Caution

1. We strives to produce reliable and high quality products. Our products are intended for specific applications and require proper maintenance and handling. To enhance the performance and service of our products, the devices, machinery or equipment into which they are integrated should undergo preventative maintenance and inspection at regularly scheduled intervals. Failure to properly maintain equipment and machinery incorporating these products can result in catastrophic system failures.

2. To ensure the highest levels of reliability, our products must always be properly handled. The introduction of external contaminants (e.g. dust, oil or cosmetics) can result in failures of products.

3. We offers a variety of products intended for particular applications. It is important that you select the proper component for your intended application. You may contact our Sale's Office if you are uncertain about the products listed in this catalog.

4. Special care is required in designing devices, machinery or equipment which demand high levels of reliability. This is particularly important when designing critical components or systems whose failure can foreseeably result in situations that could adversely affect health or safety. In designing such critical devices, equipment or machinery, careful consideration should be given to, amongst other things, their safety design, fail-safe design, back-up and redundancy systems, and diffusion design.

5. The products listed in the catalog may not be appropriate for use in certain equipment where reliability is critical or where the products may be subjected to extreme conditions. You should consult our sales office before using the products in any of the following types of equipment.
   -Aerospace Equipment
   -Equipment Used in the Deep sea
   -Power Generator Control Equipment (Nuclear, Steam, Hydraulic)
   -Life Maintenance Medical Equipment
   -Fire Alarm/Intruder Detector
   -Vehicle Control Equipment (automobile, airplane, railroad, ship, etc.)
   -Various Safety Equipment

6. Our 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 catalog. Failure to employ our 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 its products. Products are sold without warranty of any kind, either express or implied, including but not limited to any implied Warranty of merchantability or fitness for a particular purpose.

7. Warning about the handling and disposal of products.
   The following products use 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 powder. When the product is disposed, please follow the related regulation and do not mix this with general industrial waste or household waste.

-Products	Contained materials
-GaAs MMICs	Gallium(Ga) and Arsenic(As)
-Photo Reflectors	Gallium(Ga) and Arsenic(As)
-SAW Filters	Nickel (Ni), Cobalt (C)

8. The product specifications and descriptions listed in this catalog are subject to change at any time, without notice.

Nisshinbo Micro Devices Inc.

Official Site
https://www.nisshinbo-microdevices.co.jp/en/

Buy/Sample
https://www.nisshinbo-microdevices.co.jp/en/buy/

Inquiry and order ···

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Electronic Devices
Product Catalog

2022






Nisshinbo Micro Devices Inc.

Company Profile

About “Nisshinbo Micro Devices Inc.”

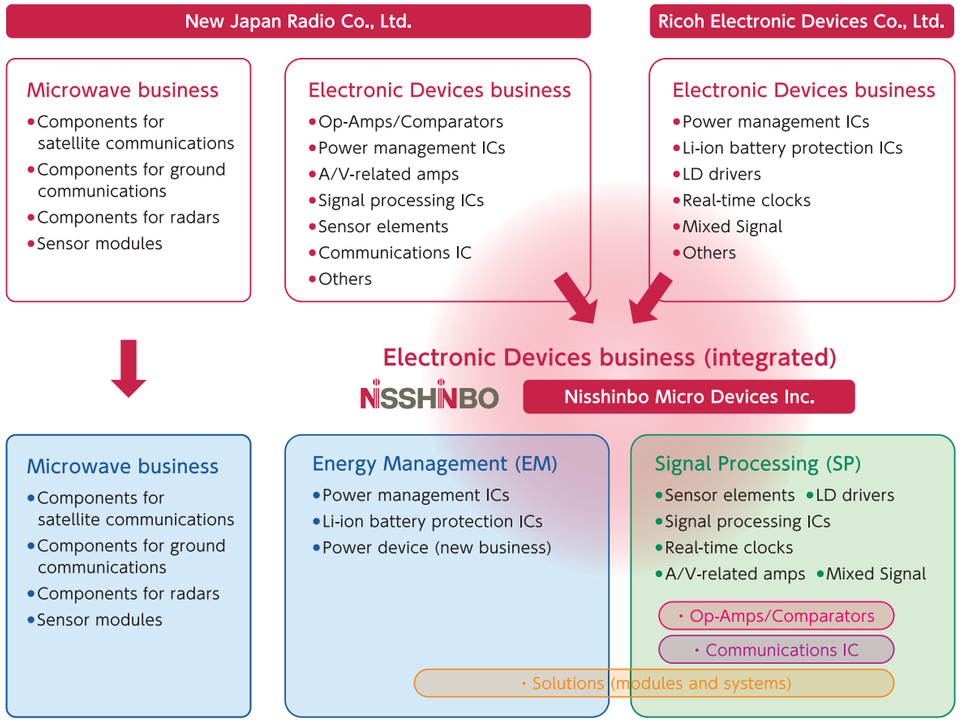
Integration of New Japan Radio and Ricoh Electronic Devices to Create “Nisshinbo Micro Devices Inc.” and Add Momentum in the Analog Semiconductors Business

New Japan Radio Co., Ltd. and Ricoh Electronic Devices Co., Ltd. merged on January 1, 2022 to start a new company, Nisshinbo Microdevices Inc.

Development of the microdevices business of the Nisshinbo Group has been driven mainly by the two subsidiaries, New Japan Radio and Ricoh Electronic Devices. With an eye on recent social developments such as 5G and 6G technologies, the shift to electronic vehicles, the advent of super-smart society, industrial restructuring and an unstable global economy, it was decided to aim for further growth and expansion of the business as an analog solution provider by utilizing resources (in development, sales and production) of both companies in an integrated manner to advance our “Connect Everything” technology and bring about a super-smart society.

The new company “Nisshinbo Micro Devices”, in line with the Nisshinbo Group’s corporate philosophy of “Change and Challenge! For the creation of the future of Earth and People.”, will aim to become a company which provides value and presence expected by customers around the world by providing analog solutions through Electronic Devices and Microwave products drawing on the strength of its analog technology and contributing to development of a connected society.

Integration of Nisshinbo Micro Devices to create two broad product genres



[Nisshinbo Holdings Inc.]

The Nisshinbo Group, as an Environment and Energy Company group, will supply solutions to address global environmental problems, which represent the biggest challenge to human society. Utilizing the diverse technologies that we have accumulated so far, we are engaged in wireless and communications, micro devices, automobile brakes, precision instruments, chemicals, textiles and real estate businesses with Mobility, Infrastructure and Safety, and Life and Healthcare as our three strategic business domains. New Japan Radio and Ricoh Electronic Devices play a central role in the microdevice business.

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Product Longevity Program

For lifecycle-focused applications [PRODUCT LONGEVITY PROGRAM]

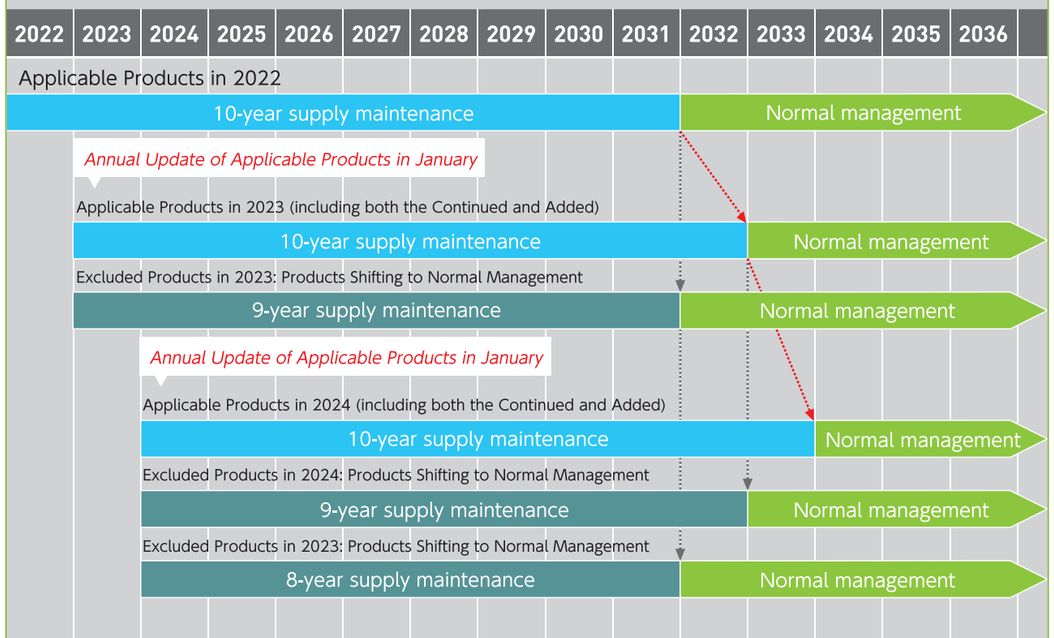
For long life applications, sudden production end of parts can have a critical impact on the continuity of equipment's production.
It also brings costly steps such as investigation/procurement of alternative parts and redesign of the board due to parts change.
We are operating PLP (Product Longevity 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, 2022.
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 PLP



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New Products Line-up

Part No.	Main Function	Page
Operational Amplifiers & Comparators		
NJU77582	20MHz, Low noise, Excellent EMI Immunity, Rail-to-rail I/O, Operational Amplifiers	8
NJM8087	20V/μs, 10nV/ √Hz, JFET Input Operational Amplifier	10
NJU77250	High-Speed, Rail-to-Rail Input, CMOS Comparator	18
NJU77251	High-Speed, Rail-to-Rail Input, CMOS Comparator	18
Special Function Amplifiers		
NJU7890-Z	1000V High Voltage Monitor IC	18
NJU77903-Z2	High Output Current, Rail-to-Rail Input/Output Single CMOS Operational Amplifiers (Enhanced RF Noise Immunity)	18
Power Management ICs		
NJW4106	High Voltage Io = 500 mA Adjustable LDO Regulator	19
NR1640	Adjustable Precision Shuntregulator	27
RP120	Ultra-low noise 200 mA Voltage Regulator	27
NJM17431	Low Input / Output 1.5 A LDO Regulator	32
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NJG1815AK75-A	Ultra Low Current Consumption SPDT Switch	64
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Operational Amplifiers

