/-6	1575	2.8/1.8	3.3/2.6	2.5 × 2.5 × 0.63	HFFP10-CD	
NJG1159PHH ♡	—	GNSS (GPS/ GLONASS/ BeiDou/ Galileo)	16.0/ 15.5 (GPS) 16.5/ 16.0 (GLONASS) 16.0/ 15.5 (BeiDou, Galileo)	1.50/1.55 1.65/1.70 1.70/1.75	-10/-13	-2/-5	1575 1597 to 1606 1559 to 1591	2.8/1.8	3.7/3.0	1.5 × 1.1 × 0.5 (max.)	HFFP10-HH	
NJG1159PHH-A ♡	✓	GNSS (GPS/ GLONASS/ BeiDou/ Galileo)	16.0 (GPS) 16.5 (GLONASS) 16.0 (BeiDou, Galileo)	1.5 1.65 1.7	-10	—	1575 1597 to 1606 1559 to 1591	2.8	3.7	1.5 × 1.1 × 0.5 (max.)	HFFP10-HH	AEC-Q100 grade 2
NJG1161PCD ♡	—	GNSS (GPS/ GLONASS/ BeiDou/ Galileo)	18.5/17.5	1.60/1.65 1.70/1.75	-15/-17	-3/-6	1575 1597 to 1606	2.8/1.8	4.6/3.6	2.5 × 2.5 × 0.63	HFFP10-CD	
NJG1168PCD	—	GPS	18/17	1.65/1.70	-12/-15	+1/-4	1575	2.8/1.8	2.4/1.8	2.5 × 2.5 × 0.63	HFFP10-CD	
NJG1186PJL ♡	—	L5/E5/B2/G3 L2C	19.5/19.0 19.0/18.5	1.7/2.0 1.7/2.0	-12	—	1164 to 1214 1227.6	2.8/1.8	4.8/3.8	1.57 × 1.23 × 0.47	HFFP10-JL	
U.D. **NJG1186PJL-A**	✓	L5/E5/B2/G3 L2C	19.5/19.0 19.0/18.5	1.7/2.0 1.7/2.0	-12	—	1164 to 1214 1227.6	2.8/1.8	4.8/3.8	1.57 × 1.23 × 0.47	HFFP10-JL	Under AEC-Q100 Grade 2 Evaluation

Low Noise Amplifiers (LNAs)

GNSS(Global Navigation Satellite System)

Part No.	Auto-motive	Appli-cations	Gain [dB] typ.	NF [dB] typ.	P-1dB [dBm] typ.	IIP3 [dBm] typ.	Frequency Range [MHz]	Oper-ating Voltage [V]	Operating Current [mA] typ.	Package Size [mm]	Package Out-line	Notes
NJG1107HB3	—	GNSS	17	1.1	—	-4	1575	2.7	2.5	1.5 × 1.5 × 0.8	USB8-B3	
NJG1107HB6	—	GNSS	17	1.1	—	-4	1575	2.7	2.5	1.5 × 1.5 × 0.6	USB8-B6	
NJG1107KB2	—	GNSS	17 15 14	1.2 1.2 1.3	—	-4 -2 -1.5	1500 1900 2400	2.7	3 3 3	2.1 × 2.0 × 0.75	FLP6-B2	
NJG1108HA8	—	GNSS/ WLAN/ WIMAX	19	1	-15	0	1575	2.7	2	1.0 × 1.2 × 0.44	USB6-A8	Stand-by Function
NJG1117HA8	—	GNSS	19.5	0.7	-16.5	-2	1575	2.7	3	1.0 × 1.2 × 0.44	USB6-A8	
NJG1130KA1 ♡	—	GNSS	29	0.65	+11(out)	+14(OIP3)	1575	2.85	5	1.6 × 1.6 × 0.55	FLP6-A1	
NJG1143UA2	—	GNSS	20/19	0.7/0.75	-16.5/-19.5	-2/-6	1575	2.85/1.8	4/3	1.0 × 1.0 × 0.39	EPFFP6-A2	Stand-by Function
NJG1144KA1 ♡	—	GNSS	21/18	0.65/0.85	-16.5/-18.5	-2/-6	1575	2.85/1.8	3.5/1.8	1.6 × 1.6 × 0.55	FLP6-A1	
NJG1150UA2	—	GNSS	16/16	0.6/0.6	-7/-9	+1/-1	1575	2.8/1.8	4.9/4.2	1.0 × 1.0 × 0.39	EPFFP6-A2	Stand-by Function
NJG1155UX2 ♡2032	—	GNSS	19/18.5	0.75/0.75	-12.5/-16	-1.5/-5	1575	2.8/1.8	3.5/3.1	1.1 × 0.7 × 0.39	EPFFP6-X2	Stand-by Function
NJG1187KG1 ♡	—	GNSS	34 37 36	0.6 0.65 0.65	+13(out) +12(out) +12(out)	+17(OIP3) +19/+20(OIP3) +20(OIP3)	1575 1176/1227 1278	3.3	8	1.6 × 1.6 × 0.427	DFN6-G1 (ESON6-G1)	
NJG1187AKGC-A ♡	✓	GNSS	34 37	0.6 0.65	-19 -23	-18 -18	1559 to 1610 1164 to 1300	3.3	8.0	1.6 × 1.6 × 0.83	DFN6-GC (ESON6-GC)	AEC-Q100 grade 2
NT1191GEAE3S ♡	—	GNSS	17.5/16.0	0.75/0.85	-10/-16	0/-6	1164 to 1610	3.3/1.8	5.5/3.5	1.6 × 1.6 × 0.83	DFN1616-6-GE	Stand-by Function
U.D. **NT1191GEAE3A**	✓	GNSS	17.5	0.75	-10	0	1164 to 1610	3.3	5.5	1.6 × 1.6 × 0.83	DFN1616-6-GE	Stand-by Function, Under AEC-Q100 Grade 2 Evaluation
NT1192FAAE1S	—	GNSS	20.0/19.5	0.70/0.75	-13/-17	-2.0/-5.5	1164 to 1300	2.8/1.8	4.5/3.5	1.1 × 0.7 × 0.39	EPFFP-6-FA	Stand-by Function
NEW **NT1193FAAE2S**	—	GNSS	21.5/21.0	0.70/0.75	-16/-19	-5/-8.0	1164 to 1610	2.8/1.8	5.0/4.4	1.1 × 0.7 × 0.39	EPFFP-6-FA	Stand-by Function
U.D. **NT1195FAAE2S**	—	GNSS	17.5 (L1) 18.0 (L2/5/6)	0.75	-26 (L1) -23 (L2/5/6)	-15 (L1) -12 (L2/5/6)	1164 to 1610	1.8	1.9	1.1 × 0.7 × 0.39	EPFFP-6-FA	Stand-by Function

Low Noise Amplifiers (LNAs)

U.D. : Under Development　NEW : New product

♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡ XXXX : Products available in PRODUCT LONGEVITY PROGRAM with time limit

CATV/DTV/STB

H: High gain mode L: Low gain mode

Part No.	Auto-motive	Applications	Gain [dB] typ.		NF [dB] typ.	P-1dB [dBm] typ.		IIP3 [dB] typ.		Frequency Range [MHz]	Oper-ating Voltage [V]	Operating Current [mA] typ.		Package Size [mm]	Package Outline
			H	L		H	L	H	L			H	L		
NJG1140KA1	—	TV tuner / STB	9	—	2.5	+7	—	+9	—	50 to 2150	3.3	10	—	1.6 × 1.6 × 0.55	FLP6-A1
NJG1142KA1	—	Digital TV, Mobile TV	14	-1	1.5	0	+17	+2	+22	170 to 900	2.8/1.8	6	11uA	1.6 × 1.6 × 0.55	FLP6-A1
NJG1145UA2	—	TV tuner / STB	15	-1	1.5	0	+15	+10	+30	90 to 2150	2.8	20	11uA	1.0 × 1.0 × 0.39	EPFFP6-A2
NJG1146KG1 ♡	—	TV tuner / STB	12	-1	2.2	+6	+16	+22	+33	40 to 900	5	60	30uA	1.6 × 1.6 × 0.427	DFN6-G1 (ESON6-G1)
NJG1151MD7	—	TV tuner / STB	6	—	2.5	+7	—	+20	—	40 to 1000	5	100	—	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1152KA1 ♡	—	TV tuner / STB	18	-1	0.9	-5	+15	+7	+30	40 to 900	3.3	20	17uA	1.6 × 1.6 × 0.55	FLP6-A1
NJG1162K64 ♡	—	TV tuner / STB	13	-1	2.2	+4	+16	+20	+33	40 to 1000	3.3	50	20uA	1.5 × 1.5 × 0.425	DFN8-64
NEW NJG1188KG1 ♡	—	TV tuner / STB	16	—	2.5	+1	—	+15	—	950 to 3224	3.3	40	—	1.6 × 1.6 × 0.427	DFN6-G1 (ESON6-G1)
NJG1740MHH ♡	—	TV tuner / STB	18	-1	0.9	—	—	-5	1	40 to 780	5	40	10	3.4 × 2.6 × 0.75	EQFN26-HH

5G/LTE/3G/WiMAX

H: High gain mode L: Low gain mode

Part No.	Auto-motive	Applications	Gain [dB] typ.		NF [dB] typ.		P-1dB [dBm] typ.		IIP3 [dB] typ.		Frequency Range [MHz]	Oper-ating Volt-age [V]	Operating Current [mA] typ.		Package Size [mm]	Package Outline
			H	L	H	L	H	L	H	L			H	L		
NJG1126HB6	—	Cellular/ WLAN/ WiMAX	16.5	-7	1.4	7	-12	+11	0	+16	2140	2.7	2.2	1uA	1.5 × 1.5 × 0.6	USB8-B6
NJG1127HB6	—	Cellular	15	-2.5	1.4	2.5	+9	+8	+11	+19	800	2.8	10	1uA	1.5 × 1.5 × 0.6	USB8-B6
NJG1128HB6	—	Cellular	15	-3	1.4	3	+9	+8	+11	+21	410	2.8	10	1uA	1.5 × 1.5 × 0.6	USB8-B6
NJG1169UX2	—	3G/LTE	12.5	-2.5	0.8	—	+1.0	—	0	—	880	2.8	4.8	15uA	1.1 × 0.7 × 0.39	EPFFP6-X2
NJG1170UX2	—	Cellular	14.5 15	-3	0.8 0.7	—	-8 -8.5	+10	+3.5 +2	+18 +17	2500 2000	2.8	4.8	15uA	1.1 × 0.7 × 0.39	EPFFP6-X2
NJG1173UX2	—	Cellular	13.5	-3.5	1	—	-10	+10	+5	+18	3500	2.8	5	15uA	1.1 × 0.7 × 0.39	EPFFP6-X2
NJG1175KG1 ♡	—	LTE/ WLAN	16	-5.5	0.95	—	-5	+9	+9	+14	5500	3.3	13	20uA	1.6 × 1.6 × 0.427	DFN6-G1 (ESON6-G1)
NJG1182UX2	—	LTE/ WLAN	15	-3.5	1.1	—	-11	+7.5	+2	+18	5500	2.8	5	20uA	1.1 × 0.7 × 0.39	EPFFP6-X2
NT1189GDAE3S	—	5G	26 21	—	0.48 0.63	—	+19	—	-6 -1	—	3300 to 4200 4400 to 5000	5.0	50	100uA (Standby)	1.6 × 1.6 × 0.427	DFN1616-6-GD

WLAN

H: High gain mode L: Low gain mode

Part No.	Auto-motive	Applications	Gain [dB] typ.		NF [dB] typ.	P-1dB [dBm] typ.		IIP3 [dB] typ.		Frequency Range [MHz]	Oper-ating Volt-age [V]	Operating Current [mA] typ.		Pack-age Size [mm]	Package Outline	Notes
			H	L		H	L	H	L			H	L			
NJG1175KG1 ♡	—	Cellular/ WLAN	16	-5.5	0.95	-5	+9	+9	+14	5500	3.3	13	20uA	1.6 × 1.6 × 0.427	DFN6-G1(ESON6-G1)	
NJG1182UX2	—	Cellular/ WLAN	15	-3.5	—	-11	+7.5	+2	+18	5500	2.8	5	20uA	1.1 × 0.7 × 0.39	EPFFP6-X2	
NJG1730MD7	—	WLAN	15	-6	1.6	-4	+9	+7	+13	2400 to 2500	3.6	10	4uA	1.6 × 1.6 × 0.427	EQFN14-D7	SP3T Switch + LNA
NJG1739K51	—	WLAN	12	-8.5	2.5	0	+15	+9	+14	4900 to 5900	3.6	8	4uA	2.0 × 2.0 × 0.425	QFN12-51	SPDT Switch + LNA

RF Switches

5G/LTE/3G/WiMAX/GSM

Part No.	Auto-motive	Function	P-0.1dB [dB] typ.	Power Level	Insertion Loss [dB] typ.	Isolation [dB] typ.	Frequency Range [GHz]	Package Size [mm]	Package Outline
NJG1635AHB6	—	SPDT Switch	34	High Power	0.30@0.9GHz 0.35@1.9GHz 0.40@2.7GHz	35@0.9/1.9GHz 33@2.7GHz	0.05 to 3	1.5 × 1.5 × 0.6	USB8-B6
NJG1648HB6	—	DPDT Switch	23	Low Power	0.20@0.5GHz 0.25@1GHz 0.40@2GHz	26@0.5GHz 21@1GHz 15@2GHz	0.1 to 3	1.5 × 1.5 × 0.6	USB8-B6
NJG1649HB6	—	SPDT Switch	29	High Power	0.35@1.0GHz 0.40@2.0GHz 0.45@2.5GHz	27@1.0GHz 22@2.0GHz 20@2.5GHz	0.05 to 3	1.5 × 1.5 × 0.6	USB8-B6
NJG1655ME7	—	DP6T Switch (X-SP3T)	23	Low Power	0.4@1.0GHz 0.45@2.0GHz	18@2.0GHz 21@2.0GHz	0.05 to 3	2.0 × 2.0 × 0.427	EQFN18-E7
NJG1657MD7	—	DPDT Switch	35	High Power	0.3@0.9GHz 0.4@1.9GHz	32@0.9GHz 26@1.9GHz	0.05 to 3	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1665MD7 ♡	—	SP5T Switch	29	Middle Power	0.4@1.0GHz 0.5@2.0GHz 0.6@2.5GHz	29@1.0GHz 23@2.0GHz 21@2.5GHz	0.05 to 3	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1666MD7 ♡	—	SPDT Switch	25	Middle Power	0.40@0.25GHz 0.45@1.0GHz 0.50@2.2GHz	70@0.25GHz 60@1.0GHz 60@2.2GHz	0.05 to 3	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1667MD7	—	SP5T Switch	29	Middle Power	0.4@1.0GHz 0.5@2.0GHz 0.6@2.5GHz	29@1.0GHz 23@2.0GHz 21@2.5GHz	0.05 to 3	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1681MD7 ♡	—	SPDT Switch	36	High Power	0.18@0.9GHz 0.20@1.9GHz 0.23@2.7GHz 0.45@6.0GHz	45@0.9GHz 35@1.9GHz 30@2.7GHz 20@6.0GHz	0.2 to 6	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1682MD7 ♡	—	SP3T Switch	36	High Power	0.22@0.9GHz 0.25@1.9GHz 0.30@2.7GHz	35@0.9GHz 30@1.9GHz 27@2.7GHz	0.2 to 3	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1683ME7	—	X-SP3T Switch (DP6T) High Isolation	23	Low Power	0.35@1.0GHz 0.45@2.0GHz 0.60@2.7GHz	55@1.0GHz * 47@2.0GHz * 45@2.7GHz *	0.05 to 3	2.0 × 2.0 × 0.427	EQFN18-E7
NJG1684ME2	—	SP4T Switch	36	High Power	0.25@0.9GHz 0.30@1.9GHz 0.35@2.7GHz	37@0.9GHz 29@1.9GHz 25@2.7GHz	0.2 to 3	1.8 × 1.8 × 0.427	EQFN12-E2
NJG1686MHH	—	SP10T Switch	—	High Power	0.65@452 to 960MHz 0.30@452 to 960MHz 0.75@1710 to 2170MHz 0.45@1710 to 2170MHz 1.10@2300 to 2690MHz 0.45@2300 to 2690MHz 1.05@GSM850/900 1.20@GSM1800/1900	38@GSM850/900 34@GSM1800/1900 25@452 to 2690MHz 36@1805 to 1990MHz 33@452 to 2690MHz	0.2 to 3	3.4 × 2.6 × 0.75	EQFN26-HH
NJG1690MD7	—	DP4T Switch (X-SPDT) High Isolation	24	Low Power	0.3@1GHz 0.4@2GHz 0.45@2.7GHz	37@2.7GHz * 29@1GHz 24@2GHz 21@2.7GHz	0.05 to 3	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1695ME7	—	X-SP4T Switch (DP8T) High Isolation	23	Low Power	0.45@1.0GHz 0.55@2.0GHz 0.80@2.7GHz	43@1.0GHz * 38@2.0GHz * 35@2.7GHz *	0.05 to 3	2.0 × 2.0 × 0.427	EQFN18-E7
NJG1697EM1	—	SPDT Switch High Isolation	21	Low Power	0.45@1GHz 0.50@2GHz 0.55@2.7GHz	50@1GHz 48@2GHz 43@2.7GHz	0.5 to 3	1.0 × 1.0 × 0.4	DFN6-M1
NJG1699MD7	—	SP4T Switch High Isolation	21	Low Power	0.55@1GHz 0.55@2GHz 0.60@2.7GHz	50@1GHz 48@2GHz 43@2.7GHz	0.5 to 3	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1800NB2 ♡	—	DP4T Switch (X-SPDT)	21	Low Power	0.38@2GHz 0.36@2.7GHz	39@2GHz 37@2.7GHz	0.5 to 3	1.55 × 1.15 × 0.55	EPCSP10-B2
NJG1802K51 ♡	—	SPDT Switch	36	High Power	0.18@0.9GHz 0.20@1.9GHz 0.23@2.7GHz	50@0.9GHz 38@1.9GHz 33@2.7GHz	0.2 to 6	2.0 × 2.0 × 0.425	QFN12-51
NJG1808K94 ♡	—	SP3T Switch	24	Low Power	0.35@1.0GHz 0.4@2.0GHz 0.4@2.7GHz	29@1.0GHz 26@2.0GHz 24@2.7GHz	0.7 to 3	1.1 × 1.1 × 0.425	QFN9-94
NJG1809ME7 ♡	—	SP4T Switch	32	High Power	0.4@2.7GHz 0.4@3.5GHz 0.5@5.85GHz	27@2.7GHz 25@3.5GHz 30@5.85GHz	0.2 to 6	2.0 × 2.0 × 0.427	EQFN18-E7
NJG1812ME4 ♡	—	DPDT Switch	36	High Power	0.25@900MHz 0.35@1900MHz 0.45@2700MHz	25@900MHz 20@1900MHz 17@2700MHz	0.2 to 3	2.0 × 2.0 × 0.427	EQFN12-E4
NJG1814MD7 ♡	—	SPDT Switch	33	High Power	0.35@0.7GHz 0.38@2.0GHz 0.40@2.7GHz 0.45@5.85GHz	42@0.7GHz 35@2.0GHz 34@2.7GHz 33@5.85GHz	0.2 to 6	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1817ME4 ♡	—	SPDT Switch	40	High Power	0.35@3.85GHz 0.4@4.7GHz 0.45@6.0GHz	27@3.85GHz 27@4.7GHz 25@6.0GHz	0.2 to 6	2.0 × 2.0 × 0.427	EQFN12-E4
NJU1206MER	—	SP6T Switch	34	High Power	0.30@0.9GHz 0.40@1.9GHz 0.50@2.7GHz	40@0.9GHz 30@1.9GHz 26@2.7GHz	0.2 to 3	2.0 × 2.0 × 0.427	EQFN14-ER

* With balanced mode operation

RF Switches

WLAN/Bluetooth

U.D. : Under Development　NEW : New product

♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡xxxx : Products available in PRODUCT LONGEVITY PROGRAM with time limit

Part No.	Auto-motive	Function	P-0.1dB [dB] typ.	Power Level	Insertion Loss [dB] typ.	Isolation [dB] typ.	Frequency Range [GHz]	Package Size [mm]	Package Outline
NJG1608KB2	—	SPDT Switch	27	High Power	0.3@2.0GHz 0.5@2.5GHz 0.6@5.85GHz	29@2.0GHz 30@2.5GHz 18@2.5GHz	0.1 to 6	2.1 × 2.0 × 0.75	FLP6-B2
NJG1615HA8	—	SPDT Switch	27	High Power	0.55@5.85GHz	25@2.5GHz	0.1 to 6	1.0 × 1.2 × 0.44	USB6-A8
NJG1617K11	—	DPDT Switch	31	High Power	0.75@6GHz	25@6GHz	0.1 to 6	3.0 × 3.0 × 0.88	QFN12-11
NJG1650HB6	—	SP3T Switch	28	High Power	0.38@1.0GHz 0.42@2.0GHz 0.45@2.5GHz	29@1.0GHz 23@2.0GHz 21@2.5GHz	0.05 to 3	1.5 × 1.5 × 0.6	USB8-B6
NJG1660HA8 ♡	—	SPDT Switch	32	High Power	0.35@2.5GHz 0.45@3.5GHz 0.50@6.0GHz	33@2.5GHz 30@3.5GHz 21@6.0GHz	0.05 to 8	1.0 × 1.2 × 0.44	USB6-A8
NJG1669MD7 ♡	—	SPDT Switch	36	High Power	0.35@2.5GHz 0.40@3.5GHz 0.45@6.0GHz	28@2.5GHz 29@3.5GHz 25@6.0GHz	0.05 to 6	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1801AKGC-A ♡	✓	SPDT Switch	31	High Power	0.35@0.3 to 2.5GHz 0.45@4.9 to 5.9GHz 0.6@8.5GHz	28@0.3 to 2.5GHz 27@4.9 to 5.9GHz 18@8.5GHz	0.3 to 8.5	1.6 × 1.6 × 0.83	DFN6-GC (ESON6-GC)
NJG1801BKGC-A ♡	✓	SPDT Switch	31	High Power	0.35@0.3 to 2.5GHz 0.45@4.9 to 5.9GHz 0.6@8.5GHz	28@0.3 to 2.5GHz 27@4.9 to 5.9GHz 18@8.5GHz	0.3 to 8.5	1.6 × 1.6 × 0.83	DFN6-GC (ESON6-GC)
NJG1801K75 ♡	—	SPDT Switch	31@2.5GHz 31@5.9GHz 31@8.5GHz	High Power	0.35@2.4 to 2.5GHz 0.45@4.9 to 5.9GHz 0.60@8.5GHz	28@2.4 to 2.5GHz 30@4.9 to 5.9GHz 20@8.5GHz	0.05 to 8.5	1.0 × 1.0 × 0.425	DFN6-75
NJG1804K64 ♡	—	SP3T Switch	29@2.5GHz 29@5.9GHz	High Power	0.50@2.4 to 2.5GHz 0.60@4.9 to 5.9GHz	30@2.4 to 2.5GHz 26@4.9 to 5.9GHz	0.05 to 6	1.5 × 1.5 × 0.425	DFN8-64
NJG1806K75 ♡	—	SPDT Switch	31@0.7 to 5.9GHz	High Power	0.35@0.7GHz 0.35@1.9GHz 0.35@2.4 to 2.5GHz 0.4@4.9 to 5.9GHz	30@0.7GHz 25@1.9GHz 25@2.4 to 2.5GHz 25@4.9 to 5.9GHz	0.05 to 6	1.0 × 1.0 × 0.425	DFN6-75
NJG1809ME7 ♡	—	SP4T Switch	32	High Power	0.4@2.7GHz 0.4@3.5GHz 0.5@5.85GHz	27@2.7GHz 25@3.5GHz 30@5.85GHz	0.2 to 6	2.0 × 2.0 × 0.427	EQFN18-E7
NJG1814MD7 ♡	—	SPDT Switch	33	High Power	0.35@0.7GHz 0.38@2.0GHz 0.40@2.7GHz 0.45@5.85GHz	42@0.7GHz 35@2.0GHz 34@2.7GHz 33@5.85GHz	0.2 to 6	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1815AK75-A ♡	✓	SPDT Switch	31	High Power	0.45@2.4 to 2.5GHz 0.45@3.4 to 3.8GHz 0.4@4.9 to 6GHz	25@2.4 to 2.5GHz 25@3.4 to 3.8GHz 25@4.9 to 6GHz	2.4 to 6	1.0 × 1.0 × 0.425	DFN6-75
NJG1815K75 ♡	—	SPDT Switch	31	High Power	0.45@2.4 to 2.5GHz 0.4@4.9 to 6GHz	25@2.4 to 2.5GHz 25@4.9 to 6GHz	1 to 6	1.0 × 1.0 × 0.425	DFN6-75
NJG1817ME4 ♡	—	SPDT Switch	40	High Power	0.35@3.85GHz 0.4@4.7GHz 0.45@6.0GHz	27@3.85GHz 27@4.7GHz 25@6.0GHz	0.05 to 6	2.0 × 2.0 × 0.427	EQFN12-E4
NJG1818K75 ♡	—	SPDT Switch	31	Middle Power	0.50@2.4 to 2.5GHz 0.50@4.9 to 5.9GHz 0.55@5.9 to 7.125GHz	25@2.4 to 2.5GHz 25@4.9 to 5.9GHz 25@5.9 to 7.125GHz	1 to 7.125	1.0 × 1.0 × 0.425	DFN6-75
U.D. NT1821GVAE1S	—	SPDT Switch	31	Middle Power	0.60@2.4 to 2.5GHz 0.50@4.9 to 5.9GHz 0.58@5.9 to 7.125GHz	40@2.4 to 2.5GHz 38@4.9 to 5.9GHz 40@5.9 to 7.125GHz	1 to 7.125	1.0 × 1.0 × 0.425	DFN1010-6-GV
U.D. NT1822GVAE1S	—	SPDT Switch	31	Middle Power	0.60@2.4 to 2.5GHz 0.50@4.9 to 5.9GHz 0.58@5.9 to 7.125GHz	40@2.4 to 2.5GHz 38@4.9 to 5.9GHz 40@5.9 to 7.125GHz	1 to 7.125	1.0 × 1.0 × 0.425	DFN1010-6-GV

LPWA

Part No.	Auto-motive	Function	P-0.1dB [dB] typ.	Power Level	Insertion Loss [dB] typ.	Isolation [dB] typ.	Frequency Range [GHz]	Package Size [mm]	Package Outline
NJG1801K75 ♡	—	SPDT Switch	31@2.5GHz 31@5.9GHz 31@8.5GHz	High Power	0.35@2.4 to 2.5GHz 0.45@4.9 to 5.9GHz 0.60@8.5GHz	28@2.4 to 2.5GHz 30@4.9 to 5.9GHz 20@8.5GHz	0.05 to 8.5	1.0 × 1.0 × 0.425	DFN6-75
NJG1804K64 ♡	—	SP3T Switch	29@2.5GHz 29@5.9GHz	High Power	0.50@2.4 to 2.5GHz 0.60@4.9 to 5.9GHz	30@2.4 to 2.5GHz 26@4.9 to 5.9GHz	0.05 to 6	1.5 × 1.5 × 0.425	DFN8-64
NJG1806K75 ♡	—	SPDT Switch	31@0.7 to 5.9GHz	High Power	0.35@0.7GHz 0.35@1.9GHz 0.35@2.4 to 2.5GHz 0.4@4.9 to 5.9GHz	30@0.7GHz 25@1.9GHz 25@2.4 to 2.5GHz 25@4.9 to 5.9GHz	0.05 to 6	1.0 × 1.0 × 0.425	DFN6-75
NJG1813KG1 ♡	—	DPDT Switch	30	Middle Power	0.45@920MHz	30@920MHz	0.05 to 3	1.6 × 1.6 × 0.427	DFN6-G1
NJG1816K75 ♡	—	SPDT Switch	30	High Power	0.45@920MHz	30@920MHz	0.05 to 3	1.0 × 1.0 × 0.425	DFN6-75

Small Cell/Customer Premises Equipment(CPE)

Part No.	Auto-motive	Function	P-0.1dB [dB] typ.	Power Level	Insertion Loss [dB] typ.	Isolation [dB] typ.	Frequency Range [GHz]	Package Size [mm]	Package Outline
NJG1608KB2	—	SPDT Switch	27	High Power	0.3@2.0GHz 0.5@2.5GHz 0.6@5.85GHz	29@2.0GHz 30@2.5GHz 18@2.5GHz	0.1 to 6	2.1 × 2.0 × 0.75	FLP6-B2
NJG1615HA8	—	SPDT Switch	27	High Power	0.55@5.85GHz	25@2.5GHz	0.1 to 6	1.0 × 1.2 × 0.44	USB6-A8

Part No.	Auto-motive	Function	P-0.1dB [dB] typ.	Power Level	Insertion Loss [dB] typ.	Isolation [dB] typ.	Frequency Range [GHz]	Package Size [mm]	Package Outline
NJG1660HA8 ♡	—	SPDT Switch	32	High Power	0.35@2.5GHz 0.45@3.5GHz 0.50@6.0GHz	33@2.5GHz 30@3.5GHz 21@6.0GHz	0.05 to 8	1.0 × 1.2 × 0.44	USB6-A8
NJG1669MD7 ♡	—	SPDT Switch	36	High Power	0.35@2.5GHz 0.40@3.5GHz 0.45@6.0GHz	28@2.5GHz 29@3.5GHz 25@6.0GHz	0.05 to 6	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1699MD7	—	SP4T Switch High Isolation	21	Low Power	0.55@1GHz 0.55@2GHz 0.60@2.7GHz	50@1GHz 48@2GHz 43@2.7GHz	0.5 to 3	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1801K75 ♡	—	SPDT Switch	31@2.5GHz 31@5.9GHz 31@8.5GHz	High Power	0.35@2.4 to 2.5GHz 0.45@4.9 to 5.9GHz 0.60@8.5GHz	28@2.4 to 2.5GHz 30@4.9 to 5.9GHz 20@8.5GHz	0.05 to 8.5	1.0 × 1.0 × 0.425	DFN6-75
NJG1806K75 ♡	—	SPDT Switch	31	Middle Power	0.35@0.7GHz 0.35@1.9GHz 0.35@2.4 to 2.5GHz 0.4@4.9 to 5.9GHz	30@0.7GHz 25@1.9GHz 25@2.4 to 2.5GHz 25@4.9 to 5.9GHz	0.05 to 6	1.0 × 1.0 × 0.425	DFN6-75
NJG1814MD7 ♡	—	SPDT Switch	33	High Power	0.35@0.7GHz 0.38@2.0GHz 0.40@2.7GHz 0.45@5.85GHz	42@0.7GHz 35@2.0GHz 34@2.7GHz 33@5.85GHz	0.2 to 6	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1815K75 ♡	—	SPDT Switch	31	High Power	0.45@2.4 to 2.5GHz 0.4@4.9 to 6GHz	25@2.4 to 2.5GHz 25@4.9 to 6GHz	1.0 to 6	1.0 × 1.0 × 0.425	DFN6-75
NJG1817ME4 ♡	—	SPDT Switch	40	High Power	0.35@3.85GHz 0.4@4.7GHz 0.45@6.0GHz	27@3.85GHz 27@4.7GHz 25@6.0GHz	0.05 to 6	2.0 × 2.0 × 0.427	EQFN12-E4
U.D. NT1819NAAE2S	—	SPDT Switch	31	High Power	0.70@0.7GHz 0.75@1.9GHz 0.80@2.7GHz 0.80@3.85GHz 0.85@4.7GHz 0.90@6.0GHz 1.20@7.125GHz	70@0.7GHz 64@1.9GHz 62@2.7GHz 62@3.85GHz 60@4.7GHz 55@6.0GHz 50@7.125GHz	0.2 to 7.125	3.0 × 3.0 × 0.7	QFN3030-16-NA