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

Rail to Rail Input/Output Amplifiers

Part No.	Auto-motive	No.of Cir-cuit	Power Supply	Supply Voltage [V] min./max.	Icc/ch. [mA]	V_{IO} [mV]	I_B[nA]	I_{IO}[nA]	SR [V/μsec]	GBW [MHz]	f_T [MHz]	Noise typ.		Operating Temperature [°C]		Package Outline	Notes
					typ.	max.	typ.	typ.	typ.	typ.	typ.	V_{NI} [μVrms]	en [nV/√Hz]	min.	max.		
NJM2730	✓	1	Single	1.8 to 5	0.32	5	50	5	0.4	1	1.5	–	10	-40	85	SOT-23-5	
NJM2732	✓	2	Single	1.8 to 6	0.29	5	50	5	0.4	1	1	–	10	-40	85	DIP8, DMP8 SOP8 JEDEC150mil(EMP8), SSOP8, MSOP8(TVSP8) PCSP20-CC	
NJM2734	–	4	Single	1.8 to 6	0.3	5	50	5	0.4	1	1	–	10	-40	85	DIP14, DMP14, SSOP14 PCSP20-CC	
NJM2737	–	2	Single	1.8 to 6	0.6	5	200	5	0.7	3.1	2	–	5	-40	85	DIP8, DMP8, SSOP8 MSOP8(TVSP8)	
NJM8530 ♡	✓	1	Single	1.8 to 14	0.32	4	50	5	0.4	1	1	–	10	-40	125	SOT-23-5	
NJM8532 ♡	✓	2	Single	1.8 to 14	0.29	4	50	5	0.35	1	1	–	10	-40	125	MSOP8(TVSP8) DMP8, SSOP8	PLP♡: MSOP8(TVSP8)
NJM8534	–	4	Single	1.8 to 14	0.3	4	50	5	0.3	1	1	–	10	-40	125	SSOP14	
NJU7040	–	1	Single	2.2 to 5.5	0.45	10	0.001	0.001	0.85	0.8	0.8	–	40	-40	85	SOT-23-5	
NJU7042	–	1	Single	2.7 to 5.5	0.015	5	0.001	0.001	0.03	-	0.047	–	-	-40	85	SOT-23-5	
NJU7043	✓	2	Single	1.8 to 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	
NJU7044	–	4	Single	2.2 to 5.5	0.45	10	0.001	0.001	0.8	0.8	0.8	–	40	-40	85	DIP14, DMP14, SSOP14	
NJU7046 ♡	✓	1	Single	2.7 to 5.5	1.4	5	0.001	0.001	9	5	4	–	20	-40	125	SOT-23-5, SC-88A	
NJU7047 ♡	✓	2	Single	2.7 to 5.5	1.35	5	0.001	0.001	9	5	4	–	20	-40	125	SOP8 JEDEC150mil(EMP8), MSOP8(TVSP8) DFN8-U1(ESON8-U1)	PLP♡: MSOP8(TVSP8)
NJU7048 ♡	–	4	Single	2.7 to 5.5	1.325	5	0.001	0.001	9	5	4	–	20	-40	125	SOP14, SSOP14	PLP♡:SSOP14
NJU77000 ♡	–	1	Single	1.5 to 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
NJU77001 ♡	–	1	Single	1.5 to 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
NJU77002 ♡	✓	2	Single	1.5 to 5.5	0.00023	2	0.001	0.001	0.0007	0.001	0.001	–	700	-40	105	SOP8 JEDEC150mil(EMP8), MSOP8(TVSP8), DFN8-U1(ESON8-U1)	PLP♡: MSOP8(TVSP8), DFN8-U1 (ESON8-U1) Ultra-Low Operating Current
NJU77004 ♡	–	4	Single	1.5 to 5.5	0.00023	2.2	0.001	0.001	0.0007	0.001	0.001	–	700	-40	105	SSOP14	Ultra-Low Operating Current
NJU77550 ♡	–	1	Single	1.8 to 5.5	0.055	5	0.001	0.001	0.8	1.7	–	–	24	-55	125	SOT-23-5, SC-88A	PLP♡: SOT-23-5
NJU77551 ♡	–	1	Single	1.8 to 5.5	0.055	5	0.001	0.001	0.8	1.7	–	–	24	-55	125	SOT-23-5, SC-88A	
NJU77552 ♡	✓	2	Single	1.8 to 5.5	0.05	5	0.001	0.001	0.8	1.7	–	–	24	-55	125	SOP8, MSOP8(TVSP8), DFN8-U1(ESON8-U1)	PLP♡: MSOP8(TVSP8), DFN8-U1 (ESON8-U1)
NJU77554 ♡	–	4	Single	1.8 to 5.5	0.05	5	0.001	0.001	0.8	1.7	–	–	24	-55	125	SSOP14	
U.D. NJU77572	–	4	Single	2.7 to 5.5	1.1	4	0.001	0.001	5	10	–	–	8	-55	125	MSOP8(VSP8)	
U.D. NJU77580	–	4	Single	2.7 to 5.5	2.3	2.5	0.001	0.001	10	20	–	–	6	-55	125	SOT-23-5, SOP8, MSOP8(VSP8) DFN8-U1(ESON8-U1)	High Capacitive Load Drive
NEW NJU77582	–	2	Single	2.7 to 5.5	2.3	2.5	0.001	0.001	10	20	–	–	6	-55	125	SOT-23-5, SOP8, MSOP8(VSP8) DFN8-U1(ESON8-U1)	High Capacitive Load Drive
NJU77701 ♡	✓	1	Single	2.4 to 5.5	3.8	1.5	0.001	0.001	35	34	–	–	6	-40	125	SOT-23-5	
NJU77902	–	2	Single	6 to 18	3.5	10	0.001	0.001	9	-	3	–	80	-40	85	DFN8-W2(ESON8-W2)	High Output Current
NJU77903 ♡	✓	1	Single	6.8 to 36	9.5	6	0.001	0.001	3.5	-	1.5	–	50	-40	125	TO-252-5-L3, DFN8-W2(ESON8-W2)	High Output Current

Rail to Rail Output Amplifiers

Part No.	Auto-motive	No.of Cir-cuit	Power Supply	Supply Voltage [V] min./max.	Icc/ ch. [mA]	V_{IO} [mV]	I_B[nA]	I_{IO}[nA]	SR [V/μsec]	GBW [MHz]	f_T [MHz]	Noise typ.		Operating Temperature [°C]		Package Outline	Notes
					typ.	max.	typ.	typ.	typ.	typ.	typ.	V_{NI} [μVrms]	en [nV/√Hz]	min.	max.		
NJM2730	✓	1	Single	1.8 to 5	0.32	5	50	5	0.4	1	1.5	–	10	-40	85	SOT-23-5	
NJM2732	✓	2	Single	1.8 to 6	0.29	5	50	5	0.4	1	1	–	10	-40	85	DIP8, DMP8 SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8) PCSP20-CC	
NJM2734	–	4	Single	1.8 to 6	0.3	5	50	5	0.4	1	1	–	10	-40	85	DIP14, DMP14, SSOP14 PCSP20-CC	
NJM2737	–	2	Single	1.8 to 6	0.6	5	200	5	0.7	3.1	2	–	5	-40	85	DIP8, DMP8, SSOP8 MSOP8(TVSP8)	
NJM2741	✓	1	Single	2.5 to 14	2.2	6	100	5	3.5	10	10	–	10	-40	85	SC-88A, SOT-23-5	
NJM2746	✓	2	Single	2.5 to 14	2	6	100	5	3.5	10	10	–	10	-40	85	DMP8,SOP8 JEDEC150mil(EMP8), DFN8-U1(ESON8-U1), SSOP8 MSOP8(TVSP8)	
NJM2747	✓	4	Single	2.5 to 14	2	6	100	5	3.5	10	10	–	10	-40	85	DIP14, DMP14 PCSP20-CC, SSOP14	
NJM8202 ♡	✓	2	Single	2.5 to 14	2	6	100	5	3.5	10	10	–	10	-40	85	DMP8, SOP8 JEDEC150mil(EMP8), SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	PLP♡: DMP8
NJM8204 ♡	✓	4	Single	2.5 to 14	2	6	100	5	3.5	10	–	–	10	-40	125	SSOP14	
NJM8524	–	4	Single	3 to 36	0.025	1.8	3	0.5	0.04	0.1	0.1	–	60	-40	85	SSOP14	
NJU7007	–	1	Single	1 to 5.5	0.015	4	0.001	0.001	0.1	–	0.2	–	-	-40	85	SC-88A	
NJU7008	–	1	Single	1 to 5.5	0.2	4	0.001	0.001	2.4	–	1	–	-	-40	85	SC-88A	
NJU7009	–	1	Single	2.2 to 5.5	0.45	5	0.001	0.001	1	3.5	3	1.7	13	-40	85	SC-88A	
NJU7026 ♡	–	1	Single	1.8 to 5.5	0.013	4	0.001	0.001	0.05	0.16	0.16	–	50	-40	125	SC-88A, SOT-23-5	PLP♡: SC-88A
NJU7027 ♡	–	2	Single	1.8 to 5.5	0.013	4	0.001	0.001	0.05	0.16	0.16	–	50	-40	125	DFN8-U1(ESON8-U1), MSOP8(TVSP8)	
NJU7028 ♡	–	4	Single	1.8 to 5.5	0.012	4	0.001	0.001	0.05	0.16	0.16	–	50	-40	125	SSOP14	
NJU7029	–	2	Single	2.2 to 5.5	0.425	5	0.001	0.001	1	3.5	3	1.7	13	-40	85	DFN8-U1(ESON8-U1), SSOP8, MSOP8(TVSP8)	
NJU7036	–	2	Single	2.7 to 5.5	1.75	10	0.001	0.001	0.7	0.4	0.4	–	60	-40	85	PCSP20-E3	
NJU7040	–	1	Single	2.2 to 5.5	0.45	10	0.001	0.001	0.85	0.8	0.8	–	40	-40	85	SOT-23-5	
NJU7042	–	1	Single	2.7 to 5.5	0.015	5	0.001	0.001	0.03	–	0.047	–	-	-40	85	SOT-23-5	
NJU7043	✓	2	Single	1.8 to 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	
NJU7044	–	4	Single	2.2 to 5.5	0.45	10	0.001	0.001	0.8	0.8	0.8	–	40	-40	85	DIP14, DMP14, SSOP14	
NJU7056 ♡	✓	1	Single	1.8 to 5.5	0.26	4	0.001	0.001	0.8	2.1	2	–	15	-40	125	SC-88A, SOT-23-5	
NJU7057 ♡	✓	2	Single	1.8 to 5.5	0.26	4	0.001	0.001	0.8	2.1	2	–	15	-40	125	DFN8-U1(ESON8-U1), MSOP8(TVSP8)	PLP♡: MSOP8 (TVSP8)
NJU7058 ♡	✓	4	Single	1.8 to 5.5	0.25	4	0.001	0.001	0.8	2.1	2	–	15	-40	125	SSOP14	
NJU7066 ♡	–	2	Single	2.2 to 5.5	0.6	0.5	0.001	0.001	0.5	1.3	1.3	–	10	-40	125	MSOP8(VSP8)	
NJU7067	–	2	Single	4 to 16	0.014	4	0.001	0.001	0.04	0.06	–	–	45	-40	85	DMP8, SSOP8	
NJU7068	–	4	Single	4 to 16	0.014	4	0.001	0.001	0.04	0.06	–	–	45	-40	85	DMP14, SSOP14	
NJU7076B	–	1	Single	2.2 to 5.5	0.6	0.3	0.001	0.001	0.5	1.3	1.3	–	10	-40	125	SC-88A	
NJU7098AF1-C	–	1	Single	3 to 10	0.6	0.015	0.02	–	3	3	–	–	120	-40	105	SOT-23-6-1	
NJU77806 ♡	–	1	Single	1.8 to 5.5	0.5	2	0.001	0.001	1.1	4.4	2.4	–	5.5	-40	105	SC-88A	