Mobile Communication Devices

Part No.	Auto-motive	Function	P-0.1dB [dB] typ.	Power Level	Insertion Loss [dB] typ.	Isolation [dB] typ.	Frequency Range [GHz]	Package Size [mm]	Package Outline
NJG1512HD3	—	SPDT Switch	20	Low Power	0.6@1.0GHz	44@1.0GHz	0.001 to 3	2.0 × 1.8 × 0.85	USB6-D3
NJG1608KB2	—	SPDT Switch	27	High Power	0.3@2.0GHz 0.5@2.5GHz 0.6@5.85GHz	29@2.0GHz 30@2.5GHz 18@2.5GHz	0.1 to 6	2.1 × 2.0 × 0.75	FLP6-B2
NJG1615HA8	—	SPDT Switch	27	High Power	0.55@5.85GHz	25@2.5GHz	0.1 to 6	1.0 × 1.2 × 0.44	USB6-A8
NJG1617K11	—	DPDT Switch	31	High Power	0.75@6GHz	25@6GHz	0.1 to 6	3.0 × 3.0 × 0.88	QFN12-11
NJG1635AHB6	—	SPDT Switch	34	High Power	0.30@0.9GHz 0.35@1.9GHz 0.40@2.7GHz	35@0.9/1.9GHz 33@2.7GHz	0.05 to 3	1.5 × 1.5 × 0.6	USB8-B6
NJG1648HB6	—	DPDT Switch	23	Low Power	0.20@0.5GHz 0.25@1GHz 0.40@2GHz	26@0.5GHz 21@1GHz 15@2GHz	0.1 to 3	1.5 × 1.5 × 0.6	USB8-B6
NJG1649HB6	—	SPDT Switch	29	High Power	0.35@1.0GHz 0.40@2.0GHz 0.45@2.5GHz	27@1.0GHz 22@2.0GHz 20@2.5GHz	0.05 to 3	1.5 × 1.5 × 0.6	USB8-B6
NJG1650HB6	—	SP3T Switch	28	High Power	0.38@1.0GHz 0.42@2.0GHz 0.45@2.5GHz	29@1.0GHz 23@2.0GHz 21@2.5GHz	0.05 to 3	1.5 × 1.5 × 0.6	USB8-B6
NJG1655ME7	—	DP6T Switch (X-SP3T)	23	Low Power	0.4@1.0GHz 0.45@2.0GHz	18@2.0GHz 21@2.0GHz	0.05 to 3	2.0 × 2.0 × 0.427	EQFN18-E7
NJG1657MD7	—	DPDT Switch	35	High Power	0.3@0.9GHz 0.4@1.9GHz	32@0.9GHz 26@1.9GHz	0.05 to 3	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1660HA8 ♡	—	SPDT Switch	32	High Power	0.35@2.5GHz 0.45@3.5GHz 0.50@6.0GHz	33@2.5GHz 30@3.5GHz 21@6.0GHz	0.05 to 8	1.0 × 1.2 × 0.44	USB6-A8
NJG1665MD7 ♡	—	SP5T Switch	29	Middle Power	0.4@1.0GHz 0.5@2.0GHz 0.6@2.5GHz	29@1.0GHz 23@2.0GHz 21@2.5GHz	0.05 to 3	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1666MD7 ♡	—	SPDT Switch	25	Middle Power	0.40@0.25GHz 0.45@1.0GHz 0.50@2.2GHz	70@0.25GHz 60@1.0GHz 60@2.2GHz	0.05 to 3	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1667MD7	—	SP5T Switch	29	Middle Power	0.4@1.0GHz 0.5@2.0GHz 0.6@2.5GHz	29@1.0GHz 23@2.0GHz 21@2.5GHz	0.05 to 3	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1669MD7 ♡	—	SPDT Switch	36	High Power	0.35@2.5GHz 0.40@3.5GHz 0.45@6.0GHz	28@2.5GHz 29@3.5GHz 25@6.0GHz	0.05 to 6	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1681MD7 ♡	—	SPDT Switch	36	High Power	0.18@0.9GHz 0.20@1.9GHz 0.23@2.7GHz 0.45@6.0GHz	45@0.9GHz 35@1.9GHz 30@2.7GHz 20@6.0GHz	0.2 to 6	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1682MD7 ♡	—	SP3T Switch	36	High Power	0.22@0.9GHz 0.25@1.9GHz 0.30@2.7GHz	35@0.9GHz 30@1.9GHz 27@2.7GHz	0.2 to 3	1.6 × 1.6 × 0.427	EQFN14-D7

RF Switches

U.D. : Under Development NEW : New product
♡ : Products available in PRODUCT LONGEVITY PROGRAM ♡xxxx : Products available in PRODUCT LONGEVITY PROGRAM with time limit

Mobile Communication Devices

Part No.	Auto-motive	Function	P-0.1dB [dB]	Power Level	Insertion Loss [dB]	Isolation [dB]	Frequency Range [GHz]	Package Size [mm]	Package Outline
			typ.		typ.	typ.			
NJG1683ME7	—	X-SP3T Switch (DP6T) High Isolation	23	Low Power	0.35@1.0GHz 0.45@2.0GHz 0.60@2.7GHz	55@1.0GHz * 47@2.0GHz * 45@2.7GHz *	0.05 to 3	2.0 × 2.0 × 0.427	EQFN18-E7
NJG1684ME2	—	SP4T Switch	36	High Power	0.25@0.9GHz 0.30@1.9GHz 0.35@2.7GHz	37@0.9GHz 29@1.9GHz 25@2.7GHz	0.2 to 3	1.8 × 1.8 × 0.427	EQFN12-E2
NJG1686MHH	—	SP10T Switch	—	High Power	0.65@452 to 960MHz 0.30@452 to 960MHz 0.75@1710 to 2170MHz 0.45@1710 to 2170MHz 1.10@2300 to 2690MHz 0.45@2300 to 2690MHz 1.05@GSM850/900 1.20@GSM1800/1900	38@GSM850/900 34@GSM1800/1900 25@452 to 2690MHz 36@1805 to 1990MHz 33@452 to 2690MHz	0.2 to 3	3.4 × 2.6 × 0.75	EQFN26-HH
NJG1690MD7	—	DP4T Switch (X-SPDT) High Isolation	24	Low Power	0.3@1GHz 0.4@2GHz 0.45@2.7GHz	37@2.7GHz * 29@1GHz 24@2GHz 21@2.7GHz	0.05 to 3	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1695ME7	—	X-SP4T Switch (DP8T) High Isolation	23	Low Power	0.45@1.0GHz 0.55@2.0GHz 0.80@2.7GHz	43@1.0GHz * 38@2.0GHz * 35@2.7GHz *	0.05 to 3	2.0 × 2.0 × 0.427	EQFN18-E7
NJG1697EM1	—	SPDT Switch High Isolation	21	Low Power	0.45@1GHz 0.50@2GHz 0.55@2.7GHz	50@1GHz 48@2GHz 43@2.7GHz	0.5 to 3	1.0 × 1.0 × 0.4	DFN6-M1
NJG1699MD7	—	SP4T Switch High Isolation	21	Low Power	0.55@1GHz 0.55@2GHz 0.60@2.7GHz	50@1GHz 48@2GHz 43@2.7GHz	0.5 to 3	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1800NB2 ♡	—	DP4T Switch (X-SPDT)	21	Low Power	0.38@2GHz 0.36@2.7GHz	39@2GHz 37@2.7GHz	0.5 to 3	1.55 × 1.15 × 0.55	EPCSP10-B2
NJG1801K75 ♡	—	SPDT Switch	31@2.5GHz 31@5.9GHz 31@8.5GHz	High Power	0.35@2.4 to 2.5GHz 0.45@4.9 to 5.9GHz 0.60@8.5GHz	28@2.4 to 2.5GHz 30@4.9 to 5.9GHz 20@8.5GHz	0.05 to 8.5	1.0 × 1.0 × 0.425	DFN6-75
NJG1802K51 ♡	—	SPDT Switch	36	High Power	0.18@0.9GHz 0.20@1.9GHz 0.23@2.7GHz	50@0.9GHz 38@1.9GHz 33@2.7GHz	0.2 to 6	2.0 × 2.0 × 0.425	QFN12-51
NJG1804K64 ♡	—	SP3T Switch	29@2.5GHz 29@5.9GHz	High Power	0.50@2.4 to 2.5GHz 0.60@4.9 to 5.9GHz	30@2.4 to 2.5GHz 26@4.9 to 5.9GHz	0.05 to 6	1.5 × 1.5 × 0.425	DFN8-64
NJG1806K75 ♡	—	SPDT Switch	31@0.7 to 5.9GHz	High Power	0.35@0.7GHz 0.35@1.9GHz 0.35@2.4 to 2.5GHz 0.4@4.9 to 5.9GHz	30@0.7GHz 25@1.9GHz 25@2.4 to 2.5GHz 25@4.9 to 5.9GHz	0.05 to 6	1.0 × 1.0 × 0.425	DFN6-75
NJG1808K94 ♡	—	SP3T Switch	24	Low Power	0.35@1.0GHz 0.4@2.0GHz 0.4@2.7GHz	29@1.0GHz 26@2.0GHz 24@2.7GHz	0.7 to 3	1.1 × 1.1 × 0.425	QFN9-94
NJG1809ME7 ♡	—	SP4T Switch	32	High Power	0.4@2.7GHz 0.4@3.5GHz 0.5@5.85GHz	27@2.7GHz 25@3.5GHz 30@5.85GHz	0.2 to 6	2.0 × 2.0 × 0.427	EQFN18-E7
NJG1812ME4 ♡	—	DPDT Switch	36	High Power	0.25@900MHz 0.35@1900MHz 0.45@2700MHz	25@900MHz 20@1900MHz 17@2700MHz	0.2 to 3	2.0 × 2.0 × 0.427	EQFN12-E4
NJG1813KG1 ♡	—	DPDT Switch	30	High Power	0.45@920MHz	30@920MHz	0.05 to 3	1.6 × 1.6 × 0.427	DFN6-G1 (ESON6-G1)
NJG1814MD7 ♡	—	SPDT Switch	33	High Power	0.35@0.7GHz 0.38@2.0GHz 0.40@2.7GHz 0.45@5.85GHz	42@0.7GHz 35@2.0GHz 34@2.7GHz 33@5.85GHz	0.2 to 6	1.6 × 1.6 × 0.427	EQFN14-D7
NJG1815K75 ♡	—	SPDT Switch	31	High Power	0.45@2.4 to 2.5GHz 0.4@4.9 to 6GHz	25@2.4 to 2.5GHz 25@4.9 to 6GHz	1 to 6	1.0 × 1.0 × 0.425	DFN6-75
NJG1816K75 ♡	—	SPDT Switch	30	High Power	0.45@920MHz	30@920MHz	0.05 to 3	1.0 × 1.0 × 0.425	DFN6-75
NJG1818K75 ♡	—	SPDT Switch	31	High Power	0.50@2.4 to 2.5GHz 0.50@4.9 to 5.9GHz 0.55@5.9 to 7.125GHz	25@2.4 to 2.5GHz 25@4.9 to 5.9GHz 25@5.9 to 7.125GHz	1 to 7.125	1.0 × 1.0 × 0.425	DFN6-75
NJU1206MER	—	SP6T Switch	34	High Power	0.30@0.9GHz 0.40@1.9GHz 0.50@2.7GHz	40@0.9GHz 30@1.9GHz 26@2.7GHz	0.2 to 3	2.0 × 2.0 × 0.427	EQFN14-ER

* With balanced mode operation

Automotive

Part No.	Auto-motive	Function	P-0.1dB [dB]	Power Level	Insertion Loss [dB]	Isolation [dB]	Frequency Range [GHz]	Package Size [mm]	Package Outline
			typ.		typ.	typ.			
NJG1801AKGC-A ♡	✓	SPDT Switch	31	High Power	0.35@0.3 to 2.5GHz 0.45@4.9 to 5.9GHz 0.6@8.5GHz	28@0.3 to 2.5GHz 27@4.9 to 5.9GHz 18@8.5GHz	0.3 to 8.5	1.6 × 1.6 × 0.83	ESON6-GC
NJG1801BKGC-A ♡	✓	SPDT Switch	31	High Power	0.35@0.3 to 2.5GHz 0.45@4.9 to 5.9GHz 0.6@8.5GHz	28@0.3 to 2.5GHz 27@4.9 to 5.9GHz 18@8.5GHz	0.3 to 8.5	1.6 × 1.6 × 0.83	ESON6-GC
NJG1812AMET-A	✓	DPDT Switch	36	High Power	0.25@900MHz 0.35@1900MHz 0.45@2700MHz	25@900MHz 20@1900MHz 17@2700MHz	0.7 to 2.7	2.0 × 2.0 × 0.83	EQFN12-ET
NJG1815AK75-A ♡	✓	SPDT Switch	31	High Power	0.45@2.4 to 2.5GHz 0.45@3.4 to 3.8GHz 0.4@4.9 to 6GHz	25@2.4 to 2.5GHz 25@3.4 to 3.8GHz 25@4.9 to 6GHz	2.4 to 6	1.0 × 1.0 × 0.425	DFN6-75

SAW Filters

U.D. : Under Development NEW : New product
♡ : Products available in PRODUCT LONGEVITY PROGRAM ♡xxxx : Products available in PRODUCT LONGEVITY PROGRAM with time limit

For GPS

Part No.	Application	Center Frequency f0 [MHz]	Passband Width [MHz]	Package Size [mm]	Notes
NSNJ9200A	GPS, GLONASS, Beidou	1582.471	4.092 2 8.34	2.0 × 1.6 × 0.65	High ATT Type
NSNJ9205	GPS-L2	1227.6	20	2.0 × 1.6 × 0.65	High ATT Type
NSNJ9208	GPS-L6	1278.75	10	2.0 × 1.6 × 0.65	Low Loss Type
NSVS1174	GPS-L1	1575.42	2	3.0 × 3.0 × 1.15	
NSVS9013A	GPS-L1	1575.42	2	2.0 × 1.6 × 0.65	High ATT Type
NSTS9110A	GPS-L1	1575.42	2	2.0 × 1.6 × 0.65	Low Loss Type
NSTS9116A	GPS+GLONASS	1589.5	32	2.0 × 1.6 × 0.65	Low Loss Type
NSTS9117A	GPS+GLONASS	1589.5	32	2.0 × 1.6 × 0.65	High ATT Type

For Automotive

Part No.	Application	Center Frequency f0 [MHz]	Passband Width [MHz]	Package Size [mm]	Notes
NSVS1154B	Keyless Entry Systems	315	1	3.0 × 3.0 × 1.15	
NSVS1231B	Keyless Entry Systems	868	4	3.0 × 3.0 × 1.15	
NSVS9012	Keyless Entry Systems	314.85	0.6	3.0 × 3.0 × 1.15	
NSVS9016B	Keyless Entry Systems	315	0.6	3.0 × 3.0 × 1.15	
NSTS9118B	Keyless Entry Systems	433.92	0.4	3.0 × 3.0 × 1.15	

For Low Power Transceiver

Part No.	Application	Center Frequency f0 [MHz]	Passband Width [MHz]	Package Size [mm]	Notes
NSNJ2014	ASIA AMR	922.5	5	2.0 × 1.6 × 0.65	CHK/HKG/THA
NSNJ2016	Australia AMR	921.5	13	2.0 × 1.6 × 0.65	
NSNJ2021	New Zealand AMR	924.5	5	2.0 × 1.6 × 0.65	
NSTS1431B	Transceiver	426.42	1	3.0 × 3.0 × 1.15	
NSTS1444	Japan AMR	924	8	3.0 × 3.0 × 1.15	
NSTS1449	Japan AMR	924	8	3.0 × 3.0 × 1.15	
U.D. NSNJ2022	Japan AMR	925.15	5.9	1.4 × 1.1 × 0.6	
NEW NSTS9114B	Transceiver	429	1	3.0 × 3.0 × 1.15	
NSVS1093B	Transceiver	429.42	1	3.0 × 3.0 × 1.15	
NSVS1126B	Transceiver	429.42	1	3.0 × 3.0 × 1.15	
NSVS1145B	Transceiver	426	1	3.0 × 3.0 × 1.15	
NSVS1231B	EU AMR	868	4	3.0 × 3.0 × 1.15	

For Land Mobile Radio

Part No.	Application	Center Frequency f0 [MHz]	Passband Width [MHz]	Package Size [mm]	Notes
NEW NSNJ2023	Land Mobile Radio	769.5/860.5	13/19	3.0 x 3.0 x 1.08	
NEW NSNJ2024	Land Mobile Radio	772/856	8/10	3.0 x 3.0 x 1.08	

For PHS

Part No.	Application	Center Frequency f0 [MHz]	Passband Width [MHz]	Package Size [mm]	Notes
NSTS1437	PHS-RF base station	1902	35.2	3.0 × 3.0 × 1.15	

PATENT
JP2096558, JP2131273, JP2598110, JP2601543, JP2606708, JP2673993, JP2933171, JP3293671, JP3181158, JP3194849, US4878036, US4973875, US5175519, US5252882, US5471722, US5521453, US5523641

Touchless Sensor

Part No.	Recommended Operating Conditions				Operation Temperature [°C]		Detector Operating Current Icc [mA]	Output Signals	Detecting Distance [mm]	MSL (Moisture Sensitivity Levels)	Package Size [mm]	Package Outline
	Emitter Pulse Forward Current IFP [mA]		Detector Supply Voltage Vcc [V]									
	min.	max.	min.	max.	min.	max.	typ.		max.			
NJL5830R	0	200	4.5	12	-30	70	3	Digital Output "H" by light input	50	MSL5a	5.8 x 3.6 x 1.2	ACOB06-CPZ-3 (COBP)

Photo Reflectors

Part No.	key Features	Absolute Maximum Ratings				Dark Current [μA]	Output Current [μA]		Response Time (Rise/ Fall) [us]	MSL (Moisture Sensitivity Levels)	Package Size [mm]	Package Outline
		Ptot [mW]	IF [mW]	VCEO [V]	VECO [V]	max.	min.	max.				
NJL5901AR	Transistor Output	60	30	16	6	2	180	450	30	MSL5	1.6 × 2.4 × 0.8	COBP
NJL5901AR-1	Transistor Output	60	30	16	6	5	280	700	30	MSL5	1.3 × 1.6 × 0.6	COBP
NJL5901R-2	Transistor Output	60	20	16	6	5	165	412	20	MSL5	1.0 × 1.4 × 0.6	COBP
NJL5902R	Transistor Output	60	30	16	6	0.2	90	250	30	MSL5	1.9 × 2.6 × 0.8	COBP
NJL5902R-1	Transistor Output	60	30	16	6	0.5	160	400	30	MSL5	1.6 × 2.0 × 0.6	COBP
NJL5902R-2	Transistor Output	60	20	16	6	0.5	62	155	20	MSL5	1.2 × 1.7 × 0.6	COBP
NJL5908AR	Transistor Output	60	20	16	6	2	92	230	20	MSL5	1.06 × 1.46 × 0.5	COBP
NJL5909RL-4	With LENS (Focal length 4.0mm)	60	30	16	6	0.2	35	175	30	MSL5	1.9 × 2.6 × 1.6	COBP
NJL5911R	Ultra thin Photo Reflector	60	20	16	6	5	400	1000	20	MSL5	1.66 × 1.24 × 0.35	COBP
NJL5912R	High Sensitive Photo Reflector	60	20	16	6	2	600	2200	20	MSL5	1.06 × 1.46 × 0.5	COBP

Photo Detectors

Part No.	Absolute Maximum Ratings VR [V]	Peak Wave length [nm]	Dark Current [nA]	Cut off Frequency [MHz]	Response Time (Rise/ Fall) [ns]	Sensitivity [A/W]	MSL (Moisture Sensitivity Levels)	Package Size [mm]	Package Outline
		typ.	max.	typ.	typ.	typ.			
NJL6193R-3	35	850	2	—	10/10	0.48	MSL5	1.2 × 1.7 × 0.5	COBP
NJL6195R	35	890	10	—	25/42	0.55	MSL5	3.55 × 3.95 × 0.82	COBP
NJL6195R-W	35	890	10	—	25/42	0.55	MSL5	3.55 × 3.95 × 0.82	COBP
NJL6401R-3	35	780 650 405	2	250 300 350	2/2	0.47 0.42 0.28	MSL5	1.2 × 1.7 × 0.8	COBP
NJL6402R-2	35	780 650 405	2	200 220 250	2/2	0.47 0.42 0.28	MSL5	1.6 × 2.4 × 0.8	COBP
NJL6407R	35	800	2	—	9/9	0.47	MSL5	2.0 × 2.9 × 0.75	COBP
NJL6414R	35	900	5	—	16/22	0.47	MSL5	2.1 × 2.6 × 0.8	COBP

Ambient Light Sensors

Part No.	Absolute Maximum Ratings VR [V]	Peak Wavelength [nm]	Dark Current [nA]	MSL (Moisture Sensitivity Levels)	Package Size [mm]	Package Outline
		typ.	max.			
NJL6502R-1	6	580	0.5	MSL5	1.7 × 1.2 × 0.8	COBP
NJL7302L-F3	15	550	100	—	—	—
NJL7302L-F5	15	550	100	—	—	—
NJL7502L	70	560	100	—	—	—
NJL7502R	35	590	100	MSL5	1.6 × 1.3 × 0.65	COBP

Position Sensors

Part No.	Recommended Operating Conditions		Scale Pattern Width (Direct reflection / Non-Reflection) [mm]	Detector Operating Current Icc typ. [μA]	Output Signals	Resolution [LPI]	MSL (Moisture Sensitivity Levels)	Package Size typ [mm]	Package Outline
	Emitter Forward Current IF [mA]	Detector Supply Voltage V+ [V]							
NJL5820R	1 to 30	2.7 / 5.5	0.25 / 0.25	150	2 Phase Digital (0° / 90°)	50.8	MSL5	2.6 x 2.5 x 0.8	ACOB06-CHZ-3 (COBP)
NJL5821R	4 to 30	2.7 / 5.5	0.085 / 0.085	150	2 Phase Digital (0° / 90°)	150	MSL5	2.6 x 2.5 x 0.8	ACOB06-CHZ-3 (COBP)
NJL5822R	4 to 30	2.7 / 5.5	0.070 / 0.070	150	2 Phase Digital (0° / 90°)	180	MSL5	2.6 x 2.5 x 0.8	ACOB06-CHZ-3 (COBP)
NJL9101R	5	2.0 /3.3	0.126 / 0.126	—	3 Phase Analog (0° / 90° / 180°)	100	MSL5	2.3 x 2.0 x 0.6	COBP

NEW : New product

Acoustic Sensor

Produkt Name	Operating supply voltage [V]	Current Consumption	Output	Sensitivity [dB]	Sensitivity bandwidth [Hz]	Operating temperature [°C]	Amplifier Gain [dB]	Outline [mm]	Dustproof and Waterproof
NEW **NM2101**	2.5 to 3.6	1mA/ 3.0V	Single-ended voltage output	-36 (94dB SPL@1kHz)	100 to 100k	-14 to 105	0	L22.4 x W22.4 x H21.0 Material : SUS316 Weight : 31g	IP67 (Waterproofing by sealing) Cable length : 3m Output terminal: 3-pole mini plug / Φ 3.5mm

Actuator/Gate Drivers

U.D. : Under Development　NEW : New product

♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡xxxx : Products available in PRODUCT LONGEVITY PROGRAM with time limit

DC Brush Motor/ Actuator Drivers

Part No.	Auto-motive	Driver Formation *Half Bridge x2= H-Bridge		Output Current [A]	Motor Voltage [V]			Logic Voltage [V]	Package Outline
		Output Form	No. of channel	max.	Absolute Maximum Rating	Operating Voltage min.	Operating Voltage max.		
NJU7325	—	BTL	2	0.6	7	2.4	5.5	—	MSOP8(VSP8), MSOP8(TVSP8), DFN8-V1(ESON8-V1)
NJU7381A	—	Dual H Bridge	4	0.4	7	1.8	5.5	—	SSOP16, EQFN16-JE
NJU7385	—	Dual H Bridge	4	0.7	9	3	8	2.5 to 5.5	SSOP20-C3
NJU7386 ♡	—	H Bridge	2	1.5	7	1.8	5.5	—	MSOP8(TVSP8)
NJU7386A ♡	—	H Bridge	2	1.7	7	1.8	5.5	—	DFN8-V1(ESON8-V1)
NJW4381 ♡	✓	Dual H Bridge	4	1.5	40	8	36	—	SSOP32
NJW4801	—	Half Bridge	1	0.45	40	8	35	—	MSOP8(VSP8)
NJW4810A	—	Dual Half Bridge	2	1	45	8	40	—	HSOP8-M1
NJW4813	—	Dual Half Bridge	2	0.2	40	8	35	2.7 to 5.5	PCSP20-E3
NJW4814	—	Dual H Bridge	4	0.02	40	8	35	2.7 to 5.5	EQFN24-LE
NJW4820	—	Sink	1	0.5	43	—	40	2.64 to 5.5	SOT-23-5
NJW4822 ♡	—	Sink	1	0.2	43	—	40	2.64 to 5.5	DFN6-H1(ESON6-H1)
NJW4830 ♡	✓	Source	1	0.5	45	4.6	40	2.64 to 5.5	SOT-89-5-2
NJW4832 ♡	—	Source	1	0.2	45	4.6	40	2.64 to 5.5	DFN6-H1(ESON6-H1)

FET Gate Driver for General Motor Application

Part No.	Auto-motive	Operating Temperature Range [°C]		External FET Type	No. of channel	Output Current [A]	Supply Voltage [V]			Package Outline
		min	max.			max.	Absolute Maximum Rating	Operating Voltage min	max.	
NJW4840	✓	-40	105	Low-side Nch.	1	4	24	8	20	MSOP8(VSP8)
NJW4841 ♡	✓	-40	85	Low-side Nch.	1	2	40	4	20	MSOP8(VSP8)
NJW4860	—	-40	125	Low-side Nch.	2	1	40	4	20	HSOP8-M1, DFN8-V1(ESON8-V1)

Stepper Motor Drivers

Bipolar

Part No.	Automo-tive	Output Current [A]	Motor Voltage		Logic Voltage [V]	No. of Motors	key Features				Package Outline	Notes
		max.	Absolute Maximum Rating [V]	Operating Voltage [V] min.	Operating Voltage [V] max.		Input Mode	Exitation Mode	Constant Current VR Input	Constant Current Current Select		
NJU7381A	—	0.4	7	1.8	5.5	—	1	2IN	2/1-2	—	—	SSOP16, EQFN16-JE	
NJU7382A	—	0.4	7	1.8	5.5	—	1	Phase +EN	2/1-2	—	—	EQFN16-JE	
NJU7384	—	0.7	9	4	8	3 to 5.5	1	CLK	2/1-2	—	—	SSOP32	
NJU7385	—	0.7	9	3	8	2.5 to 5.5	1	Phase +EN 2IN	2/1-2	—	—	SSOP20-C3	
NJW4372	—	0.8	40	9	36	2.7 to 5.5	1	CLK	2/1-2	Yes	2bit	SSOP32	
NJW4381 ♡	✓	1.5	40	8	36	—	1	Phase +EN 2IN	2/1-2	Yes	—	SSOP32	
NJW4382 ♡	—	1.5	40	8	36	—	1	Phase +Ix	2/1-2/ W1-2	Yes	2bit	HTSSOP24-P1	

Unipolar

Part No.	Automo-tive	Output Current [V]	Motor Voltage [V]			Logic Voltage [V]	No. of Motors	Key Features				Package Outline
		max.	Absolute Maximum Rating	Operating Voltage min.	Operating Voltage max.			Input Mode	Excitation Mode	Constant Current VR Input	Constant Current Current Select	
NJW4351	—	1.5	55	—	50	2.7 to 5.5	1	CLK	2/1-2	—	—	SSOP20-C3

Controller

Part No.	Automo-tive	Logic Voltage [V]		No. of Motors	Key Features			Package Outline
		min.	max.		Input Mode	Output Mode	Excitation Mode for Motor Driver	
NJU7380	—	4.75	5.25	1	CLK	Phase +EN	2/1-2	DMP14

Three-Phase BLDC Motor Drivers

Pre-Drivers

Part No.	Automo-tive	Operating Temperature Range [°C]		Phase Input	Supply Voltage [V]			Output Drive Mode	Package Outline	Notes
		min.	max.		Absolute Maximum Rating	Operating Voltage min.	Operating Voltage max.			
NEW NA7200	—	-40	105	2In x 3	40	6.3	36	120° Square Wave	SSOP-20--BE	Quick Start Function
NJM2624A ♡	—	-25	85	2In x 3	20	4.5	18	120° Square Wave	DMP16, SSOP16♡	
NJM2626	—	-40	85	1In x 3	28	6	26	120° Square Wave	SSOP16, SSOP20-C3	
NJM2627	—	-40	85	2In x 3	15	4.5	14	120° Square Wave	DMP16, SSOP16	
NJW4303 ♡	—	-40	85	2In x 3	40	9	35	120° Square Wave	SSOP32	
NJW4305A	✓	-40	105	2In x 3	40	7.3	36	120° Square Wave	SSOP20-C3	
NJW4315	✓	-40	125	2In x 3	40	6.3	36	120° Square Wave	EQFN24-LE	

Controllers

Part No.	Auto-motive	Operating Temperature Range [°C]		Phase Input	Supply Voltage [V]			Output Drive Mode	Lead Angle	Package Outline	Notes
		min.	max.		Absolute Maximum Rating	Operating Voltage min.	Operating Voltage max.				
NJU7387	—	-40	105	2In x 3	7	4.5	5.5	150° Square Wave	Yes	SSOP20-C3	External FET: High-side Nch. + Low-side Nch. (Bootstrap Circuit)
NJU7388B ♡	—	-40	105	2In x 3	7	4.5	5.5	150° Square Wave	Yes	SSOP20-C3	External FET: High-side Pch. + Low-side Nch.