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Operational Amplifiers

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

Precision Amplifiers

Part No.	Auto-motive	No.of Circuit	Power Supply	Supply Voltage [V] min./max.	Icc/ ch. [mA]	V_{IO} [mV]	I_B [nA]	I_{IO} [nA]	SR [V/µsec]	GBW [MHz]	f_T [MHz]	Noise typ.		Operating Temperature [°C]		Package Outline	Notes
					typ.	max.	typ.	typ.	typ.	typ.	typ.	V_{NI} [µVrms]	en [nV/√Hz]	min.	max.		
NJM2119	✓	2	Single	4 to 36	0.5	0.45	18	0.3	0.3	1	0.4	–	–	-30	85	DIP8, DMP8	
NJM2729	–	1	Dual	± 3 to ± 18	1.6	0.06	1.2	0.3	0.3	–	1.1	0.08	8	-40	85	SOP8 JEDEC 150mil(EMP8)	
NJM2739	–	2	Dual	± 3 to ± 18	1.3	0.06	1.2	0.3	0.3	–	1.1	0.08	8	-40	85	SOP8 JEDEC 150mil(EMP8)	
NJM2748	✓	1	Dual	± 6 to ± 16	2	2	0.05	0.025	13	2.2	2	2.5	20	-40	85	DIP8, DMP8	
NJM2748A	–	1	Dual	± 6 to ± 16	2	2	0.05	0.025	13	2.2	2	2.5	20	-40	85	DIP8, DMP8	
NJM2749	–	2	Dual	± 6 to ± 16	1.9	2.5	0.05	0.025	13	2.2	2	2.5	20	-40	85	DMP8, SOP8 JEDEC 150mil(EMP8)	
NJM2749A	–	2	Dual	± 6 to ± 16	1.9	2.5	0.05	0.025	13	2.2	2	2.5	20	-40	85	DIP8, DMP8 SOP8 JEDEC 150mil(EMP8)	
NEW **NJM8087**	–	1	Dual	± 4 to ± 16	1.3	0.8	0.025	0.006	20	–	7	–	10	-40	125	SOP8 JEDEC 150mil(EMP8)	No Phase Reversal
NJM8502	–	2	Dual	± 4.5 to ± 16	1.3	0.4	0.025	0.006	20	7	7	0.18	10	-40	125	MSOP8(VSP8)	
NJM8512 ♡	–	2	Dual	± 4.5 to ± 16	1.3	0.4	0.025	0.006	20	7	7	–	10	-40	125	MSOP8(VSP8), SOP8 JEDEC 150mil(EMP8)	PLP♡: MSOP8(VSP8)
NJM8513	–	4	Dual	± 4.5 to ± 16	1.3	0.4	0.025	0.006	20	7	7	–	10	-40	125	SSOP14	
NJMOP177	–	1	Dual	± 3 to ± 18	1.6	0.06	1.2	0.3	0.3	1.1	1.1	0.08	8	-40	105	SOP8 JEDEC 150mil(EMP8)	
NJMOP1772	–	2	Dual	± 3 to ± 18	1.3	0.06	1.2	0.3	0.3	1.1	1.1	0.08	8	-40	105	SOP8 JEDEC 150mil(EMP8)	
NJMOP277 ♡	–	1	Dual	± 2.25 to ± 18	0.76	0.05	0.5	0.5	0.7	1	1	0.07	8	-40	125	SOP8 JEDEC 150mil(EMP8), MSOP8(VSP8)	PLP♡: MSOP8(VSP8) RF Immunity
NJMOP2277♡	–	2	Dual	± 2.25 to ± 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)	PLP♡: MSOP8(VSP8) RF Immunity
NJU7051	–	1	Single	1 to 16	0.015	2	0.001	0.001	0.05	–	0.1	–	–	-40	85	DMP8	
NJU7052	–	2	Single	1 to 16	0.015	2	0.001	0.001	0.05	–	0.1	–	–	-40	85	DMP8	
NJU7061	–	1	Single	3 to 16	0.15	2	0.001	0.001	0.4	0.35	0.4	–	27	-20	75	DIP8, DMP8, SSOP8	
NJU7062	–	2	Single	3 to 16	0.15	2	0.001	0.001	0.4	0.35	0.4	–	27	-20	75	DIP8, DMP8	
NJU7064	–	4	Single	3 to 16	0.15	2	0.001	0.001	0.4	0.35	0.4	–	27	-20	75	DIP14, DMP14, SSOP14	
NJU7066 ♡	–	2	Single	2.2 to 5.5	0.6	0.5	0.001	0.001	0.5	1.3	1.3	–	10	-40	125	MSOP8(VSP8)	
NJU7071	–	1	Single	5 to 16	0.6	2	0.001	0.001	1.1	–	1	–	–	-20	75	DIP8, DMP8, SSOP8	
NJU7072	–	2	Single	5 to 16	0.6	2	0.001	0.001	1.1	–	1	–	–	-20	75	DIP8, DMP8	
NJU7074	–	4	Single	5 to 16	0.6	2	0.001	0.001	1.1	–	1	–	–	-20	75	DMP14, SSOP14	
NJU7076 ♡	–	1	Single	2.2 to 5.5	0.6	0.15	0.001	0.001	0.5	1.3	1.3	–	10	-40	125	SOT-23-5	
NJU7076B	–	1	Single	2.2 to 5.5	0.6	0.3	0.001	0.001	0.5	1.3	1.3	–	10	-40	125	SC-88A	
NJU7077 ♡	✓	2	Single	2.2 to 5.5	0.6	0.15	0.001	0.001	0.5	1.3	1.3	–	10	-40	125	MSOP8(VSP8)	
NJU7078 ♡	–	4	Single	2.2 to 5.5	0.6	0.15	0.001	0.001	0.5	1.3	1.3	–	10	-40	125	SSOP14	
NJU7091A	–	1	Single	1 to 5.5	0.015	2	0.001	0.001	0.1	0.19	0.2	–	–	-40	85	SOT-23-5	
NJU7092A	–	1	Single	1 to 5.5	0.08	2	0.001	0.001	1	1	1	–	–	-40	85	SOT-23-5	
NJU7093A	–	1	Single	1 to 5.5	0.2	2	0.001	0.001	2.4	1	1	–	–	-40	85	SOT-23-5	
NJU7098A	–	1	Single	3 to 10	0.55	0.015	0.015	–	3	2	–	–	120	-40	105	SOT-23-6-1	

Hi-Speed/Wide Band Amplifiers

Part No.	Auto-motive	No.of Circuit	Power Supply	Supply Voltage [V] min./max.	Icc/ ch. [mA]	V_{IO} [mV]	I_B[nA]	I_{IO}[nA]	SR [V/µsec]	GBW [MHz]	f_T [MHz]	Noise typ.		Operating Temperature [°C]		Package Outline	Notes
					typ.	max.	typ.	typ.	typ.	typ.	typ.	V_{NI} [µVrms]	en [nV/√Hz]	min.	max.		
NJM2136	–	1	Dual	± 1.35 to ± 6	0.63	5	500	20	45	200	40	–	–	-40	85	DMP8, SSOP8	
NJM2137	–	2	Dual	± 1.35 to ± 6	0.57	5	500	20	45	200	40	–	–	-40	85	DIP8, DMP8, SSOP8	
NJM2710	–	6	Dual	± 2 to ± 4.5	1.9	7	2000	350	260	1000	180	–	6.8	-40	85	DMP20, SSOP20	
NJM2711	–	1	Dual	± 2 to ± 4.5	1.9	7	2000	350	260	1000	180	–	6.8	-40	85	SOT-23-5	
NJM2712	–	2	Dual	± 2 to ± 4.5	1.9	7	2000	350	260	1000	180	–	6.8	-40	85	DMP8, MSOP8(TVSP8)	
NJM2716	–	1	Single	2.7 to 12	4.2	10	1000	200	40	25	30	–	–	-40	85	SOT-23-5	
NJM2717	–	2	Single	2.7 to 12	4	11	2000	200	40	25	20	–	–	-40	85	DIP8, DMP8, SSOP8 MSOP8(TVSP8)	
NJM2719	–	2	Dual	± 2.25 to ± 5	7	9	2900	200	60	90	100	–	3	-40	85	SSOP8, MSOP8(TVSP8)	
NJM2723	–	1	Dual	± 3.5 to ± 17.5	2.9	20	2000	–	2000	–	100	–	6	-40	85	DIP8, SOP8 JEDEC 150mil(EMP8)	Current Feedback Type
U.D. **NJM2725**	–	2	Single	4 to 10	4	1	4600	500	15	160	–	–	1.5	-40	125	SOP8, MSOP8(VSP8)	
NJM2742	–	2	Single	3 to 32	2.15	12	80	5	10	2	2	–	40	-40	85	DIP8, DMP8, SSOP8 MSOP8(TVSP8)	
NJM2744	–	4	Single	3 to 32	1.875	12	80	5	10	2	2	–	40	-40	85	DIP14, DMP14, SSOP14	
NJM3472 ♡	–	2	Single	3 to 36	2	5.5	80	5	10	3	3.6	–	48	-40	125	SOP8, SSOP8, MSOP8(VSP8)	PLP♡: MSOP8 (VSP8)
NJM3474 ♡	–	4	Single	3 to 36	2	5.5	80	5	10	3	3.6	–	48	-40	125	SOP14, SSOP14	PLP♡: SSOP14
NJM842 ♡	✓	2	Single	3 to 36	2.15	3.5	120	6	8.5	3.5	3.5	–	32	-40	125	SOP8, SSOP8, MSOP8(VSP8)	PLP♡: MSOP8 (VSP8)
NJM844 ♡	–	4	Single	3 to 36	2.2	3.5	120	6	8.5	3.5		–	32	-40	125	SOP14, SSOP14	PLP♡: SSOP14
NJU7046 ♡	✓	1	Single	2.7 to 5.5	1.4	5	0.001	0.001	9	5	4	–	20	-40	125	SOT-23-5, SC-88A	
NJU7047 ♡	✓	2	Single	2.7 to 5.5	1.35	5	0.001	0.001	9	5	4	–	20	-40	125	SOP8 JEDEC 150mil(EMP8), MSOP8(TVSP8), DFN8-U1(ESON8-U1)	PLP♡: MSOP8 (TVSP8)
NJU7048 ♡	–	4	Single	2.7 to 5.5	1.325	5	0.001	0.001	9	5	4	–	20	-40	125	SOP14, SSOP14	PLP♡: SSOP14
U.D. **NJU77580**	–	4	Single	2.7 to 5.5	2.3	2.5	0.001	0.001	10	20	–	–	6	-55	125	SOT-23-5, SOP8, MSOP8(VSP8) DFN8-U1(ESON8-U1)	High Capacitive Load Drive
NEW **NJU77582**	–	2	Single	2.7 to 5.5	2.3	2.5	0.001	0.001	10	20	–	–	6	-55	125	SOT-23-5, SOP8, MSOP8(VSP8) DFN8-U1(ESON8-U1)	High Capacitive Load Drive