Single-Phase BLDC Motor Drivers

Part No.	Auto-motive	Operating Temperature Range [°C]		Output Current [A]		Motor Voltage [V]			Trapezoidal Output Form	Speed Control	Lock Protection	Start up Assist	Package Outline
		min.	max.	typ.	max.	Absolute Maximum Rating]	Operating Voltage min./max. min.	Operating Voltage min./max. max.					
NJM2660A	—	-40	85	Pre-Drive	—	36	4.5	30	Linear	Yes (D-PWM)	Yes(External Capacitor)	—	DMP16, SSOP16
NJU7325	—	-40	85	0.25	0.6	7	2.4	5.5	Linear	—	—	—	MSOP8(VSP8), MSOP8(TVSP8), DFN8-V1(ESON8-V1)
NJU7326	—	-40	85	0.25	0.6	7	2.4	5.5	Linear	—	—	—	MSOP8(VSP8), MSOP8(TVSP8)
NJU7329B	—	-40	85	0.35	0.6	7	2.4	5.5	Linear	—	Yes(External Capacitor)	—	MSOP10(TVSP10)
NJU7342	✓	-40	85	0.25	0.6	7	2.4	5.5	Linear	—	—	—	MSOP8(VSP8), MSOP8(TVSP8)
NJU7356	—	-40	85	0.4	1	7	2.2	5.5	Linear	—	Yes	—	MSOP8(TVSP8)
NJU7360	—	-40	85	0.25	0.6	7	2.2	5.5	Linear	—	—	—	MSOP8(TVSP8)
NJU7364	—	-40	85	0.25	0.6	7	2	5.5	Linear	—	—	—	MSOP8(TVSP8), DFN8-U1(ESON8-U1)
NJU7365	—	-40	85	0.35	1	7	2	5.5	Linear	Yes (D-PWM)	Yes	—	MSOP8(TVSP8)
NJU7366	—	-40	85	0.25	0.6	7	2	5.5	Linear	Yes (A-PWM)	—	Yes	MSOP8(TVSP8)
NJU7367	—	-40	85	0.35	0.7	7	2	5.5	Linear	Yes (D-PWM)	Yes	—	MSOP8(TVSP8)
NJU7367A	—	-40	85	0.35	0.7	7	2	5.5	Linear	Yes (D-PWM)	Yes	Yes	MSOP8(TVSP8)
NJU7367B ♡	✓	-40	105	0.35	0.7	7	2	5.5	Linear	Yes (D-PWM)	Yes	Yes	MSOP8(TVSP8)
NJW4320 ♡	—	-40	105	0.3	0.7	40	6	36	Switching	Yes (D-PWM)	Yes	Yes	SSOP16
NJW4321 ♡	—	-40	105	0.3	0.7	40	6	36	Switching	Yes (D-PWM/ A-PWM)	Yes	Yes	SSOP16

Two-Phase Unipolar BLDC Motor Pre-Drivers

Part No.	Auto-motive	FET Pre-Drive	Supply Voltage [V]			Lock Protection	Lock Alarm	FG Output	Package Outline
			Absolute Maximum Rating	Operating Voltage min.	Operating Voltage max.				
NJM2641	—	—	15	4	14	Yes(External Capacitor)	Yes	—	MSOP8(TVSP8), DMP8
NJM2646	—	Yes	30	4	15	Yes(External Capacitor)	Yes	—	MSOP8(TVSP8). DMP8, SOP8 JEDEC 150mil(EMP8)

Real Time Clocks (RTCs)

♡ : Products available in PRODUCT LONGEVITY PROGRAM　♡xxxx : Products available in PRODUCT LONGEVITY PROGRAM with time limit

4-wire Serial Interface (SPI Bus)

Part No	Package Outline	Time Keeping Current [μA] typ.	Time Keeping Voltage [V]	Alarm Function	Perodic Interupt Function	32kHz Clock Output	Battery Checker [V]	Clock Adjust Function	OSC Halt Sensing	Back-up Battery Switch-over Circuit	VD with Delay Function	Notes
R2043 ♡	TSSOP10G	0.45, at 3V	Typ:0.66 to 5.5 (Worst: 1.00V to 5.5)	2 Sets, W/H/M, H/M	0.5s to 1Month	Nch. Open Drain Output, Controllable by Command	1.6 or 1.3	○	○	×	×	
R2045 ♡	SOP14	0.48, at 3V	1.15 to 5.50	2 Sets, W/H/M, H/M	0.5s to 1Month	Nch. Open Drain Output, Controllable by Command	2.1 or 1.3	○	○	×	×	Built-in Crystal Unit, Frequency Deviation: 0 ± 5ppm
RS5C348A	SSOP10	0.35, at 3V	1.45 to 5.50	2 Sets, W/H/M, H/M	0.5s to 1Month	Nch. Open Drain Output, Controllable by Command	2.1 or 1.6	○	○	×	×	
RV5C348A	SSOP10G											
RV5C348B	SSOP10G	0.55, at 3V				Nch. Open Drain Output, Keeping Output Enable						

3-wire Serial Interface

Part No	Package Outline	Time Keeping Current [μA] typ.	Time Keeping Voltage [V]	Alarm Function	Perodic Interupt Function	32kHz Clock Output	Battery Checker [V]	Clock Adjust Function	OSC Halt Sensing	Back-up Battery Switch-over Circuit	VD with Delay Function	Notes
R2033 ♡	TSSOP10G	0.45, at 3V	Typ. 0.66 to 5.5 (Worst: 1.0 to 5.5)	2 Sets, W/H/M, H/M	0.5Second to 1Month	CMOS Output with Control Pin	1.6 or 1.3	○	○	×	×	
R2061 ♡	QFN023023-16	0.4, at 3V	Typ. 0.75 to 5.5 (Worst: 1.0 to 5.5)	2 Sets, W/H/M, H/M	0.5Second to 1Month	—	2.10 or 1.35	○	○	○	○	1.7V, 2.8V
	SSOP16♡											2.4V
R2262	QFN0202-18	0.3, at 3V	Typ. 0.6 to 5.5 (Worst:0.9 to 5.5)	2 Sets, W/H/M, H/M	0.5Second to 1Month	CMOS Output with Level Shifter	1.35	○	○	○ *1	○	2.7V
	TSSOP10G											
RS5C338A	SSOP10	0.35, at 3V	1.45 to 5.50	2 Sets, W/H/M, H/M	0.5Second to 1Month	CMOS Output with Control Pin	2.1 or 1.6	○	○	×	×	
RV5C338A	SSOP10G											
NJU6350	MSOP8(VSP8)	0.8, at 2V	2.0 to 3.6	×	×	CMOS Output, Controllable by Command	1.6	×	×	×	×	

2-wire Serial Interface (I²C Bus)

Part No	Package Outline	Time Keeping Current [μA] typ.	Time Keeping Voltage [V]	Alarm Function	Perodic Interupt Function	32kHz Clock Output	Battery Checker [V]	Clock Adjust Function	OSC Halt Sensing	Back-up Battery Switch-over Circuit	VD with Delay Function	Notes
R2023 ♡	TSSOP10G	0.45, at 3V	Typ. 0.66 to 5.5 (Worst:1.0 to 5.5)	2 Sets, W/H/M, H/M	0.5Second to 1Month	CMOS output with control pin	1.6 or 1.3	○	○	×	×	
R2025 ♡	SOP14♡	0.48, at 3V	1.15 to 5.50	2 Sets, W/H/M, H/M	0.5Second to 1Month	CMOS output with control pin	2.1 or 1.3	○	○	×	×	Built-in crystal unit, Frequency Deviation: 0 ± 5ppm
	SON22											
R2051 ♡	QFN023023-16	0.4, at 3V	Typ. 0.75 to 5.5 (Worst:1.0 to 5.5)	2 Sets, W/H/M, H/M	0.5Second to 1Month	CMOS output with level shifter	2.10 or 1.35	○	○	○	○	2.4V, 2.8V
	SSOP16											2.4V, 2.8V, 4.0V
	TSSOP10G♡			Register only	Register only						—	2.4V
R2221 ♡	QFN018018-12	0.3 *2, at 3V	Typ. 0.6 to 5.5 (Worst:0.9 to 5.5)	2 Sets, W/H/M, H/M	0.5Second to 1Month	CMOS output with control pin	1.35	○	○	×	×	ECO mode is set by ECO Pin.
	TSSOP10G♡											
R2223 ♡	QFN018018-12	0.3 *2, at 3V	Typ. 0.6 to 5.5 (Worst:0.9 to 5.5)	2 Sets, W/H/M, H/M	0.5Second to 1Month	CMOS output with control pin	1.35	○	○	×	×	ECO Mode is set by a Register.
	TSSOP10G♡											
RS5C372A ♡	SSOP8	0.5, at 3V	1.3 to 6.0 1.45 to 6.00	2 Sets, W/H/M × 2	0.5Second to 1Month	Nch. open drain output, Controllable by command	—	○	○	×	×	32768Hz/ 32000Hz, Crystal is Select-able
RS5C372B						CMOS output, Controllable by command						
RV5C386A	SSOP10G	0.35, at 3V	1.45 to 5.50	2 Sets, W/H/M, H/M	0.5Second to 1Month	CMOS output with control pin	2.1 or 1.6	○	○	×	×	
RV5C387A	SSOP10G	0.35, at 3V	1.45 to 5.50	2 Sets, W/H/M, H/M	0.5Second to 1Month	Nch. open drain output, Controllable by command	2.1 or 1.6	○	○	×	×	

*1 For secondary battery or capacitor, built-in VR for charger　*2 Time keeping current can be reduced in ECO mode.

Quartz Crystal Oscillator ICs

Fundamental Oscillator ICs

Part No.	Voltage Regulator	Oscillation Frequency [MHz]	Operating Voltage V_{DD} [V] min.	Operating Voltage V_{DD} [V] max.	I_{DD} @ V_{DD}=3.3V [mA]	Divider	Output	Package Outline	Chip Size [mm]	Notes
NJU6212 Series	Yes	to 60	1.62	3.63	5(typ.)	to f0/8	C-MOS	Chip	0.7 × 0.75	
NJU6221 Series	Yes	to 60	1.62	3.63	2(typ.)	to f0/64	C-MOS	Thin-Chip, Wafer	0.73 × 0.63	
NJU6222 Series	—	20 to 50	1.62	3.63	5.5(typ.)	to f0/2	C-MOS	Thin-Chip, Wafer	0.58 × 0.5888	For Special High Quality Audio Sound
NJU6229 Series	Yes	32.768kHz	1.62	5.5	1.45uA(typ.)	—	C-MOS	Thin-Chip, Wafer	0.53 × 0.53	
NJU6311 Series	—	to 50	2.0	5.5	8(max.)	to f0/32	C-MOS	Thin-Chip, MSOP10(VSP10)	0.7 × 0.95	
NJU6321 Series	—	to 50	3.0	6.0	10(max.) @5V	to f0/8	C-MOS	Chip, SOP8 JEDEC 150mil(EMP8), MSOP8(VSP8)	1.21 × 0.8	
NJU6322 Series	—	to 50	3.0	6.0	10(max.) @5V	to f0/8	TTL	Chip, SOP8 JEDEC 150mil(EMP8)	1.24 × 0.8	
NJU6323 Series	—	to 50	3.0	6.0	10(max.) @5V	to f0/8	C-MOS	Chip, SOP8 JEDEC 150mil(EMP8)	1.28 × 0.8	
NJU6324 Series	—	to 50	3.0	6.0	10(max.) @5V	to f0/8	C-MOS	Chip, SOP8 JEDEC 150mil(EMP8)	1.24 × 0.8	
NJU6360 Series	—	to 50	2.7	5.5	8(max.)	to f0/32	C-MOS	Thin-Chip	0.7 × 0.75	
NJU6363 Series	—	to 40	1.5	3.6	2.5(max.)	to f0/32	C-MOS	Thin-Chip	0.7 × 0.75	
NJU6364 Series	—	to 60	2.0	3.6	3.5(max.)	to f0/32	C-MOS	Thin-Chip	0.7 × 0.75	
NJU6365 Series	—	to 32	1.8	3.6	1.5(max.)	to f0/32	C-MOS	Thin-Chip	0.7 × 0.75	
NJU6366 Series	—	to 50	2.0	5.5	6(max.) @3V	to f0/8	C-MOS	Thin-Chip, SOT-23-6-1	0.67 × 0.75	
NJU6367 Series	—	to 50	2.0	5.5	6(max.) @3V	to f0/32	C-MOS	Thin-Chip	0.7 × 0.75	
NJU6368 Series	—	to 50	2.7	5.5	8(max.)	to f0/8	C-MOS	Thin-Chip, SOT-23-6-1	0.67 × 0.75	
NJU6369 Series	—	to 50	1.5	3.6	5(max.)	to f0/32	C-MOS	Thin-Chip	0.7 × 0.75	
NJU6385	—	20 to 50	1.62	3.63	5.5(typ.)	—	C-MOS	DFN6-G1(ESON6-G1)	—	For Special High Quality Audio Sound

3rd. Over Tone Oscillator ICs

Part No.	Product Version (Oscillation Frequency) [MHz]	Operating Voltage V_{DD} [V] min.	Operating Voltage V_{DD} [V] max.	I_{DD} @V_{DD}=3.3V [mA]	Output	Package Outline	Chip Size [mm]	Notes
NJU6227 Series	x1 (40 to 50)	1.62	3.63	3.1(typ.)	C-MOS	Thin-Chip, Wafer	0.73 × 0.63	Built-in Voltage Regulator
	x2 (50 to 60)	1.62	3.63	3.6(typ.)				
	x3 (60 to 85)	2.25	3.63	7.0(typ.)				
	x4 (85 to 110)	2.25	3.63	7.8(typ.)				
	x5 (110 to 130)	2.25	3.63	8.2(typ.)				
	x6 (130 to 160)	2.25	3.63	9.2(typ.)				
NJU6376 Series	G (30 to 40)	2.2	5.5	8(max.) @3V	C-MOS	Chip, SOT-23-6-1	0.7 × 0.75	
	H (40 to 50)			10(max.) @3V				
	J (50 to 60)			11(max.) @3V				
	K (60 to 75)			12(max.) @3V				
NJU6377 Series	E (30 to 40)	2.2	5.5	8(max.) @3V	C-MOS	Thin-Chip	0.7 × 0.75	
	F (40 to 50)			10(max.) @3V				
	G (50 to 60)			11(max.) @3V				
	H (60 to 75)			12(max.) @3V				
	J (45 to 55)			11(max.) @3V				
	K (40 to 50)			11(max.) @3V				
NJU6394 Series	A (75 to 90)	1.6	3.6	6(typ.) @1.8V	C-MOS	Thin-Chip	0.7 × 0.75	
	B (90 to 105)			7(typ.) @1.8V				
	C (105 to 125)			8(typ.) @1.8V				
NJU6396	135 to 166	2.7	3.6	27(typ.) @3.3V	C-MOS	Thin-Chip	0.7 × 0.75	
NJU6397 Series	A (70 to 90)	2.3	3.6	13(typ.) @3.3V	C-MOS	Thin-Chip, Wafer	0.7 × 0.75	
	B (90 to 110)			13(typ.) @3.3V				
	C (110 to 135)			18(typ.) @3.3V				
NJU6397D	100 to 125	2.25	2.75	13(typ.) @2.5V	C-MOS	Thin-Chip, Wafer	0.7 × 0.75	