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Operational Amplifiers

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Low Noise Amplifiers

Part No.	Automotive	No.of Circuit	Power Supply	Supply Voltage [V] min./max.	Icc/ ch. [mA] typ.	Icc/ ch. [mA] max.	V_{IO} [mV] typ.	I_B [nA] typ.	I_{IO} [nA] typ.	SR [V/μsec] typ.	GBW [MHz] typ.	f_T [MHz] typ.	Noise typ. V_{NI} [μVrms]	Noise typ. en [nV/√Hz]	Operating Temperature [°C] min.	Operating Temperature [°C] max.	Package Outline	Notes
NJM14558	–	2	Dual	± 2 to ± 7	1.35	3	70	5	2.5	5	4	1.4	10	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SIP8 SSOP8, MSOP8(VSP8)	
NJM2058	–	4	Dual	± 4 to ± 18	1.75	6	20	5	1	–	5	1.4	14	-40	85	DIP14, DMP14, SSOP14	
NJM2059	–	4	Dual	± 4 to ± 18	1.75	6	20	5	2	6.8	8	1.4	14	-40	85	DIP14, DMP14, SSOP14	
NJM2060	–	4	Dual	± 4 to ± 18	2.25	6	40	5	4	10	10	1.2	10	-20	75	DIP14, DMP14, SSOP14	
NJM2068	–	2	Dual	± 4 to ± 18	2.5	3	150	5	6	24	5.5	0.44	4	-20	75	DIP8, DMP8, SIP8, SSOP8	
NJM2100	–	2	Dual	± 1 to ± 3.5	1.75	6	100	–	4	12	1.9	0.6	–	-40	85	DIP8, DMP8 SOP8 JEDEC 150mil(EMP8), SIP8, SSOP8	
NJM2122	–	2	Dual	± 2 to ± 7	3.5	6	3600	450	2.4	12	–	0.56	1.5	-20	75	DIP8, DMP8	
NJM2730	✓	1	Single	1.8 to 5	0.32	5	50	5	0.4	1	1.5	–	10	-40	85	SOT-23-5	
NJM2732	✓	2	Single	1.8 to 6	0.29	5	50	5	0.4	1	1	–	10	-40	85	DIP8, DMP8 SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8), PCSP20-CC	
NJM2734	–	4	Single	1.8 to 6	0.3	5	50	5	0.4	1	1	–	10	-40	85	DIP14, DMP14, SSOP14, PCSP20-CC	
NJM2737	–	2	Single	1.8 to 6	0.6	5	200	5	0.7	3.1	2	–	5	-40	85	DIP8, DMP8, SSOP8 MSOP8(TVSP8)	
NJM2741	✓	1	Single	2.5 to 14	2.2	6	100	5	3.5	10	10	–	10	-40	85	SC-88A, SOT-23-5	
NJM2745	–	4	Dual	± 2 to ± 15.5	3.25	3	100	5	5	15	5	–	5	-40	85	DMP14, SSOP14	
NJM2746	✓	2	Single	2.5 to 14	2	6	100	5	3.5	10	10	–	10	-40	85	DMP8, SOP8 JEDEC 150mil(EMP8), DFN8-U1(ESON8-U1) SSOP8, MSOP8(TVSP8)	
NJM2747	✓	4	Single	2.5 to 14	2	6	100	5	3.5	10	10	–	10	-40	85	DIP14, DMP14 PCSP20-CC, SSOP14	
NJM4556A	–	2	Dual	± 2 to ± 18	4.5	6	50	5	3	8	4	–	12	-40	85	DIP8, DMP8, SIP8, SSOP8	
NJM4558	–	2	Dual	± 4 to ± 18	1.75	6	25	5	1	3	3	1.4	12.5	-40	85	DIP8, DMP8 SOP8 JEDEC 150mil(EMP8), SIP8, SSOP8	
NJM4558C	–	2	Dual	± 4 to ± 18	1.75	6	25	5	1.5	3.5	3	1.4	12	-40	85	SOP8, SSOP8	
NJM4565	–	2	Dual	± 4 to ± 18	2.25	3	50	2	4	10	5	1.2	9	-40	85	DIP8, DMP8 SOP8 JEDEC 150mil(EMP8), SIP8, SSOP8	
NJM4580	–	2	Dual	± 2 to ± 18	3	3	100	5	5	15	5	0.8	5	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SIP8 SSOP8, MSOP8(VSP8)	
NJM4580C	–	2	Dual	± 2 to ± 18	3	3	100	5	5	15	5	0.8	5	-40	85	SOP8, SSOP8	
NJM4585	–	2	Dual	± 4 to ± 18	2.5	3	260	5	6.8	19	7.5	0.5	3.5	-40.0	125.0	DMP8	
NJM5532	–	2	Dual	± 3 to ± 22	4.5	4	200	10	8	10	8	0.5	5	-20	75	DIP8, DMP8, SIP8	
NJM5532C	–	2	Dual	± 3 to ± 22	4.5	4	200	10	9	10	–	0.6	5	-40	85	SOP8	
NJM8065	–	2	Dual	± 4 to ± 18	2.25	3	50	2	4	10	4	–	8	-40	125	SOP8, DMP8 MSOP8(TVSP8), SSOP8	Wide temperature range (-40℃ to +125℃)
NJM8068	–	2	Dual	± 4 to ± 18	2.5	3	260	5	6.8	19	7.5	0.5	3.5	-40	125	SOP8, MSOP8(TVSP8)	Wide temperature range (-40℃ to +125℃)
NJM8080	–	2	Dual	± 2 to ± 18	3	3	100	5	5	15	5	–	5	-40	125	SOP8, MSOP8(TVSP8), SSOP8	Wide temperature range (-40℃ to +125℃)
NEW NJM8087	–	1	Dual	± 4 to ± 16	1.3	0.8	0.025	0.006	20	–	7	–	10	-40	125	SOP8 JEDEC150mil(EMP8)	No Phase Reversal
NJM8502	–	2	Dual	± 4.5 to ± 16	1.3	0.4	0.025	0.006	20	7	7	0.18	10	-40	125	MSOP8(VSP8)	
NJM8512 ♡	–	2	Dual	± 4.5 to ± 16	1.3	0.4	0.025	0.006	20	7	7	–	10	-40	125	MSOP8(VSP8) , SOP8 JEDEC150mil(EMP8)	PLP♡:MSOP8 (VSP8)
NJM8513	–	4	Dual	± 4.5 to ± 16	1.3	0.4	0.025	0.006	20	7	7	–	10	-40	125	SSOP14	
NJU7009	–	1	Single	2.2 to 5.5	0.45	5	0.001	0.001	1	3.5	3	1.7	13	-40	85	SC-88A	
NJU7056 ♡	✓	1	Single	1.8 to 5.5	0.26	4	0.001	0.001	0.8	2.1	2	–	15	-40	125	SC-88A, SOT-23-5	
NJU7057 ♡	✓	2	Single	1.8 to 5.5	0.26	4	0.001	0.001	0.8	2.1	2	–	15	-40	125	DFN8-U1(ESON8-U1), MSOP8(TVSP8)	PLP♡:MSOP8 (TVSP8)
NJU7058 ♡	✓	4	Single	1.8 to 5.5	0.25	4	0.001	0.001	0.8	2.1	2	–	15	-40	125	SSOP14	
NJU7066 ♡	–	2	Single	2.2 to 5.5	0.6	0.5	0.001	0.001	0.5	1.3	1.3	–	10	-40	125	MSOP8(VSP8)	
NJU7076 ♡	–	1	Single	2.2 to 5.5	0.6	0.15	0.001	0.001	0.5	1.3	1.3	–	10	-40	125	SOT-23-5	
NJU7076B	–	1	Single	2.2 to 5.5	0.6	0.3	0.001	0.001	0.5	1.3	1.3	–	10	-40	125	SC-88A	
NJU7077 ♡	✓	2	Single	2.2 to 5.5	0.6	0.15	0.001	0.001	0.5	1.3	1.3	–	10	-40	125	MSOP8(VSP8)	
NJU7078 ♡	–	4	Single	2.2 to 5.5	0.6	0.15	0.001	0.001	0.5	1.3	1.3	–	10	-40	125	SSOP14	
U.D. NJU77572	–	4	Single	2.7 to 5.5	1.1	4	0.001	0.001	5	10	–	–	8	-55	125	MSOP8(VSP8)	
NJU77806 ♡	–	1	Single	1.8 to 5.5	0.5	2	0.001	0.001	1.1	4.4	2.4	–	5.5	-40	105	SC-88A	

Low Operating Current Amplifiers

Part No.	Automotive	No.of Circuit	Power Supply	Supply Voltage [V] min./max.	Icc/ ch. [mA] typ.	Icc/ ch. [mA] max.	V_{IO} [mV] typ.	I_B [nA] typ.	I_{IO} [nA] typ.	SR [V/μsec] typ.	GBW [MHz] typ.	f_T [MHz] typ.	Noise typ. V_{NI} [μVrms]	Noise typ. en [nV/√Hz]	Operating Temperature [°C] min.	Operating Temperature [°C] max.	Package Outline	Notes
NJM062C	–	2	Dual	± 2 to ± 18	0.2	15	0.03	0.005	3.5	–	1	–	35	-40	125	SOP8, SSOP8	
NJM062CA	–	2	Dual	± 2 to ± 18	0.2	6	0.03	0.005	3.5	–	1	–	35	-40	125	SOP8, SSOP8	
NJM064C ♡	–	4	Dual	± 2 to ± 18	0.2	15	0.03	0.005	3.5	–	1	–	35	-40	125	SOP14, SSOP14	PLP♡:SSOP14
NJM064CA	–	4	Dual	± 2 to ± 18	0.2	6	0.03	0.005	3.5	–	1	–	35	-40	125	SOP14, SSOP14	
NJM12904	–	2	Single	2 to 14	0.35	5	20	5	0.7	1.5	1	–	–	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SIP8 SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	
NJM2132	–	2	Single	2.7 to 32	0.22	4.5	20	5	2.1	1.8	1.5	–	32	-40	85	DIP8, DMP8, SSOP8	
NJM2730	✓	1	Single	1.8 to 5	0.32	5	50	5	0.4	1	1.5	–	10	-40	85	SOT-23-5	
NJM2732	✓	2	Single	1.8 to 6	0.29	5	50	5	0.4	1	1	–	10	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8) PCSP20-CC	
NJM2734	–	4	Single	1.8 to 6	0.3	5	50	5	0.4	1	1	–	10	-40	85	DIP14, DMP14, SSOP14 PCSP20-CC	
NJM2737	–	2	Single	1.8 to 6	0.6	5	200	5	0.7	3.1	2	–	5	-40	85	DIP8, DMP8, SSOP8 MSOP8(TVSP8)	
NJM2902C	–	4	Single	3 to 32	0.3	7	20	2	0.6	1.3	1	–	30	-40	125	SOP14, SSOP14	Wide temperature range (-40℃ to +125℃)
NJM2902CA	–	4	Single	3 to 32	0.3	2.5	20	2	0.6	1.3	1	–	30	-40	125	SOP14, SSOP14	Wide temperature range (-40℃ to +125℃)
NJM2904	✓	2	Single	3 to 32	0.35	7	25	5	0.5	0.6	0.5	–	–	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SIP8, SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	

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Operational Amplifiers

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Low Operating Current Amplifiers

Part No.	Auto-motive	No.of Circuit	Power Supply	Supply Voltage[V] min./max.	Icc/ ch. [mA]	V_{IO} [mV]	I_B[nA]	I_{IO}[nA]	SR [V/µsec]	GBW [MHz]	f_T [MHz]	Noise typ.		Operating Temperature [°C]		Package Outline	Notes
					typ.	max.	typ.	typ.	typ.	typ.	typ.	V_{NI} [µVrms]	en [nV/√Hz]	min.	max.		
NJM2904C	–	2	Single	3 to 32	0.35	7	20	2	0.6	1.1	0.5	–	30	-40	125	SOP8, DMP8 MSOP8(TVSP8), SSOP8, EQFN12-E2	Wide temperature range (-40℃ to +125℃)
NJM2904CA	–	2	Single	3 to 32	0.35	2	20	2	0.6	1.1	0.5	–	30	-40	125	SOP8, DMP8 MSOP8(TVSP8), SSOP8	Wide temperature rangev (-40℃ to +125℃)
NJM320A ♡	–	1	Single	3 to 32	0.45	2.5	20	2	0.6	1.1	–	–	30	-40	125	SOT-23-5, SC-88A	Dual Supply (± 1.5 to ± 16V)
NJM321A ♡	–	1	Single	3 to 32	0.45	2.5	20	2	0.6	1.1	–	–	30	-40	125	SOT-23-5, SC-88A DFN6-G1(ESON6-G1)	PLP♡: SOT-23-5, SC-88A Dual Supply (± 1.5 to ± 16V)
NJM324C	–	4	Single	3 to 30	0.3	7	20	2	0.6	1.3	1	–	30	-40	85	SOP14, SSOP14	Dual Supply (± 1.5 to ± 15V)
NJM324CA	–	4	Single	3 to 30	0.3	2.5	20	2	0.6	1.3	1	–	30	-40	85	SOP14, SSOP14	Dual Supply (± 1.5 to ± 15V)
NJM358C	–	2	Single	3 to 30	0.35	7	20	2	0.6	1.1	0.5	–	30	-40	85	SOP8, SSOP8	Dual Supply (± 1.5 to ± 15V)
NJM358CA	–	2	Single	3 to 30	0.35	2	20	2	0.6	1.1	0.5	–	30	-40	85	SOP8, SSOP8	Dual Supply (± 1.5 to ± 15V)
NJM8020 ♡	–	1	Single	3 to 36	0.45	2	20	2	0.6	1.1	–	–	30	-40	125	SOT-23-5, SC-88A	PLP♡:SOT-23-5 Dual Supply (± 1.5 to ± 18V)
NJM8021 ♡	–	1	Single	3 to 36	0.45	2	20	2	0.6	1.1	–	–	30	-40	125	SOT-23-5, SC-88A DFN6-G1(ESON6-G1)	PLP♡:SOT-23-5, SC-88A Dual Supply (± 1.5 to ± 18V)
NJM8524	–	4	Single	3 to 36	0.025	1.8	3	0.5	0.04	0.1	0.1	–	60	-40	85	SSOP14	
NJU7001	–	1	Single	1 to 16	0.015	10	0.001	0.001	0.05	0.15	0.1	–	37.5	-20	75	DIP8, DMP8, SSOP8	
NJU7002	–	2	Single	1 to 16	0.015	10	0.001	0.001	0.05	0.15	0.1	–	37.5	-20	75	DIP8, DMP8	
NJU7004	–	4	Single	1 to 16	0.015	10	0.001	0.001	0.05	0.15	0.1	–	37.5	-20	75	DIP14, DMP14, SSOP14	
NJU7006	–	1	Single	1.8 to 3.6	0.003	2	0.001	0.001	0.04	–	0.095	–	–	-40	85	SOT-23-5	
NJU7007	–	1	Single	1 to 5.5	0.015	4	0.001	0.001	0.1	–	0.2	–	–	-40	85	SC-88A	
NJU7008	–	1	Single	1 to 5.5	0.2	4	0.001	0.001	2.4	–	1	–	–	-40	85	SC-88A	
NJU7011	–	1	Single	1 to 5.5	0.015	10	0.001	0.001	0.1	0.2	0.2	–	–	-40	85	SOT-23-5	
NJU7012	–	1	Single	1 to 5.5	0.08	10	0.001	0.001	1	1	1	–	–	-40	85	SOT-23-5	
NJU7013	–	1	Single	1 to 5.5	0.2	10	0.001	0.001	2.4	1	1	–	–	-40	85	SOT-23-5	
NJU7014	–	2	Single	1 to 5.5	0.015	10	0.001	0.001	0.1	0.2	0.2	–	–	-40	85	DMP8, SSOP8 MSOP8(TVSP8), MSOP8(VSP8)	
NJU7015	–	2	Single	1 to 5.5	0.08	10	0.001	0.001	1	1	1	–	–	-40	85	DIP8, DMP8, SSOP8 MSOP8(TVSP8), MSOP8(VSP8)	
NJU7016	–	2	Single	1 to 5.5	0.2	10	0.001	0.001	2.4	1	1	–	–	-40	85	DIP8, DMP8, SSOP8 MSOP8(TVSP8), MSOP8(VSP8)	
NJU7019	–	2	Single	1 to 5.5	0.02	10	0.001	0.001	0.25	–	0.4	–	–	-40	85	MSOP8(VSP8)	
NJU7021	–	1	Single	3 to 16	0.15	10	0.001	0.001	0.4	0.35	0.4	–	27	-20	75	DMP8, SSOP8	
NJU7022	–	2	Single	3 to 16	0.15	10	0.001	0.001	0.4	0.35	0.4	–	27	-20	75	DIP8, DMP8	
NJU7024	–	4	Single	3 to 16	0.15	10	0.001	0.001	0.4	0.35	0.4	–	27	-20	75	DIP14, DMP14, SSOP14	
NJU7026 ♡	–	1	Single	1.8 to 5.5	0.013	4	0.001	0.001	0.05	0.16	0.16	–	50	-40	125	SC-88A, SOT-23-5	PLP♡:SC-88A
NJU7027 ♡	–	2	Single	1.8 to 5.5	0.013	4	0.001	0.001	0.05	0.16	0.16	–	50	-40	125	DFN8-U1(ESON8-U1), MSOP8(TVSP8)	
NJU7028 ♡	–	4	Single	1.8 to 5.5	0.012	4	0.001	0.001	0.05	0.16	0.16	–	50	-40	125	SSOP14	
NJU7040	–	1	Single	2.2 to 5.5	0.45	10	0.001	0.001	0.85	0.8	0.8	–	40	-40	85	SOT-23-5	

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Part No.	Auto-motive	No.of Circuit	Power Supply	Supply Voltage[V] min./max.	Icc/ ch. [mA]	V_{IO} [mV]	I_B[nA]	I_{IO}[nA]	SR [V/µsec]	GBW [MHz]	f_T [MHz]	Noise typ.		Operating Temperature [°C]		Package Outline	Notes
					typ.	max.	typ.	typ.	typ.	typ.	typ.	V_{NI} [µVrms]	en [nV/√Hz]	min.	max.		
NJU7042	–	1	Single	2.7 to 5.5	0.015	5	0.001	0.001	0.03	–	0.047	–	–	-40	85	SOT-23-5	
NJU7043	✓	2	Single	1.8 to 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	
NJU7044	–	4	Single	2.2 to 5.5	0.45	10	0.001	0.001	0.8	0.8	0.8	–	40	-40	85	DIP14, DMP14, SSOP14	
NJU7051	–	1	Single	1 to 16	0.015	2	0.001	0.001	0.05	–	0.1	–	–	-40	85	DMP8	
NJU7052	–	2	Single	1 to 16	0.015	2	0.001	0.001	0.05	–	0.1	–	–	-40	85	DMP8	
NJU7061	–	1	Single	3 to 16	0.15	2	0.001	0.001	0.4	0.35	0.4	–	27	-20	75	DIP8, DMP8, SSOP8	
NJU7062	–	2	Single	3 to 16	0.15	2	0.001	0.001	0.4	0.35	0.4	–	27	-20	75	DIP8, DMP8	
NJU7064	–	4	Single	3 to 16	0.15	2	0.001	0.001	0.4	0.35	0.4	–	27	-20	75	DIP14, DMP14, SSOP14	
NJU7067	–	2	Single	4 to 16	0.014	4	0.001	0.001	0.04	0.06	–	–	45	-40	85	DMP8, SSOP8	
NJU7068	–	4	Single	4 to 16	0.014	4	0.001	0.001	0.04	0.06	–	–	45	-40	85	DMP14, SSOP14	
NJU7091A	–	1	Single	1 to 5.5	0.015	2	0.001	0.001	0.1	0.19	0.2	–	–	-40	85	SOT-23-5	
NJU7092A	–	1	Single	1 to 5.5	0.08	2	0.001	0.001	1	1	1	–	–	-40	85	SOT-23-5	
NJU7093A	–	1	Single	1 to 5.5	0.2	2	0.001	0.001	2.4	1	1	–	–	-40	85	SOT-23-5	
NJU7094	–	2	Single	1 to 5.5	0.015	4	0.001	0.001	0.1	0.19	0.2	–	–	-40	85	DIP8, DMP8, SSOP8 MSOP8(TVSP8), MSOP8(VSP8)	
NJU7095	–	2	Single	1 to 5.5	0.08	4	0.001	0.001	1	1	1	–	–	-40	85	DIP8, DMP8, SSOP8 MSOP8(TVSP8), MSOP8(VSP8)	
NJU7096	–	2	Single	1 to 5.5	0.2	4	0.001	0.001	2.4	1	1	–	–	-40	85	DIP8, DMP8, SSOP8 MSOP8(TVSP8), MSOP8(VSP8)	
NJU77000 ♡	–	1	Single	1.5 to 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
NJU77001 ♡	–	1	Single	1.5 to 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
NJU77002 ♡	✓	2	Single	1.5 to 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)	PLP♡:MSOP8(TVSP8), DFN8-U1(ESON8-U1) Ultra-Low Operating Current
NJU77004 ♡	–	4	Single	1.5 to 5.5	0.00023	2.2	0.001	0.001	0.0007	0.001	0.001	–	700	-40	105	SSOP14	Ultra-Low Operating Current
NJU77550 ♡	–	1	Single	1.8 to 5.5	0.055	5	0.001	0.001	0.8	1.7	–	–	24	-55	125	SOT-23-5, SC-88A	PLP♡:SOT-23-5
NJU77551 ♡	–	1	Single	1.8 to 5.5	0.055	5	0.001	0.001	0.8	1.7	–	–	24	-55	125	SOT-23-5, SC-88A	
NJU77552 ♡	✓	2	Single	1.8 to 5.5	0.05	5	0.001	0.001	0.8	1.7	–	–	24	-55	125	SOP8, MSOP8(TVSP8), DFN8-U1(ESON8-U1)	PLP♡:MSOP8(TVSP8), DFN8-U1(ESON8-U1)
NJU77554 ♡	–	4	Single	1.8 to 5.5	0.05	5	0.001	0.001	0.8	1.7	–	–	24	-55	125	SSOP14	

Low Operating Voltage Amplifiers

Part No.	Auto-motive	No.of Circuit	Power Supply	Supply Voltage [V] min./max.	Icc/ ch. [mA]	V_{IO} [mV]	I_B [nA]	I_{IO} [nA]	SR [V/µsec]	GBW [MHz]	f_T [MHz]	Noise typ.		Operating Temperature [°C]		Package Outline	Notes
					typ.	max.	typ.	typ.	typ.	typ.	typ.	V_{NI} [µVrms]	en [nV/√Hz]	min.	max.		
NJM12902	–	4	Single	2 to 14	0.25	5	20	5	0.7	1.5	1	–	–	-40	85	DMP14, SSOP14 PCSP14-C3	
NJM12904	–	2	Single	2 to 14	0.35	5	20	5	0.7	1.5	1	–	–	-40	85	DIP8, DMP8,SIP8 SOP8 JEDEC150mil(EMP8), SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	

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Operational Amplifiers

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Low Operating Voltage Amplifiers