Quartz Crystal Oscillator ICs

VCXO IC

Part No	Oscillation Frequency [MHz]	Operating Voltage V_{DD} [V]		I_{DD} @V_{DD}=3.3V [mA]	Output	Package Outline	Chip Size [mm]	Notes
		min.	max.	typ.				
NJM2555	120(240) to 160(640)	3.0	3.6	50 @3.3V	LVPECL Equivalent	Chip, SSOP10	1.6 × 2.0	

ATE ASSPs

Part No.	Automotive	Key Features	Operating Voltage [V]		Package Outline	Notes
			min.	max.		
NJU6495	—	Quad Pin ElectronICs Driver	8	15	LQFP64-H2	Max. 50MHz Operation, Max. 15V Output Range
NJU6496	—	Quad PIN-ElectronICs Drivers / Comparators / Analog Switches	10	15	QFN84-D4	Comparator and Analog Switch for kelvin, Max. 45MHz Operation, Max. 15V Output Range

LCD Driver (Segment Type)

Part No.	Key Features	Display Size	Operating Voltage [V]		I/F	Duty	Package Outline	Notes
			V_{DD}	V_{LCD}				
		Seg	typ.	max.				
NJU6434	P-sub		3.0/5.0	6	Serial	1/4	Chip, LQFP64-H2	

LD Driver ICs

LD Driver ICs

Part No.	LD	CH	Supply Voltage [V]	max. Operating Frequency [MHz]	LED Current Min. Pulse Width [ns]	Drive Current Setting [mA]			Package Outline	Notes
						Threshold Current	LED Current	Operating Current		
RN5C711 ♡	Cathode	2CH	3.3 or 5.0	200	2.5	—	—	70	QFN0505-36-P6	Include APC, LVDS format data
RN5C713	Cathode	2CH	5	400	1.25	50	50	70	QFN0606-48-P14	Need no VR, Digital method
RN5C716 ♡	Anode	1CH	3.3 or 5.0	200	2.5	—	—	80	QFN0303-20-P25	

LD Driver ICs for Display

Part No.	Automotive	CH	Supply Voltage [V]	Maximum Output Rate Per 1 Channel [Mdots/sec]	Rising/Falling Time [ns]	Maximum Operating Current [mA]		Protection Circuit	Package Outline
						LD1	LD2/3/4		
RN5C750	✓	4CH	1.8 & 3.3	200	1.0	800	400	LD Over Current Detection, LD Pin Short Circuit Detection, PDI Current Error Detection, Thermal Shutdown	QFN0808-56
RN5C752	—	4CH	1.8 & 3.3	200	1.0	800	400	LD Over Current Detection, LD Pin Short Circuit Detection, PDI Current Error Detection, Thermal Shutdown	QFN0808-56

USB Power Delivery (PD) Controller IC

Part No.	Standby Current [μA]	Power Role	Data Role	Protection Circuit	VBUS Input Voltage [V]		CC1/2 Pin Input Voltage [V]	VBUS Controls	Operating Temperature Range [℃]		Package Outline	Notes
					min.	max.			min.	max.		
RN5U700	2.8 (Deep-Sleep)	DRP Source Sink	DRD DFP UFP	VBUS Over Voltage Protection (OVP) / Over Current Protection (OCP), CC Pin OVP, Over Temperature Protection (OTP)	4.5	24	up to 24	Nch.FET Pch.FET Switch IC	-20	70	QFN0404-24-P12	Supports Dead Battery Operation, I²C Interface: Up to Pch.FET 1MHz (FM+)

Analog Switches

Part No.	Supply Voltage	Quiescent Current	On-state Resistance [ohm]	Package Outline	Notes
NJU201A	44	1.2mA typ. (V+/V-= ± 15V)	50	DMP16	Turn-on Time: 480ns typ. Turn-off Time: 370ns typ.
NJU211	40	1.15mA typ. (V+/V-= ± 15V)	115	DMP16	Turn-on Time: 460ns typ. Turn-off Time: 360ns typ.
NJU4051B	20	5uA max. (VDD=5V)	220	DMP16, SSOP16	Single 8-Channel Multiplexer
NJU4052B	20	5uA max. (VDD=5V)	220	DMP16, SSOP16	Dual 4-Channel Multiplexer
NJU4053B	20	5uA max. (VDD=5V)	220	DMP16, SSOP16	Triple 2-Channel Multiplexer
NJU4066B	20	0.25uA max. (VDD=5V)	300	DMP14, SSOP14	—
NJU7301	44	1.2mA typ. (V+/V-= ± 15V)	115	DMP16	Turn-on Time: 480ns typ. Turn-off Time: 370ns typ.

Data Converters

Part No.	Key Features	Operating Voltage [V]		A/D Conversion	Package Outline	Notes
		min.	max.			
NJM4151	Frequency Operation from 1Hz to 100kHz	8	22	—	DIP8, DMP8	8V < V+ < 15V (3.5mA typ.) 16V < V+ < 22V (4.5mA typ.)
NJU3610	Digital Filter High-Pass Filter, Stereo 4-1 Selectors	—		1bit Delta-Sigma stereo ADC	LQFP48-R3	Single power supply: 3.0 to 3.6V (Built-in regulator using together), Two power supply: Analog(3.0 to 3.6V), Digital(1.65 to 2.0V)
NJW5210	R-2R System, 8bit 3channel D/A Converters	2.7	5.5	—	MSOP8(TVSP8)	
NJW5211	R-2R System, 8bit 8channel D/A Converters	2.7	5.5	—	SSOP14	

IO Port Expansion ICs (MPU)

Part No.	Automotive	Operating Voltage [V]		Output Current ILED [mA]	Output Port	Interface	LED Drive	Package Outline	Notes
		min.	max.						
NJU3711A	—	2.4	5.5	25	8	Serial	Yes	SSOP14	
NJU3730	—	2	5.5	—	3	I²C	—	MSOP8(VSP8)	
NJU3754	—	3	5.5	—	11-Input	Serial	—	SSOP16	
NJU6010	—	2.4	5.5	—	4-Output x 6-Input	Serial	—	SSOP16	Oscillator, Key-scan Circuit, Key-register and Power on Reset Circuit

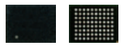
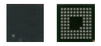
Other Peripheral ICs

Part No.	Automotive	Key Features	Operating Voltage [V]		Package Outline	Notes
			min.	max.		
NJM2342	—	Quad Buffer for Reference Circuit	2	14	MSOP10(TVSP10)	Icc=1mA(typ.), Sink/Source Buffer
NJU6402B	—	—	4.5 4.5 -12	5.5 12 -4.5	DMP16	Receiver-3/ Driver-3

Package Information

Please refer to our website for additional details.

● CSP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch	
80	C	CSP0608-80		8.0 × 6.0	8.0 × 6.0	1.1	0.65	2,000
85	C	CSP0606-85		6.0 × 6.0	6.0 × 6.0	1.07	0.5	2,000

*1: Maximum Value

● DFN

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch	
4	L	DFN1010-4		1.0 × 1.0	1.0 × 1.0	0.4	0.65	10,000
4	L	DFN1212-4		1.2 × 1.2	1.2 × 1.2	0.8	0.5	3,000
5	L	DFN1212-5		1.2 × 1.2	1.2 × 1.2	0.4	0.8	5,000
6	L	DFN1212-6		1.2 × 1.2	1.2 × 1.2	0.4	0.4	5,000
6	GK	DFN1212-6-GK		1.2 × 1.2	1.2 × 1.2	0.4	0.4	5,000
6	L	DFN1414-6B		1.4 × 1.4	1.4 × 1.4	0.6	0.5	5,000
6	L	DFN1616-6		1.6 × 1.6	1.6 × 1.6	0.4	0.5	5,000
6	L	DFN1616-6B		1.6 × 1.6	1.6 × 1.6	0.4	0.5	5,000
6	GY	DFN1616-6-GY		1.6 × 1.6	1.6 × 1.6	0.4	0.5	5,000
6	L	DFN1814-6		1.4 × 1.8	1.4 × 1.8	0.4	0.5	5,000
6	GN	DFN1814-6-GN		1.4 × 1.8	1.4 × 1.8	0.4	0.5	5,000
6	L	DFN1814-6B		1.4 × 1.8	1.4 × 1.8	0.4	0.5	5,000
6	L	DFN1814-6C		1.4 × 1.8	1.4 × 1.8	0.4	0.5	5,000
6	L	DFN1816-6		1.6 × 1.8	1.6 × 1.8	0.4	0.5	5,000
6	L	DFN2020-6		2.0 × 2.0	2.0 × 2.0	0.8	0.65	3,000
8	L	DFN1216-8		1.6 × 1.2	1.6 × 1.2	0.4	0.4	5,000
8	L	DFN1616-8		1.6 × 1.6	1.6 × 1.6	0.6	0.4	5,000
8	L	DFN1616-8B		1.6 × 1.6	1.6 × 1.6	0.4	0.4	5,000
8	GM	DFN1616-8-GM		1.6 × 1.6	1.6 × 1.6	0.4	0.4	5,000
8	L	DFN2020-8		2.0 × 2.0	2.0 × 2.0	0.8	0.5	3,000
8	GA	DFN2020-8-GA		2.0 × 2.0	2.0 × 2.0	0.8	0.5	3,000
8	L	DFN2020-8B		2.0 × 2.0	2.0 × 2.0	0.8	0.5	3,000
8	L	DFN2020-8C		2.0 × 2.0	2.0 × 2.0	0.6	0.5	3,000
8	GT	DFN2020-8-GT		2.0 × 2.0	2.0 × 2.0	0.6	0.5	3,000
12	L	DFN3030-12		3.0 × 3.0	3.0 × 3.0	0.8	0.5	3,000
12	L	DFN3030-12B		3.0 × 3.0	3.0 × 3.0	0.8	0.5	3,000
14	L	DFN2735-14		3.5 × 2.7	3.5 × 2.7	0.6	0.5	5,000

*1: Maximum Value

● DFN (ESON)

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch	
4	KF1	DFN4-F1(ESON4-F1)		1.6 × 1.2	1.6 × 1.2	0.427	0.5	3,000
6	KG1	DFN6-G1(ESON6-G1)		1.6 × 1.6	1.6 × 1.6	0.427	0.5	3,000
6	KH1	DFN6-H1(ESON6-H1)		2.0 × 2.0	2.0 × 2.0	0.427	0.5	3,000
8	KU1	DFN8-U1(ESON8-U1)		2.0 × 2.0	2.0 × 2.0	0.427	0.5	3,000
8	KV1	DFN8-V1(ESON8-V1)		2.3 × 2.3	2.3 × 2.3	0.427	0.5	3,000
8	KX7	DFN8-X7(ESON8-X7)		3.5 × 4.0	3.5 × 4.0	0.75	0.65	1,500
8	KW1	DFN8-W1(ESON8-W1)		3.0 × 3.0	3.0 × 3.0	0.75	0.5	1,500
8	KW2	DFN8-W2(ESON8-W2)		3.0 × 3.0	3.0 × 3.0	0.75	0.65	1,500
8	GS	DFN2323-8-GS		2.3 × 2.3	2.3 × 2.3	0.427	0.5	3,000
8	GF	DFN3030-8-GF		3.0 × 3.0	3.0 × 3.0	0.75	0.65	1,500
8	GG	DFN3030-8-GG		3.0 × 3.0	3.0 × 3.0	0.75	0.65	1,500
8	GQ	DFN3030-8-GQ		3.0 × 3.0	3.0 × 3.0	0.75	0.5	1,500

*1: Maximum Value

● DFN (PL)

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch	
4	K	DFN(PL)0808-4		0.8 × 0.8	0.8 × 0.8	0.4	0.48	10,000
4	K	DFN(PL)1010-4		1.0 × 1.0	1.0 × 1.0	0.6	0.65	10,000
4	K	DFN(PL)1010-4B		1.0 × 1.0	1.0 × 1.0	0.6	0.65	10,000
4	K	DFN(PL)1010-4F		1.0 × 1.0	1.0 × 1.0	0.4	0.5	10,000
4	K	DFN(PL)1612-4		1.2 × 1.6	1.2 × 1.6	0.6	0.6	5,000
4	K	DFN(PL)1612-4B		1.2 × 1.6	1.2 × 1.6	0.4	0.6	5,000
4	K	DFN(PL)1612-4D		1.2 × 1.6	1.2 × 1.6	0.6	0.5	5,000
6	K	DFN(PL)1212-6		1.2 × 1.2	1.2 × 1.2	0.4	0.4	5,000
6	K	DFN(PL)1212-6F		1.2 × 1.2	1.2 × 1.2	0.4	0.4	5,000
6	K	DFN(PL)1216-6F		1.6 × 1.2	1.6 × 1.2	0.4	0.5	5,000
6	K	DFN(PL)1216-6G		1.6 × 1.2	1.6 × 1.2	0.4	0.6	5,000
6	K	DFN(PL)1414-6		1.4 × 1.4	1.4 × 1.4	0.4	0.5	5,000
6	K	DFN(PL)1616-6		1.6 × 1.6	1.6 × 1.6	0.6	0.5	5,000
6	K	DFN(PL)1616-6B		1.6 × 1.6	1.6 × 1.6	0.6	0.5	5,000
6	K	DFN(PL)1616-6D		1.6 × 1.6	1.6 × 1.6	0.6	0.5	5,000
6	K	DFN(PL)1820-6		1.8 × 2.0	1.8 × 2.0	0.6	0.5	5,000

*1: Maximum Value

Package Information

Please refer to our website for additional details.

● DFN (PL)

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch	
6	K	DFN(PL)1820-6B		1.8 × 2.0	1.8 × 2.0	0.6	0.55	5,000
6	GZ	DFN(PL)2018-6-GZ		2.0 × 1.8	2.0 × 1.8	0.6	0.5	5,000
6	K	DFN(PL)2514-6		1.4 × 2.5	1.4 × 2.5	0.6	0.5	5,000
8	K	DFN(PL)2020-8		2.0 × 2.0	2.0 × 2.0	0.6	0.5	5,000
8	GH	DFN(PL)2020-8-GH U.D.		2.0 × 2.0	2.0 × 2.0	0.6	0.5	5,000
8	K	DFN(PL)2020-8B		2.0 × 2.0	2.0 × 2.0	0.6	0.5	5,000
10	K	DFN(PL)2527-10		2.7 × 2.5	2.7 × 2.5	0.6	0.5	5,000
12	K	DFN(PL) 2730-12		3.0 × 2.7	3.0 × 2.7	0.6	0.5	5,000

*1: Maximum Value

● DFN (SON)

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch	
10	KK1	DFN10-K1(SON10-K1)		2.9 × 2.8	2.9 × 3.0	0.85	0.5	3,000

*1: Maximum Value

● DIP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
8	D	DIP8		8.8 × 6.4	—	3.95	2.54	50/stick

● DMP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
8	M	DMP8		5.0 × 5.0	5.0 × 6.8	1.6	1.27	2,000
14	M	DMP14		10.0 × 5.0	10.0 × 6.8	1.6	1.27	2,000
16	M	DMP16		10.0 × 5.0	10.0 × 6.8	1.6	1.27	2,000
20	M	DMP20		10.0 × 5.0	10.0 × 6.8	1.6	0.95	2,000

● EMP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
8	E	EMP-8-AN		5.0 × 3.9	5.0 × 6.0	1.5	1.27	2,000

● EPCSP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch	
10	NB2	EPCSP10-B2		1.55 × 1.15	1.55 × 1.15	0.55	0.4	3,000

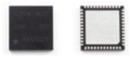
*1: Maximum Value

● EPFFP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch	
4	—	EPFFP4-X2		0.65 × 0.65	0.65 × 0.65	0.39	0.4	5,000
6	UA2	EPFFP6-A2		1.0 × 1.0	1.0 × 1.0	0.39	0.4	5,000
6	UX2	EPFFP6-X2		1.1 × 0.7	1.1 × 0.7	0.39	0.4	5,000
10	UC4	EPFFP10-C4		1.5 × 1.5	1.5 × 1.5	0.375	0.5	5,000

*1: Maximum Value

● EQFN

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch	
12	ME2	EQFN12-E2		1.8 × 1.8	1.8 × 1.8	0.427	0.4	3,000
12	MJE	EQFN12-JE		3.0 × 3.0	3.0 × 3.0	0.75	0.5	1,500
14	MD7	EQFN14-D7		1.6 × 1.6	1.6 × 1.6	0.427	0.4	3,000
16	MG2	EQFN16-G2		2.3 × 2.3	2.3 × 2.3	0.427	0.4	3,000
16	MJE	EQFN16-JE		3.0 × 3.0	3.0 × 3.0	0.75	0.5	1,500
18	ME7	EQFN18-E7		2.0 × 2.0	2.0 × 2.0	0.427	0.4	3,000
24	MLE	EQFN24-LE		4.0 × 4.0	4.0 × 4.0	0.75	0.5	1,000
26	MHH	EQFN26-HH		3.4 × 2.6	3.4 × 2.6	0.75	0.4	1,500
48	MSN	EQFN48-SN		7.0 × 7.0	7.0 × 7.0	0.83	0.5	3,000

*1: Maximum Value

● FLP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch	
6	KA1	FLP6-A1		1.6 × 1.2	1.6 × 1.6	0.55	0.5	4,000
6	KB2	FLP6-B2		2.0 × 1.7	2.0 × 2.1	0.75	0.65	3,000

*1: Maximum Value

● HSOP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
6	S	HSOP-6J		5.02 × 3.9	5.02 × 6.0	1.5	3.81	1,000

Package Information

Please refer to our website for additional details.

● HSOP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
8	S	HSOP-8E		5.2 × 4.4	5.2 × 6.2	1.5	1.27	1,000
18	S	HSOP-18		5.2 × 4.4	5.2 × 6.2	1.5	0.5	1,000
18	AK	HSOP-18-AK		5.2 × 4.4	5.2 × 6.2	1.5	0.5	1,000
8	GM1	HSOP8-M1		5.2 × 4.4	5.2 × 6.2	1.55	1.27	3,000
8	AC	HSOP-8-AC		5.2 × 4.4	5.2 × 6.2	1.5	1.27	3,000

● HTSSOP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
24	VP1	HTSSOP24-P1		7.8 × 4.4	7.8 × 6.4	0.85	0.65	2,500

● LQFP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
48	FR3	LQFP48-R3		7 × 7	9 × 9	1.4	0.5	—
52	FH2	LQFP52-H2		10 × 10	12 × 12	1.4	0.65	—
52	FH3	LQFP52-H3		10 × 10	12 × 12	1.4	0.65	—
64	FH2	LQFP64-H2		10 × 10	12 × 12	1.4	0.5	—

● MSOP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
8	G	MSOP-8		3.0 × 3.0	3.0 × 4.9	0.85	0.65	3,000
8	BM	MSOP-8-BM		3.0 × 3.0	3.0 × 4.9	0.85	0.65	3,000

● MSOP (TVSP)

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
8	RB1	MSOP8(TVSP8)		2.9 × 2.8	2.9 × 4.0	0.9	0.65	2,000
10	RB2	MSOP10(TVSP10)		2.9 × 2.8	2.9 × 4.0	0.75	0.5	2,000

Note: MSOP(TVSP) : MEET JEDEC MO-187-DA THIN TYPE

● MSOP (VSP)

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
8	AF	VSP-8-AF		2.9 × 2.8	2.9 × 4.0	1.1	0.65	2,000
8	R	MSOP8(VSP8)		2.9 × 2.8	2.9 × 4.0	1.1	0.65	2,000
10	R	MSOP10(VSP10)		2.9 × 2.8	2.9 × 4.0	1.1	0.5	2,000

Note: MSOP(VSP) : MEET JEDEC MO-187-DA

● PCSP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
14	SC3	PCSP14-C3		2.5 × 2.5	2.5 × 2.5	1.01	0.5	3,000
20	SCC	PCSP20-CC		2.7 × 2.7	2.7 × 2.7	0.9	0.45	3,000
20	SE3	PCSP20-E3		3.5 × 3.5	3.5 × 3.5	0.94	0.5	1,500
24	SED	PCSP24-ED		3.5 × 3.5	3.5 × 3.5	0.9	0.5	1,500
32	SF7	PCSP32-F7		4.0 × 4.0	4.0 × 4.0	0.96	0.5	1,000

*1: Maximum Value

● PMAP11

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
11	YPM	PMAP11-PM		8.1 × 6.6	8.1 × 8.1	1.85	0.65	2,000
11	YGP	PMAP11-GP U.D.		8.1 × 6.6	8.1 × 8.1	1.85	0.65	2,000

*1: Maximum Value

Package Information

Please refer to our website for additional details.

● QFN

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch	
8	L	QFN2220-8		2.2 × 2.0	2.2 × 2.0	1.5	0.65	2,000
10	L	QFN014018-10		1.8 × 1.4	1.8 × 1.4	0.4	0.4	5,000
12	L	QFN018018-12		1.8 × 1.8	1.8 × 1.8	0.43	0.4	3,000
14	MA	QFN2848-14 U.D.		4.8 × 2.8	4.8 × 2.8	1.8	—	
16	L	QFN023023-16		2.3 × 2.3	2.3 × 2.3	0.43	0.4	3,000
16	MA	QFN2434-16-MA U.D.		3.4 × 2.4	3.4 × 2.4	1.6	—	
18	L	QFN0202-18		2.0 × 2.0	2.0 × 2.0	0.43	0.4	3,000
20	KM1	QFN20-M1		4.2 × 4.2	4.2 × 4.2	0.95	0.5	3,000
20	NE	QFN3030-20-NE U.D.		3.0 × 3.0	3.0 × 3.0	0.8	0.4	3,000
20	L	QFN0303-20-P25		3.0 × 3.0	3.0 × 3.0	0.75	0.4	—
20	L	QFN0303-20-P28		3.0 × 3.0	3.0 × 3.0	0.6	0.4	4,000
20	D	QFN0404-20		4.0 × 4.0	4.0 × 4.0	0.85	0.5	2,000
24	K	QFN0404-24		4.0 × 4.0	4.0 × 4.0	0.8	0.5	1,000
24	L	QFN0404-24B		4.0 × 4.0	4.0 × 4.0	0.75	0.5	1,000
24	U	QFN0404-24-P12		4.0 × 4.0	4.0 × 4.0	0.75	0.5	1,000
24	NB	QFN4040-24-NB		4.0 × 4.0	4.0 × 4.0	0.75	0.5	1,000
26	NC	QFN3426-26-NC		3.4 × 2.6	3.4 × 2.6	0.75	0.4	1,500
28	L	HQFN0808-28		8.0 × 8.0	8.8 × 8.8	1.0	0.8	2,000
32	K	QFN(PL)0404-32		4.0 × 4.0	4.0 × 4.0	0.6	0.4	2,000
32	L	QFN0505-32B		5.0 × 5.0	5.0 × 5.0	0.85	0.5	1,000
32	L	QFN0505-32C		5.0 × 5.0	5.0 × 5.0	0.8	0.5	5,000
32	L	QFN0505-32-P7		5.0 × 5.0	5.0 × 5.0	0.75	0.5	1,000
36	N	QFN0505-36-P6		5.0 × 5.0	5.0 × 5.0	0.9	0.4	—
36	N	QFN0606-36		6.0 × 6.0	6.0 × 6.0	0.9	0.5	5,000
48	N	QFN0606-48-P14		6.0 × 6.0	6.0 × 6.0	0.9	0.4	2,000
48	N	QFN0606-48-P22		6.0 × 6.0	6.0 × 6.0	0.9	0.4	5,000
48	N	QFN0707-48-P25		7.0 × 7.0	7.0 × 7.0	0.9	0.5	2,000
48	N	QFN0707-48-P27		7.0 × 7.0	7.0 × 7.0	0.9	0.5	2,000
48	U	QFN0507-48		5.0 × 7.0	5.0 × 7.0	0.6	—	—
56	L	QFN0808-56		8.0 × 8.0	8.0 × 8.0	0.8	0.5	1040 (tray)
65	L	QFN0910-65-MA		10.0 × 9.0	10.0 × 9.0	4.8	0.5	250
84	KD4	QFN84-D4		10.2 × 10.2	10.2 × 10.2	0.95	0.4	—

*1: Maximum Value

● QFP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
100	FU1	QFP100-U1		20.0 × 14.0	23.2 × 17.2	2	0.65	72

● SC

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
4	F4	SC-82AB		2.0 × 1.25	2.0 × 2.1	0.9	1.3	3,000
4	Q	SC-82AB		2.0 × 1.25	2.0 × 2.1	0.9	1.3	3,000
5	F3	SC-88A		2.0 × 1.25	2.0 × 2.1	0.9	0.65	3,000
5	Q	SC-88A		2.0 × 1.25	2.0 × 2.1	0.9	0.65	3,000
5	DB	SC-88A-DB		2.0 × 1.25	2.0 × 2.1	0.9	0.65	3,000

Package Information

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Package Information

Please refer to our website for additional details.

● SDIP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
44	—	SDIP22		19.0 × 6.4	—	3.4	1.778	25/stick

● SON

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
3	D	SON1408-3		1.4 × 0.8	1.4 × 1.2	0.6	0.45	9,000
6	D	HSON-6		2.9 × 2.8	2.9 × 3.0	0.9	0.95	3,000
6	GU	HSON-6-GU		2.9 × 2.8	2.9 × 3.0	0.9	0.95	3,000
6	D	SON1612-6		1.6 × 1.2	1.6 × 1.6	0.6	0.5	4,000
6	D	SON-6		1.6 × 2.6	1.6 × 3.0	0.85	0.5	3,000
8	D	SON-8		2.9 × 2.8	2.9 × 3.0	0.9	0.65	3,000
10	D	SON-10		2.9 × 2.8	2.9 × 3.0	0.9	0.5	3,000
22	D	SON22		6.1 × 4.7	6.1 × 5.0	1.4	0.5	1,000

● SOP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
8	G	SOP8		4.9 × 3.9	4.9 × 6.0	1.25	1.27	2,500
14	G	SOP14		8.65 × 3.9	8.65 × 6.0	1.25	1.27	2,500
14	S	SOP14		10.1 × 5.0	10.1 × 7.4	3.1	1.27	1,000

● SOP JEDEC（EMP）

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
8	E	SOP8 JEDEC 150mil(EMP8)		5.0 × 3.9	5.0 × 6.0	1.5	1.27	2,000

● SOT

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
3	N	SOT-23-3		2.9 × 1.6	2.9 × 2.8	1.1	0.95	3,000
5	F	SOT-23-5		2.9 × 1.6	2.9 × 2.8	1.1	0.95	3,000
5	N	SOT-23-5		2.9 × 1.6	2.9 × 2.8	1.1	0.95	3,000
5	DC	SOT-23-5-DC		2.9 × 1.6	2.9 × 2.8	1.1	0.95	3,000

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
6	N	SOT-23-6		2.9 × 1.6	2.9 × 2.8	1.1	0.95	3,000
6	DD	SOT-23-6-DD		2.9 × 1.6	2.9 × 2.8	1.1	0.95	3,000
6	F1	SOT-23-6-1		2.9 × 1.6	2.9 × 2.8	1.1	0.95	3,000
6	N	SOT-23-6W		2.9 × 1.8	2.9 × 2.8	1.1	0.95	3,000
6	N	TSOT-23-6		2.9 × 1.6	2.9 × 2.8	0.85	0.95	3,000
3	H	SOT-89		4.5 × 2.5	4.5 × 4.0	1.5	1.5	1,000
3	U	SOT-89-3		4.5 × 2.5	4.5 × 4.25	1.5	1.5	1,000
5	H	SOT-89-5		4.5 × 2.5	4.5 × 4.35	1.5	1.5	1,000
5	U1	SOT-89-5-1		4.5 × 2.5	4.5 × 4.5	1.5	1.5	1,000
5	U2	SOT-89-5-2		4.5 × 2.5	4.5 × 4.5	1.5	1.5	1,000
5	DM	SOT-89-5-DM		4.5 × 2.5	4.5 × 4.35	1.5	1.5	1,000

● SSOP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
8	G	SSOP-8G		2.9 × 2.8	2.9 × 4.0	1.1	0.65	3,000
8	V	SSOP8		3.5 × 4.4	3.5 × 6.4	1.15	0.65	2,000
8	S	SSOP8		3.5 × 4.4	3.5 × 6.4	1.15	0.65	2,000
8	VA3	SSOP8-A3		3.5 × 4.4	3.5 × 6.4	1.15	0.65	2,000
10	S	SSOP10		3.5 × 4.4	3.5 × 6.4	1.15	0.5	2,000
10	V	SSOP10		3.5 × 4.4	3.5 × 6.4	1.15	0.5	2,000
10	V	SSOP10G		2.9 × 2.8	2.9 × 4.0	1.1	0.5	2,000
14	V	SSOP14		5.0 × 4.4	5.0 × 6.4	1.15	0.65	2,000

Package Information

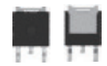
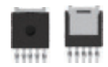
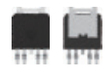
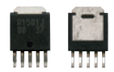
Please refer to our website for additional details.

● SSOP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
14	VB4	SSOP14-B4		5.0 × 4.4	5.0 × 6.4	1.15	0.65	2,000
16	S	SSOP16		5.0 × 4.4	5.0 × 6.4	1.15	0.65	2,000
16	V	SSOP16		5.0 × 4.4	5.0 × 6.4	1.15	0.65	2,000
16	V	SSOP-16		5.1 × 4.4	5.1 × 6.4	1.15	0.65	2,000
20	BE	SSOP-20-BE		6.5 × 4.4	6.5 × 6.4	1.15	0.65	2,000
20	VC3	SSOP20-C3		6.5 × 4.4	6.5 × 6.4	1.15	0.65	2,000
20	VF1	SSOP20-F1		8.9 × 5.4	8.9 × 7.8	1.8	0.8	2,000
20	V	SSOP20		6.5 × 4.4	6.5 × 6.4	1.15	0.5	2,000
24	V	SSOP-24		7.9 × 5.6	7.9 × 7.6	1.15	0.65	3,000
32	V	SSOP32		11.0 × 5.6	11.0 × 7.6	1.15	0.65	2,000
44	V	SSOP44		11.0 × 5.6	11.0 × 7.6	1.15	0.5	2,000

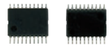
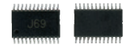
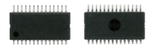
● TO

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
3	F	TO-220F-3		10.0 × 16.0	10.0 × 28.5 (20.8 *2)	4.7	2.54	100/plastic bag

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
3	DL1	TO-252-3-L1		6.54 × 6.04	6.54 × 9.68	2.29	2.28	3,000/reel
5	DL3	TO-252-5-L3		6.54 × 6.04	6.54 × 9.68	2.29	1.27	3,000/reel
5	DL5	TO-252-5-L5		6.54 × 6.04	6.54 × 9.68	2.29	1.14	3,000/reel
5	J	TO-252-5-P2		6.6 × 6.1	6.6 × 9.9	2.3	1.27	3,000

*2: Mounting Height

● TSSOP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
10	T	TSSOP10G		2.9 × 2.8	2.9 × 4.0	0.75	0.5	2,000
16	T	TSSOP-16		5.0 × 4.4	5.0 × 6.4	0.9	0.65	2,500
20	T	TSSOP-20		6.5 × 4.4	6.5 × 6.4	0.9	0.65	3,000
24	T	TSSOP-24		7.8 × 4.4	7.8 × 6.4	0.9	0.65	3,000
28	T	TSSOP-28		9.7 × 4.4	9.7 × 6.4	1.2	0.65	3,000

● USB

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Quantity/Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
6	HA8	USB6-A8		1.0 × 1.2	1.0 × 1.2	0.44	0.8	3,000
6	HD3	USB6-D3		1.8 × 2.0	1.8 × 2.0	0.85	0.5	3,000
8	HB3	USB8-B3		1.5 × 1.5	1.5 × 1.5	0.8	0.5	3,000
8	HB6	USB8-B6		1.5 × 1.5	1.5 × 1.5	0.6	0.5	3,000

*1: Maximum Value

Package Information

Package Information

Please refer to our website for additional details.