Part No.	Auto-motive	No.of Cir-cuit	Power Supply	Supply Voltage [V] min./max.	Icc/ ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Temperature [℃]		Package Outline	Notes
					typ.	max.	typ.	typ.	typ.	typ.	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
NJM13403	✓	4	Single	2 to 14	0.75	4	25	5	1.2	2	2	–	25	-40	85	DIP14, DMP14, SSOP14	
NJM13404	✓	2	Single	2 to 14	1	4	25	5	1.2	2	2	–	25	-40	85	DIP8, DMP, SIP8 SOP8 JEDEC 150mil(EMP8) SSOP8, MSOP8(VSP8), MSOP8(TVSP8)	
NJM2115	–	2	Dual	± 1 to ± 7	1.75	6	100	–	4	12	4.4	0.5	–	-40	85	DIP8, DMP8, SIP8, SSOP8, MSOP8(TVSP8)	
NJM2119	✓	2	Single	4 to 36	0.5	0.45	18	0.3	0.3	1	0.4	–	–	-30	85	DIP8, DMP8	
NJM2125	–	1	Single	2.7 to 20	1	7	25	5	1.2	1	1.2	–	–	-40	85	SOT-23-5	
NJM2132	–	2	Single	2.7 to 32	0.22	4.5	20	5	2.1	1.8	1.5	–	32	-40	85	DIP8, DMP8, SSOP8	
NJM2140	–	2	Dual	± 1 to ± 7	1.75	6	100	10	4	12	12	–	–	-40	85	MSOP8(TVSP8), MSOP8(VSP8)	
NJM2143	–	2	Single	3 to 20	0.35	7	25	5	0.5	0.6		–	–	-40	85	MSOP8(TVSP8), MSOP8(VSP8)	
NJM2716	–	1	Single	2.7 to 12	4.2	10	1000	200	40	25	30	–	–	-40	85	SOT-23-5	
NJM2717	–	2	Single	2.7 to 12	4	11	2000	200	40	25	20	–	–	-40	85	DIP8, DMP8 SSOP8, MSOP8(TVSP8)	
NJM2730	✓	1	Single	1.8 to 5	0.32	5	50	5	0.4	1	1.5	–	10	-40	85	SOT-23-5	
NJM2732	✓	2	Single	1.8 to 6	0.29	5	50	5	0.4	1	1	–	10	-40	85	DIP8, DMP8 SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8), PCSP20-CC	
NJM2734	–	4	Single	1.8 to 6	0.3	5	50	5	0.4	1	1	–	10	-40	85	DIP14, DMP14, SSOP14, PCSP20-CC	
NJM2737	–	2	Single	1.8 to 6	0.6	5	200	5	0.7	3.1	2	–	5	-40	85	DIP8, DMP8 SSOP8, MSOP8(TVSP8)	
NJM2740	–	2	Dual	± 1.1 to ± 3.5	1.75	6	100	5	4	12	–	–	–	-40	125	DMP8, SSOP8 MSOP8(TVSP8)	
NJM2741	✓	1	Single	2.5 to 14	2.2	6	100	5	3.5	10	10	–	10	-40	85	SC-88A, SOT-23-5	
NJM2742	–	2	Single	3 to 32	2.15	12	80	5	10	2	2	–	40	-40	85	DIP8, DMP8 SSOP8, MSOP8(TVSP8)	
NJM2744	–	4	Single	3 to 32	1.875	12	80	5	10	2	2	–	40	-40	85	DIP14, DMP14, SSOP14	
NJM2746	✓	2	Single	2.5 to 14	2	6	100	5	3.5	10	10	–	10	-40	85	DMP8, SOP8 JEDEC150mil(EMP8), DFN8-U1(ESON8-U1), SSOP8, MSOP8(TVSP8)	
NJM2747	✓	4	Single	2.5 to 14	2	6	100	5	3.5	10	10	–	10	-40	85	DIP14, DMP14 PCSP20-CC, SSOP14	
NJM2902C	–	4	Single	3 to 32	0.3	7	20	2	0.6	1.3	1	–	30	-40	125	SOP14, SSOP14	Wide temperature range (-40℃ to +125℃)
NJM2902CA	–	4	Single	3 to 32	0.3	2.5	20	2	0.6	1.3	1	–	30	-40	125	SOP14, SSOP14	Wide temperature range (-40℃ to +125℃)
NJM2904	✓	2	Single	3 to 32	0.35	7	25	5	0.5	0.6	0.5	–	–	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8), SIP8 SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	
NJM2904C	–	2	Single	3 to 32	0.35	7	20	2	0.6	1.1	0.5	–	30	-40	125	SOP8, DMP8, MSOP8(TVSP8) SSOP8, EQFN12-E2	Wide temperature range (-40℃ to +125℃)
NJM2904CA	–	2	Single	3 to 32	0.35	2	20	2	0.6	1.1	0.5	–	30	-40	125	SOP8, DMP8 MSOP8(TVSP8), SSOP8	Wide temperature range (-40℃ to +125℃)
NJM324C	–	4	Single	3 to 30	0.3	7	20	2	0.6	1.3	1	–	30	-40	85	SOP14, SSOP14	Dual Supply (± 1.5 to ± 15V)
NJM324CA	–	4	Single	3 to 30	0.3	2.5	20	2	0.6	1.3	1	–	30	-40	85	SOP14, SSOP14	Dual Supply (± 1.5 to ± 15V)
NJM3403A	✓	4	Single	4 to 36	0.75	5	70	5	1.2	1	1.2	–	25	-40	85	DIP14, DMP14, SSOP14	
NJM3414A	–	2	Single	3 to 15	2	5	100	5	1	1.3	9	–	18	-40	85	DIP8, DMP8 SIP8, SSOP8	
NJM358C	–	2	Single	3 to 30	0.35	7	20	2	0.6	1.1	0.5	–	30	-40	85	SOP8, SSOP8	Dual Supply (± 1.5 to ± 15V)
NJM358CA	–	2	Single	3 to 30	0.35	2	20	2	0.6	1.1	0.5	–	30	-40	85	SOP8, SSOP8	Dual Supply (± 1.5 to ± 15V)
NJU7001	–	1	Single	1 to 16	0.015	10	0.001	0.001	0.05	0.15	0.1	–	37.5	-20	75	DIP8, DMP8, SSOP8	
NJU7002	–	2	Single	1 to 16	0.015	10	0.001	0.001	0.05	0.15	0.1	–	37.5	-20	75	DIP8, DMP8	
NJU7004	–	4	Single	1 to 16	0.015	10	0.001	0.001	0.05	0.15	0.1	–	37.5	-20	75	DIP14, DMP14, SSOP14	

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Part No.	Auto-motive	No.of Cir-cuit	Power Supply	Supply Voltage [V] min./max.	Icc/ ch. [mA]	VIO [mV]	IB [nA]	IIO [nA]	SR [V/μsec]	GBW [MHz]	fT [MHz]	Noise typ.		Operating Temperature [℃]		Package Outline	Notes
					typ.	max.	typ.	typ.	typ.	typ.	typ.	VNI [μVrms]	en [nV/√Hz]	min.	max.		
NJU7006	–	1	Single	1.8 to 3.6	0.003	2	0.001	0.001	0.04	–	0.095	–	–	-40	85	SOT-23-5	
NJU7007	–	1	Single	1 to 5.5	0.015	4	0.001	0.001	0.1	–	0.2	–	–	-40	85	SC-88A	
NJU7008	–	1	Single	1 to 5.5	0.2	4	0.001	0.001	2.4	–	1	–	–	-40	85	SC-88A	
NJU7011	–	1	Single	1 to 5.5	0.015	10	0.001	0.001	0.1	0.2	0.2	–	–	-40	85	SOT-23-5	
NJU7012	–	1	Single	1 to 5.5	0.08	10	0.001	0.001	1	1	1	–	–	-40	85	SOT-23-5	
NJU7013	–	1	Single	1 to 5.5	0.2	10	0.001	0.001	2.4	1	1	–	–	-40	85	SOT-23-5	
NJU7014	–	2	Single	1 to 5.5	0.015	10	0.001	0.001	0.1	0.2	0.2	–	–	-40	85	DMP8, SSOP8 MSOP8(TVSP8), MSOP8(VSP8)	
NJU7015	–	2	Single	1 to 5.5	0.08	10	0.001	0.001	1	1	1	–	–	-40	85	DIP8, DMP8, SSOP8 MSOP8(TVSP8), MSOP8(VSP8)	
NJU7016	–	2	Single	1 to 5.5	0.2	10	0.001	0.001	2.4	1	1	–	–	-40	85	DIP8, DMP8, SSOP8 MSOP8(TVSP8), MSOP8(VSP8)	
NJU7017	–	1	Single	1 to 5.5	0.75	10	0.001	0.001	3.7	1	1	–	–	-40	85	SOT-23-5	
NJU7018	–	2	Single	1 to 5.5	0.75	10	0.001	0.001	3.7	1	1	–	–	-40	85	DIP8, DMP8, SSOP8 MSOP8(TVSP8), MSOP8(VSP8)	
NJU7019	–	2	Single	1 to 5.5	0.02	10	0.001	0.001	0.25	–	0.4	–	–	-40	85	MSOP8(VSP8)	
NJU7021	–	1	Single	3 to 16	0.15	10	0.001	0.001	0.4	0.35	0.4	–	27	-20	75	DMP8, SSOP8	
NJU7022	–	2	Single	3 to 16	0.15	10	0.001	0.001	0.4	0.35	0.4	–	27	-20	75	DIP8, DMP8	
NJU7024	–	4	Single	3 to 16	0.15	10	0.001	0.001	0.4	0.35	0.4	–	27	-20	75	DIP14, DMP14, SSOP14	
NJU7031	–	1	Single	3 to 16	1	10	0.001	0.001	3.5	2	1.5	–	20	-40	85	DIP8, DMP8, SSOP8	
NJU7032	–	2	Single	3 to 16	1	10	0.001	0.001	3.5	2	1.5	–	20	-40	85	DIP8, DMP8	
NJU7034	–	4	Single	3 to 16	1	10	0.001	0.001	3.5	2	1.5	–	20	-40	85	DIP14, DMP14, SSOP14	
NJU7040	–	1	Single	2.2 to 5.5	0.45	10	0.001	0.001	0.85	0.8	0.8	–	40	-40	85	SOT-23-5	
NJU7042	–	1	Single	2.7 to 5.5	0.015	5	0.001	0.001	0.03	–	0.047	–	–	-40	85	SOT-23-5	
NJU7043	✓	2	Single	1.8 to 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	
NJU7044	–	4	Single	2.2 to 5.5	0.45	10	0.001	0.001	0.8	0.8	0.8	–	40	-40	85	DIP14, DMP14, SSOP14	
NJU7051	–	1	Single	1 to 16	0.015	2	0.001	0.001	0.05	–	0.1	–	–	-40	85	DMP8	
NJU7052	–	2	Single	1 to 16	0.015	2	0.001	0.001	0.05	–	0.1	–	–	-40	85	DMP8	
NJU7061	–	1	Single	3 to 16	0.15	2	0.001	0.001	0.4	0.35	0.4	–	27	-20	75	DIP8, DMP8, SSOP8	
NJU7062	–	2	Single	3 to 16	0.15	2	0.001	0.001	0.4	0.35	0.4	–	27	-20	75	DIP8, DMP8	
NJU7064	–	4	Single	3 to 16	0.15	2	0.001	0.001	0.4	0.35	0.4	–	27	-20	75	DIP14, DMP14, SSOP14	
NJU7071	–	1	Single	5 to 16	0.6	2	0.001	0.001	1.1	–	1	–	–	-20	75	DIP8, DMP8, SSOP8	
NJU7072	–	2	Single	5 to 16	0.6	2	0.001	0.001	1.1	–	1	–	–	-20	75	DIP8, DMP8	
NJU7074	–	4	Single	5 to 16	0.6	2	0.001	0.001	1.1	–	1	–	–	-20	75	DMP14, SSOP14	
NJU7091A	–	1	Single	1 to 5.5	0.015	2	0.001	0.001	0.1	0.19	0.2	–	–	-40	85	SOT-23-5	
NJU7092A	–	1	Single	1 to 5.5	0.08	2	0.001	0.001	1	1	1	–	–	-40	85	SOT-23-5	
NJU7093A	–	1	Single	1 to 5.5	0.2	2	0.001	0.001	2.4	1	1	–	–	-40	85	SOT-23-5	
NJU7094	–	2	Single	1 to 5.5	0.015	4	0.001	0.001	0.1	0.19	0.2	–	–	-40	85	DIP8, DMP8, SSOP8 MSOP8(TVSP8), MSOP8(VSP8)	
NJU7095	–	2	Single	1 to 5.5	0.08	4	0.001	0.001	1	1	1	–	–	-40	85	DIP8, DMP8, SSOP8 MSOP8(TVSP8), MSOP8(VSP8)	
NJU7096	–	2	Single	1 to 5.5	0.2	4	0.001	0.001	2.4	1	1	–	–	-40	85	DIP8, DMP8, SSOP8 MSOP8(TVSP8), MSOP8(VSP8)	

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Operational Amplifiers

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Small Sized Package Amplifiers

Part No.	Auto-motive	No.of Circuit	Power Supply	Supply Voltage [V] min./max.	Icc/ ch. [mA]	V_{IO} [mV]	I_B[nA]	I_{IO}[nA]	SR [V/μsec]	GBW [MHz]	f_T [MHz]	Noise typ.		Operating Temperature [℃]		Package Outline	Notes
					typ.	max.	typ.	typ.	typ.	typ.	typ.	V_{NI} [μVrms]	en [nV/√Hz]	min.	max.		
NJM2125	–	1	Single	2.7 to 20	1	7	25	5	1.2	1	1.2	–	–	-40	85	SOT-23-5	
NJM2711	–	1	Dual	± 2 to ± 4.5	1.9	7	2000	350	260	1000	180	–	6.8	-40	85	SOT-23-5	
NJM2712	–	2	Dual	± 2 to ± 4.5	1.9	7	2000	350	260	1000	180	–	6.8	-40	85	DMP8, MSOP8(TVSP8)	
NJM2716	–	1	Single	2.7 to 12	4.2	10	1000	200	40	25	30	–	–	-40	85	SOT-23-5	
NJM2730	✓	1	Single	1.8 to 5	0.32	5	50	5	0.4	1	1.5	–	10	-40	85	SOT-23-5	
NJM2743	–	1	Single	3 to 15	2	5	100	5	0.85	0.8	0.4	–	18	-40	85	SOT-23-5	Iout=70mA
NJU7007	–	1	Single	1 to 5.5	0.015	4	0.001	0.001	0.1	–	0.2	–	–	-40	85	SC-88A	
NJU7008	–	1	Single	1 to 5.5	0.2	4	0.001	0.001	2.4	–	1	–	–	-40	85	SC-88A	
NJU7011	–	1	Single	1 to 5.5	0.015	10	0.001	0.001	0.1	0.2	0.2	–	–	-40	85	SOT-23-5	
NJU7012	–	1	Single	1 to 5.5	0.08	10	0.001	0.001	1	1	1	–	–	-40	85	SOT-23-5	
NJU7013	–	1	Single	1 to 5.5	0.2	10	0.001	0.001	2.4	1	1	–	–	-40	85	SOT-23-5	
NJU7017	–	1	Single	1 to 5.5	0.75	10	0.001	0.001	3.7	1	1	–	–	-40	85	SOT-23-5	
NJU7040	–	1	Single	2.2 to 5.5	0.45	10	0.001	0.001	0.85	0.8	0.8	–	40	-40	85	SOT-23-5	
NJU7042	–	1	Single	2.7 to 5.5	0.015	5	0.001	0.001	0.03	–	0.047	–	–	-40	85	SOT-23-5	
NJU7043	✓	2	Single	1.8 to 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	
NJU7091A	–	1	Single	1 to 5.5	0.015	2	0.001	0.001	0.1	0.19	0.2	–	–	-40	85	SOT-23-5	
NJU7092A	–	1	Single	1 to 5.5	0.08	2	0.001	0.001	1	1	1	–	–	-40	85	SOT-23-5	
NJU7093A	–	1	Single	1 to 5.5	0.2	2	0.001	0.001	2.4	1	1	–	–	-40	85	SOT-23-5	