● WLCSP

Pin	Symbol	Package	Actual Size Photo	Dimensions (mm)				Ball Diameter (ϕ)	Quantity/ Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch		
4	Z	WLCSP-4-P2		0.79 × 0.79	0.79 × 0.79	0.53	0.5	0.16	5,000
4	Z	WLCSP-4-P5		0.69 × 0.69	0.69 × 0.69	0.53	0.4	0.16	5,000
4	Z	WLCSP-4-P8		0.64 × 0.64	0.64 × 0.64	0.4	0.35	0.2	5,000
4	Z	WLCSP-4-P12		0.64 × 0.64	0.64 × 0.64	0.3	0.35	0.2	10,000
5	Z	WLCSP-5-P1		1.346 × 0.98	1.346 × 0.98	0.62	X=0.433 Y=0.5	0.25	5,000
6	Z	WLCSP-6-P6		1.28 × 0.88	1.28 × 0.88	0.69	0.4	0.26	5,000
6	Z	WLCSP-6-P7		1.25 × 0.84	1.25 × 0.84	0.4	X=0.4 Y=0.5	0.16	5,000
6	Z	WLCSP-6-P8		1.28 × 0.88	1.28 × 0.88	0.4	0.4	0.23	5,000
6	Z	WLCSP-6-P11		1.20 × 0.80	1.20 × 0.80	0.33	0.4	0.26	5,000
6	ZA	WLCSP-6-P12		1.30 × 0.88	1.30 × 0.88	0.4	0.4	0.2	5,000
6	Z	WLCSP-6-P13		1.10 × 0.88	1.10 × 0.88	0.3	0.4	0.16	—
6	ZA	WLCSP-6-ZA1 U.D.		1.3 × 0.92 (TBD)	1.3 × 0.92 (TBD)	TBD	0.4 (TBD)	0.2 (TBD)	TBD
6	ZA	WLCSP-6-ZA2 U.D.		1.47 × 0.87 (TBD)	1.47 × 0.87 (TBD)	0.4 (TBD)	0.4 (TBD)	0.2 (TBD)	TBD
8	Z	WLCSP-8-P1		1.45 × 1.48	1.45 × 1.48	0.4	0.4	0.245	5,000
8	ZA	WLCSP-8-P8		1.50 × 1.08	1.50 × 1.08	0.38	X=0.4 Y=0.79	0.16	5,000
8	ZA	WLCSP-8-P10		1.60 × 1.00	1.60 × 1.00	0.3	X=0.4 Y=0.6	0.16	5,000
8	ZA	WLCSP-8-P11		1.62 × 0.98	1.62 × 0.98	0.4	0.4	0.245	—
8	Z	WLCSP-8-P14		1.55 × 0.92	1.55 × 0.92	0.4	X=0.4 Y=0.58	0.18	5,000
8	Z or ZA	WLCSP-8-P15		1.50 × 1.08	1.50 × 1.08	0.38	× =0.4 Y=0.76	0.18	5,000
9	Z	WLCSP-9-P1		1.27 × 1.27	1.27 × 1.27	0.69	0.4	0.26	5,000
9	Z	WLCSP-9-P2		1.45 × 1.48	1.45 × 1.48	0.4	0.4	0.245	5,000
12	ZA	WLCSP-12-ZA1 U.D.		1.79 × 2.29 (TBD)	1.79 × 2.29 (TBD)	0.41 TBD	0.55 (TBD)	0.26 (TBD)	3,000
12	Z	WLCSP-12-P1		1.97 × 1.47	1.97 × 1.47	0.86	0.4	0.26	4,000
15	Z	WLCSP-15-P1		2.88 × 1.68	2.88 × 1.68	0.4	0.5	0.25	5,000
16	WLC1	WCSP16		1.9 × 1.9	1.9 × 1.9	0.645	0.5	0.3	3,000
20	Z	WLCSP-20-P1		2.305 × 1.70	2.305 × 1.70	0.59	0.4	0.265	5,000
20	Z	WLCSP-20-P2		2.315 × 1.71	2.315 × 1.71	0.4	0.4	0.245	5,000
20	Z	WLCSP-20-P3		2.315 × 1.71	2.315 × 1.71	0.4	0.4	0.245	5,000
30	ZA	WLCSP-30-ZA1 U.D.		2.315 × 1.72 (TBD)	2.32 × 2.37 (TBD)	0.43 (TBD)	× =0.48 Y=0.40 (TBD)	0.22 (TBD)	TBD

*1: Maximum Value of thinckness including balls

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Nisshinbo Micro Devices Companies (JAPAN)

Head Office
NB Nihonbashi Bldg., 3-10 Nihonbashi Yokoyama-cho,Chuo-ku, Tokyo 103-8456, Japan
TEL:+81-3-5642-8222 FAX:+81-3-5642-8220

Nagoya Sales office
8th Floor, NUP-Fushimi Bldg., 2-2-12 Sakae, Naka-ku, Nagoya City, Aichi 460-0008, Japan
TEL:+81-52-217-8800 FAX:+81-52-222-0708

Ikeda Office
13-1 Himemuro-cho, Ikeda-shi, Osaka 563-8501 Japan
TEL:+81-72-748-6266

Fukuoka Sales office
Rm 1003, 10th Floor, Asako Hakata Bldg.,
1-11-5 Hakataeki-higashi, Hakata-ku, Fukuoka City, Fukuoka 812-0013, Japan
TEL:+81-92-433-5815 FAX:+81-92-433-5816

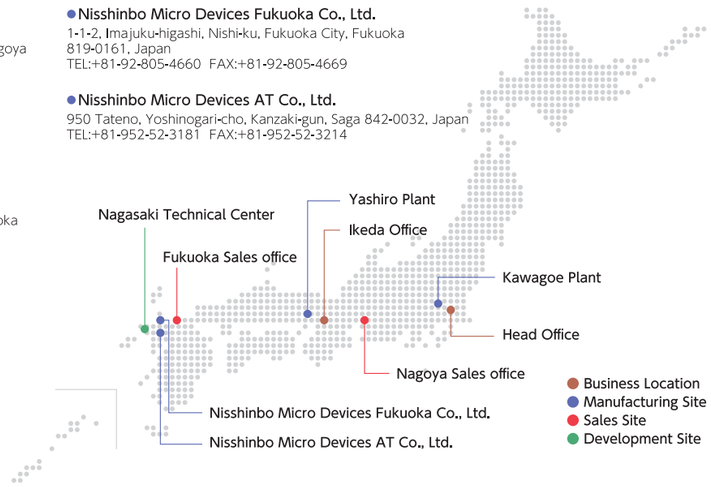
Nagasaki Technical Center
Miuracho Alpha bldg., NO.302,2-1,Miura-cho,Sasebo City,Nagasaki 857-0863, Japan
TEL:+81-956-23-0555 FAX:+81-956-23-0554

Kawagoe Plant
2-1-1 Fukuoka, Fujimino, Saitama 356-8510, Japan
TEL:+81-49-264-2111 FAX:+81-49-264-4241

Yashiro Plant
30-1, Saho, Kato City, Hyogo 673-1447, Japan
TEL:+81-795-42-6111

Nisshinbo Micro Devices Fukuoka Co., Ltd.
1-1-2, Imajuku-higashi, Nishi-ku, Fukuoka City, Fukuoka 819-0161, Japan
TEL:+81-92-805-4660 FAX:+81-92-805-4669

Nisshinbo Micro Devices AT Co., Ltd.
950 Tateno, Yoshinogari-cho, Kanzaki-gun, Saga 842-0032, Japan
TEL:+81-952-52-3181 FAX:+81-952-52-3214



Nisshinbo Micro Devices Companies (GLOBAL)

Nisshinbo Micro Devices Americas Inc.
2107 North First Street, Suite 520, San Jose, CA 95131, U.S.A.
TEL:+1-408-320-2873(Main) FAX:+1-408-320-2874

Nisshinbo Micro Devices Europe GmbH
Theodor-Heuss-Allee 112, 60486 Frankfurt am Main, Germany
TEL:+49-69-6677-41-360 FAX:+49-69-6677-41-364

Nisshinbo Micro Devices (Thailand) Co., Ltd.
88 Mu 13, Tambol Makhuajae, Amphur Muang, Lamphun 51000 Thailand
TEL:+66-53-581-260(Main) FAX:+66-53-581-266

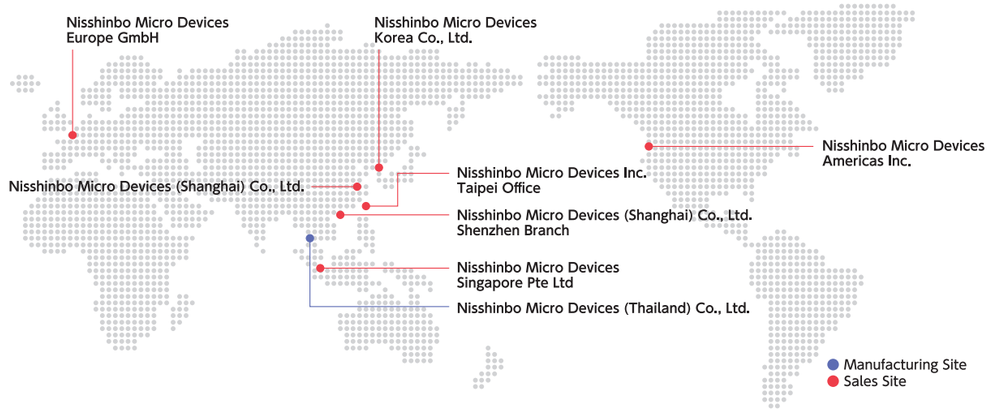
Nisshinbo Micro Devices Singapore Pte Ltd
61 Ubi Avenue 2, #07-01 Automobile Megamart Singapore 408898
TEL:+65-6744-4143(Main) FAX:+65-6744-9439

Nisshinbo Micro Devices Korea Co., Ltd.
3F, Seongji building, 5, Bangbaecheon-ro 2-gil, Seocho-gu, Seoul, 06693,Republic of Korea
TEL:+82-2-2135-5700 FAX:+82-2-2051-5713

Nisshinbo Micro Devices (Shanghai) Co., Ltd.
Room 403, No.2 Building, 690#Bibo Road,Zhangjiang Hi-Tech Park, Pudong New District, Shanghai, People's Republic of China
TEL:+86-21-5027-3200 FAX:+86-21-5027-3299

Nisshinbo Micro Devices (Shanghai) Co., Ltd. Shenzhen Branch
33F Room06-07 Shunhing Square Diwang commercial center,5002 Shennan Dong Road, Shenzhen, People's Republic of China
TEL:+86-755-8233-6527

Nisshinbo Micro Devices Inc. Taipei Office
8F-7, Lane 211, Civic Blvd. Sec. 1, Datong District, Taipei City 103, Taiwan
TEL:+886-2-2552-6778 FAX:+886-2-2552-6800



Caution

1. The products and the product specifications described in this document are subject to change or discontinuation of production without notice for reasons such as improvement. Therefore, before deciding to use the products, please refer to our sales representatives for the latest information thereon.
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   - Aerospace Equipment
   - Equipment Used in the Deep Sea
   - Power Generator Control Equipment (nuclear, steam, hydraulic, etc.)
   - Life Maintenance Medical Equipment
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   - Vehicle Control Equipment (automotive, airplane, railroad, ship, etc.)
   - Various Safety Devices
   - Traffic control system
   - Combustion equipment

   < For the following applications, only the SAW filter is applied. >
   - Information processing equipment (computers for controlling large-scale systems)
   - For Ministry of Defense
   - Other equipment similar to the above equipment

   In case your company desires to use this product for any applications other than general electronic equipment mentioned above, make sure to contact our company in advance. Note that the important requirements mentioned in this section are not applicable to cases where operation requirements such as application conditions are confirmed by our company in writing after consultation with your company.
6. We are making our continuous effort to improve the quality and reliability of our products, but electronic device products are likely to fail with certain probability. In order to prevent any injury to persons or damages to property resulting from such failure, customers should be careful enough to incorporate safety measures in their design, such as redundancy feature, fire containment feature and fail-safe feature. We do not assume any liability or responsibility for any loss or damage arising from misuse or inappropriate use of the products.
7. The products have been designed and tested to function within controlled environmental conditions. Do not use products under conditions that deviate from methods or applications specified in this datasheet. Failure to employ the products in the proper applications can lead to deterioration, destruction or failure of the products. We shall not be responsible for any bodily injury, fires or accident, property damage or any consequential damages resulting from misuse or misapplication of the products.
8. Quality Warranty
   8-1. Quality Warranty Period
   In the case of a product purchased through an authorized distributor or directly from us, the warranty period for this product shall be one (1) year after delivery to your company. For defective products that occurred during this period, we will take the quality warranty measures described in section 8-2. However, if there is an agreement on the warranty period in the basic transaction agreement, quality assurance agreement, delivery specifications, etc., it shall be followed.
   8-2. Quality Warranty Remedies
   When it has been proved defective due to manufacturing factors as a result of defect analysis by us, we will either deliver a substitute for the defective product or refund the purchase price of the defective product.
   Note that such delivery or refund is sole and exclusive remedies to your company for the defective product.
   8-3. Remedies after Quality Warranty Period
   With respect to any defect of this product found after the quality warranty period, the defect will be analyzed by us. On the basis of the defect analysis results, the scope and amounts of damage shall be determined by mutual agreement of both parties. Then we will deal with upper limit in Section 8-2. This provision is not intended to limit any legal rights of your company.
9. Anti-radiation design is not implemented in the products described in this document.
10. The X-ray exposure can influence functions and characteristics of the products. Confirm the product functions and characteristics in the evaluation stage.
11. WLCSP products should be used in light shielded environments. The light exposure can influence functions and characteristics of the products under operation or storage.
12. Warning for handling Gallium and Arsenic (GaAs) products (Applying to GaAs MMIC, Photo Reflector). These products use Gallium (Ga) and Arsenic (As) which are specified as poisonous chemicals by law. For the prevention of a hazard, do not burn, destroy, or process chemically to make them as gas or power. When the product is disposed of, please follow the related regulation and do not mix this with general industrial waste or household waste.
13. Front end module product is hollow seal package type, and it is with the structure susceptible to stress from the outside. Therefore, note the following in relation to the contents, after conducting an evaluation. please use.
    13-1. After mounting this product, to implement the potting and transfer molding, please the confirmation of resistance to temperature changes and shrinkage stress involved in the molding.
    13-2. When mounted on the product, collet diameter please use more than 1mmϕ. In addition, the value of static load is recommended mounting less than 5N.
    13-3. For dynamic load at the time of mounting. please use it after confirming in consideration of the contact area /speed /load.
14. Please contact our sales representatives should you have any questions or comments concerning the products or the technical information.

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