J-FET Input Amplifiers

Part No.	Auto-motive	No.of Circuit	Power Supply	Supply Voltage [V] min./max.	Icc/ ch. [mA]	V_{IO} [mV]	I_B[nA]	I_{IO}[nA]	SR [V/μsec]	GBW [MHz]	f_T [MHz]	Noise typ.		Operating Temperature [℃]		Package Outline	Notes
					typ.	max.	typ.	typ.	typ.	typ.	typ.	V_{NI} [μVrms]	en [nV/√Hz]	min.	max.		
NJM062C	–	2	Dual	± 2 to ± 18	0.2	15	0.03	0.005	3.5	–	1	–	35	-40	125	SOP8, SSOP8	
NJM062CA	–	2	Dual	± 2 to ± 18	0.2	6	0.03	0.005	3.5	–	1	–	35	-40	125	SOP8, SSOP8	
NJM064C ♡	–	4	Dual	± 2 to ± 18	0.2	15	0.03	0.005	3.5	–	1	–	35	-40	125	SOP14, SSOP14	PLP♡:SSOP14
NJM064CA	–	4	Dual	± 2 to ± 18	0.2	6	0.03	0.005	3.5	–	1	–	35	-40	125	SOP14, SSOP14	
NJM072C	–	2	Dual	± 4 to ± 18	1.4	10	0.03	0.005	13	–	3	4	18	-40	125	SOP8, SSOP8	
NJM072CA	–	2	Dual	± 4 to ± 18	1.4	6	0.03	0.005	13	–	3	4	18	-40	125	SOP8, SSOP8	
NJM074C ♡	–	4	Dual	± 4 to ± 18	1.4	10	0.03	0.005	13	–	3	4	18	-40	125	SOP14, SSOP14	PLP♡:SSOP14
NJM074CA	–	4	Dual	± 4 to ± 18	1.4	6	0.03	0.005	13	–	3	4	18	-40	125	SOP14, SSOP14	
NJM082C	–	2	Dual	± 4 to ± 18	1.4	15	0.03	0.005	13	–	3	4	18	-40	125	SOP8, SSOP8	
NJM082CA	–	2	Dual	± 4 to ± 18	1.4	6	0.03	0.005	13	–	3	4	18	-40	125	SOP8, SSOP8	
NJM084C	–	4	Dual	± 4 to ± 18	1.4	15	0.03	0.005	13	–	3	4	18	-40	125	SOP14, SSOP14	
NJM084CA	–	4	Dual	± 4 to ± 18	1.4	6	0.03	0.005	13	–	3	4	18	-40	125	SOP14, SSOP14	
NJM2748	✓	1	Dual	± 6 to ± 16	2	2	0.05	0.025	13	2.2	2	2.5	20	-40	85	DIP8, DMP8	
NJM2748A	–	1	Dual	± 6 to ± 16	2	2	0.05	0.025	13	2.2	2	2.5	20	-40	85	DIP8, DMP8	
NJM2749	–	2	Dual	± 6 to ± 16	1.9	2.5	0.05	0.025	13	2.2	2	2.5	20	-40	85	DMP8, SOP8 JEDEC 150mil(EMP8)	
NJM2749A	–	2	Dual	± 6 to ± 16	1.9	2.5	0.05	0.025	13	2.2	2	2.5	20	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8)	
NEW **NJM8087**	–	1	Dual	± 4 to ± 16	1.3	0.8	0.025	0.006	20	–	7	–	10	-40	125	SOP8 JEDEC 150mil(EMP8)	No Phase Reversal
NJM8502	–	2	Dual	± 4.5 to ± 16	1.3	0.4	0.025	0.006	20	7	7	0.18	10	-40	125	MSOP8(VSP8)	
NJM8512 ♡	–	2	Dual	± 4.5 to ± 16	1.3	0.4	0.025	0.006	20	7	7	–	10	-40	125	MSOP8(VSP8), SOP8 JEDEC 150mil(EMP8)	PLP♡:MSOP8 (VSP8)
NJM8513	–	4	Dual	± 4.5 to ± 16	1.3	0.4	0.025	0.006	20	7	7	–	10	-40	125	SSOP14	

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High Output Current Amplifiers

Part No.	Auto-motive	No.of Circuit	Power Supply	Supply Voltage [V] min./max.	Icc/ ch. [mA]	V_{IO} [mV]	I_B[nA]	I_{IO}[nA]	SR [V/μsec]	GBW [MHz]	f_T [MHz]	Noise typ.		Operating Temperature [℃]		Package Outline	Notes
					typ.	max.	typ.	typ.	typ.	typ.	typ.	V_{NI} [μVrms]	en [nV/√Hz]	min.	max.		
NJM2743	–	1	Single	3 to 15	2	5	100	5	0.85	0.8	0.4	–	18	-40	85	SOT-23-5	Iout=70mA
NJM3414A	–	2	Single	3 to 15	2	5	100	5	1	1.3	9	–	18	-40	85	DIP8, DMP8, SIP8, SSOP8	
NJM4556A	–	2	Dual	± 2 to ± 18	4.5	6	50	5	3	8	4	–	12	-40	85	DIP8, DMP8, SIP8, SSOP8	
NJU7036	–	2	Single	2.7 to 5.5	1.75	10	0.001	0.001	0.7	0.4	0.4	–	60	-40	85	PCSP20-E3	
NJU7040	–	1	Single	2.2 to 5.5	0.45	10	0.001	0.001	0.85	0.8	0.8	–	40	-40	85	SOT-23-5	
NJU7043	✓	2	Single	1.8 to 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	
NJU7044	–	4	Single	2.2 to 5.5	0.45	10	0.001	0.001	0.8	0.8	0.8	–	40	-40	85	DIP14, DMP14, SSOP14	
NJU77701 ♡	✓	1	Single	2.4 to 5.5	3.8	1.5	0.001	0.001	35	34	–	–	6	-40	125	SOT-23-5	
NJU77902	–	2	Single	6 to 18	3.5	10	0.001	0.001	9	–	3	–	80	-40	85	DFN8-W2(ESON8-W2)	High Output Current
NJU77903 ♡	✓	1	Single	6.8 to 36	9.5	6	0.001	0.001	3.5	–	1.5	–	50	-40	125	TO-252-5-L3, DFN8-W2(ESON8-W2)	High Output Current

High Voltage Amplifiers

Part No.	Auto-motive	No.of Circuit	Power Supply	Supply Voltage [V] min./max.	Icc/ ch. [mA]	V_{IO} [mV]	I_B[nA]	I_{IO}[nA]	SR [V/μsec]	GBW [MHz]	f_T [MHz]	Noise typ.		Operating Temperature [℃]		Package Outline	Notes
					typ.	max.	typ.	typ.	typ.	typ.	typ.	V_{NI} [μVrms]	en [nV/√Hz]	min.	max.		
NJM2718	–	2	Single	3 to 36	1.85	4	1200	100	9	1.8	2	–	24	-40	85	SOP8 JEDEC 150mil(EMP8), SSOP8	
NJM8524	–	4	Single	3 to 36	0.025	1.8	3	0.5	0.04	0.1	0.1	–	60	-40	85	SSOP14	
NJU7067	–	2	Single	4 to 16	0.014	4	0.001	0.001	0.04	0.06	–	–	45	-40	85	DMP8, SSOP8	
NJU7068	–	4	Single	4 to 16	0.014	4	0.001	0.001	0.04	0.06	–	–	45	-40	85	DMP14, SSOP14	

General Purpose Amplifiers

Part No.	Auto-motive	No.of Circuit	Power Supply	Supply Voltage [V] min./max.	Icc/ ch. [mA]	V_{IO} [mV]	I_B [nA]	I_{IO} [nA]	SR [V/μsec]	GBW [MHz]	f_T [MHz]	Noise typ.		Operating Temperature [℃]		Package Outline	Notes
					typ.	max.	typ.	typ.	typ.	typ.	typ.	V_{NI} [μVrms]	en [nV/√Hz]	min.	max.		
NJM12902	–	4	Single	2 to 14	0.25	5	20	5	0.7	1.5	1	–	–	-40	85	DMP14, SSOP14, PCSP14-C3	
NJM12904	–	2	Single	2 to 14	0.35	5	20	5	0.7	1.5	1	–	–	-40	85	DIP8, DMP8, SIP8 SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	
NJM13403	✓	4	Single	2 to 14	0.75	4	25	5	1.2	2	2	–	25	-40	85	DIP14, DMP14, SSOP14	
NJM13404	✓	2	Single	2 to 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 to ± 7	1.35	3	70	5	2.5	5	4	1.4	10	-40	85	DIP8, DMP8, SIP8 SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(VSP8)	
NJM2059	–	4	Dual	± 4 to ± 18	1.75	6	20	5	2	6.8	8	1.4	14	-40	85	DIP14, DMP14, SSOP14	
NJM2060	–	4	Dual	± 4 to ± 18	2.25	6	40	5	4	10	10	1.2	10	-20	75	DIP14, DMP14, SSOP14	
NJM2902	✓	4	Single	3 to 32	0.25	10	20	5	0.5	0.5	0.7	–	–	-40	85	DIP14, DMP14, SSOP14	
NJM2902C	–	4	Single	3 to 32	0.3	7	20	2	0.6	1.3	1	–	30	-40	125	SOP14, SSOP14	Wide temperature range (-40℃ to +125℃)
NJM2902CA	–	4	Single	3 to 32	0.3	2.5	20	2	0.6	1.3	1	–	30	-40	125	SOP14, SSOP14	Wide temperature range (-40℃ to +125℃)
NJM2904	–	2	Single	3 to 32	0.35	7	25	5	0.5	0.6	0.5	–	–	-40	85	DIP8, DMP8, SIP8 SOP8 JEDEC 150mil(EMP8), SSOP8, MSOP8(TVSP8), MSOP8(VSP8)	
NJM2904C	–	2	Single	3 to 32	0.35	7	20	2	0.6	1.1	0.5	–	30	-40	125	SOP8, DMP8, MSOP8(TVSP8) SSOP8, EQFN12-E2	Wide temperature range (-40℃ to +125℃)
NJM2904CA	–	2	Single	3 to 32	0.35	2	20	2	0.6	1.1	0.5	–	30	-40	125	SOP8, DMP8 MSOP8(TVSP8), SSOP8	Wide temperature range (-40℃ to +125℃)

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General Purpose Amplifiers

Part No.	Automotive	No.of Circuit	Power Supply	Supply Voltage [V] min./max.	Icc/ ch. [mA]	V_{IO} [mV]	I_B [nA]	I_{IO} [nA]	SR [V/μsec]	GBW [MHz]	f_T [MHz]	Noise typ.		Operating Temperature [℃]		Package Outline	Notes
					typ.	max.	typ.	typ.	typ.	typ.	typ.	V_{NI} [μVrms]	en [nV/√Hz]	min.	max.		
NJM324C	–	4	Single	3 to 30	0.3	7	20	2	0.6	1.3	1	–	30	-40	85	SOP14, SSOP14	Dual Supply (± 1.5 to ± 15V)
NJM324CA	–	4	Single	3 to 30	0.3	2.5	20	2	0.6	1.3	1	–	30	-40	85	SOP14, SSOP14	Dual Supply (± 1.5 to ± 15V)
NJM3403A	✓	4	Single	4 to 36	0.75	5	70	5	1.2	1	1.2	–	25	-40	85	DIP14, DMP14, SSOP14	
NJM3404A	–	2	Single	4 to 36	1	5	70	5	1.2	2	1.2	–	–	-40	85	DIP8, DMP8 SIP8, SSOP8	
NJM358C	–	2	Single	3 to 30	0.35	7	20	2	0.6	1.1	0.5	–	30	-40	85	SOP8, SSOP8	Dual Supply (± 1.5 to ± 15V)
NJM358CA	–	2	Single	3 to 30	0.35	2	20	2	0.6	1.1	0.5	–	30	-40	85	SOP8, SSOP8	Dual Supply (± 1.5 to ± 15V)
NJM4558	–	2	Dual	± 4 to ± 18	1.75	6	25	5	1	3	3	1.4	12.5	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8) SIP8, SSOP8	
NJM4558C	–	2	Dual	± 4 to ± 18	1.75	6	25	5	1.5	3.5	3	1.4	12	-40	85	SOP8, SSOP8	

Comparators

Part No.	Automotive	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) SIP8, SSOP8 MSOP8(TVSP8), MSOP8(VSP8)	
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	DIP14, DMP14, SSOP14	PLP♡:SSOP14
NJM2901C	–	4	Open-Collector	2	36	0.2	5	1300	-40	125	SOP14, SSOP14	Wide temperature range (-40℃ to +125℃)
NJM2901CA	–	4	Open-Collector	2	36	0.2	2.5	1300	-40	125	SOP14, SSOP14	Wide temperature range (-40℃ to +125℃)
NJM2903	✓	2	Open-Collector	2	36	0.2	7	1500	-40	85	DIP8, DMP8, SOP8 JEDEC 150mil(EMP8) SIP8, SSOP8, MSOP8(TVSP8)	
NJM2903C	–	2	Open-Collector	2	36	0.225	5	1300	-40	125	SOP8, SSOP8, DMP8 MSOP8(TVSP8), EQFN14-D7	Wide temperature range (-40℃ to +125℃)
NJM2903CA	–	2	Open-Collector	2	36	0.225	2	1300	-40	125	SOP8, SSOP8, DMP8 MSOP8(TVSP8)	Wide temperature range (-40℃ to +125℃)
NJM339C	–	4	Open-Collector	2	36	0.2	5	1300	-40	85	SOP14, SSOP14	Dual Supply (Supply Voltage ± 1 to ± 18V)
NJM339CA	–	4	Open-Collector	2	36	0.2	2.5	1300	-40	85	SOP14, SSOP14	Dual Supply (Supply Voltage ± 1 to ± 18V)
NJM390A ♡	–	1	Open-Collector	2	36	0.3	3	1300	-40	125	SOT-23-5, SC-88A	Wide temperature range (-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 temperature range (-40℃ to +125℃)
NJM393C	–	2	Open-Collector	2	36	0.225	5	1300	-40	85	SOP8, SSOP8	Dual Supply (Supply Voltage ± 1 to ± 18V)
NJM393CA	–	2	Open-Collector	2	36	0.225	2	1300	-40	85	SOP8, SSOP8	Dual Supply (Supply Voltage ± 1 to ± 18V)
NJM8190	–	1	Open-Collector	2	36	0.3	3	1300	-40	125	SOT-23-5, SC-88A	Dual Supply (Supply Voltage ± 1 to ± 18V)
NJM8191 ♡	✓	1	Open-Collector	2	36	0.3	3	1300	-40	125	SOT-23-5, SC-88A DFN6-G1(ESON6-G1)	PLP♡:SOT-23-5, SC-88A Dual Supply (Supply Voltage ± 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	

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Part No.	Automotive	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.		
U.D. NJU77210	–	1	Push-Pull	1.7	5.5	0.0007	7	9	-40	105	SOT-23-5, SC-88A DFN6-G1(ESON6-G1)	Integrated EMI Filter
U.D. NJU77212	–	2	Push-Pull	1.7	5.5	0.0006	7	9	-40	105	MSOP8(VSP8), DFN8-U1(ESON8-U1)	Integrated EMI Filter
U.D. NJU77220	–	1	Open-Drain	1.7	5.5	0.0007	7	9	-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	9	-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 temperature range (-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)	PLP♡:SOT-23-5, SC-88A Wide temperature range (-40℃ to +125℃)
NJU77232 ♡	–	2	Push-Pull	1.8	5.5	0.006	6	780	-40	125	MSOP8(TVSP8), DFN8-U1(ESON8-U1)	Wide temperature range (-40℃ to +125℃)
NJU77240 ♡	–	1	Open-Drain	1.8	5.5	0.006	6	840	-40	125	SOT-23-5, SC-88A	Wide temperature range (-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)	PLP♡:SOT-23-5, SC-88A Wide temperature range (-40℃ to +125℃)
NJU77242 ♡	✓	2	Open-Drain	1.8	5.5	0.006	6	840	-40	125	MSOP8(TVSP8), DFN8-U1(ESON8-U1)	Wide temperature range (-40℃ to +125℃)
NEW NJU77250	–	1	Push-Pull	2.7	5.5	0.14	7	42	-40	125	SOT-23-5, SC-88A	Wide temperature range (-40℃ to +125℃)
NEW NJU77251	–	1	Push-Pull	2.7	5.5	0.14	7	42	-40	125	SOT-23-5, SC-88A DFN6-G1(ESON6-G1)	Wide temperature range (-40℃ to +125℃)
U.D. NJU77252	–	2	Push-Pull	2.7	5.5	0.14	7	42	-40	125	MSOP8(VSP8), DFN8-U1(ESON8-U1)	Wide temperature range (-40℃ to +125℃)
U.D. NJU77260	–	1	Open-Drain	2.7	5.5	0.14	7	125	-40	125	SOT-23-5, SC-88A	Wide temperature range (-40℃ to +125℃)
U.D. NJU77261	–	1	Open-Drain	2.7	5.5	0.14	7	125	-40	125	SOT-23-5, SC-88A DFN6-G1(ESON6-G1)	Wide temperature range (-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 temperature range (-40℃ to +125℃)

Special Function Amplifiers

Part No.	Automotive	Key Features	Operating Voltage [V] min./max.	Package Outline	Notes
NEW NJU7890-Z	✓	1000V High Voltage Monitor IC	2.2 to 5.5	PMAP11-PM	AEC-Q100 Grade 1 Qualified Common Mode Input Voltage Range : 1000V High Precision Attenuation Rate : ± 1% High Input Resistance : 30M ohm Min.
NEW NJU77903-Z2	✓	Resolver excitation amplifier	6.8 to 36	TO-252-5-L3	AEC-Q100 Grade 1 Qualified High Output Current, Rail-to-Rail Input / Output High output current : ± 100mA typ. (200mApp typ.) Thermal shutdown Current limit

Sensor measurement AFEs

Part No.	Automotive	Supply Voltage [V]min./max.	Supply Current [μA] typ./max.	Resolution [bit]	Speed [sps]	Feature	Number of Pin	Interface	Package Outline	Notes
NJU9101	–	2.4 to 3.6	4 to 5.5(Op – Amp) 150 to 200 (ADC)	16	32 to 2k	Low Power	24	I^2C	EQFN24-LE	High RF noise tolerance Programmable Cell Bias Voltage System Calibration for offset & gain drift
NJU9102	–	4 to 5.5	300 to 380	14	–	Digital earth leakage current detection	8	–	DMP8	Immediate response, Set Earth Leakage Detector Condition, Type A / Type AC switchable
NJU9102A	–	4 to 5.5	300 to 380	14	–	Digital earth leakage current detection	8	–	DMP8	Set Earth Leakage Detector Condition, Type A / Type AC switchable
NJU9103	–	2.7 to 3.6	4mA	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

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Power Management ICs

LDO Linear Regulators

♡ : 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/Electrolytic : Tantalum/Electrolytic Capacitor

High Immunity : Enhanced Noise Immunity

UVLO : Undervoltage Lockout Circuit

Soft-Start : Soft-start Circuit

Discharge : Auto-Discharge

Part No.	Automotive	Input Voltage [V] min.	Input Voltage [V] max.	Output Current [mA]	Output Voltage*1 [V] min.	Output Voltage*1 [V] max.	V_{OUT} 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
NJM2827	–	-12.0	-14	100	-1.5	-10	± 1.5	0.13	65	130	200	–	-40	85	Negative type Shunt SW Function Thermal Soft-Start	SC-88A	
NJM2828 ♡	–	-12.0	-14	100	-1.5	-10	± 1.5	0.13	65	130	200	Yes	-40	85	Negative type Shunt SW Function Thermal Soft-Start	SC-88A	
NJM2829 ♡	–	-12.0	-14	100	-0.8	-1.3	± 1.5	0.13	80	140	220	Yes	-40	85	Negative type Shunt SW Function Thermal Soft-Start	SC-88A	
RP117 ♡	–	-2.5	-10	100	-1.0	-5.5	± 2.0	0.23	80	75	–	Yes	-40	85	Negative type Output noise16μVrms Thermal Discharge : Ver.D	DFN(PLP)1212-6 SC-88A	
High-Voltage (Maximum Input Voltage >30V)																	
R1560 ♡	✓	5.5	60	100	1.8	14	± 0.8	1.5	–	3	–	Yes	-40	105	Thermal	HSOP-6J TO-252-5-P2	Industrial (-50℃ to 125℃)
R1561 ♡	✓	5.5	60	100	1.8	14	± 0.8	1.3	–	20	–	Yes	-40	105	Thermal	HSOP-6J TO-252-5-P2	Industrial (-50℃ to 125℃)
NJW4182 ♡	✓	4.0	45	100	2.5	15	± 1.0	0.18	54	9	18	–	-40	85	ultra-low current consumption Thermal	SOT-23-5, SOT-89-3, DFN6-H1 (ESON6-H1)	PLP♡: SOT-23-5, SOT-89-3
NJW4104 ♡	✓	4.0	45	200	2.5	15	± 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 current consumption UVLO Thermal	SOT-89-5-2, SOT-89-3 TO-252-3-L1	
NJW4107 ♡	✓	4.0	45	300	2.5	15	± 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	
NJW4113T1	✓	4.0	45	500	2.5	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	✓	4.0	45	500	2	16	± 1.0	0.27	60	50	90	Yes	-40	85	Adjustable type Thermal	TO-252-5-L3	
NJW4116T1	✓	4.0	45	500	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	✓	4.0	45	500	3.3	8	± 1.0	0.4	56	65	105	Yes	-40	125	Fast Transient Response Thermal	TO-252-5-L5	
NEW **NJW4106**	✓	4.0	45	500	2.5	16	± 1.0	0.4	53	65	105	Yes	-40	125	Fast Transient Response Adjustable type Thermal	TO-252-5-L5	
NJW4185	✓	4.0	45	500	2	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	
NJW4187	✓	4.0	45	1000	2	15	± 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	✓	4.0	45	1000	2	15	± 1.0	0.27	58	55	90	Yes	-40	125	Adjustable type Thermal	TO-252-5-L3	
R1525 ♡	✓	3.5	42	200	1.8	12	± 0.6	0.6	–	2.2	–	Yes	-40	105	Thermal High Immunity	DFN(PLP)1820-6 SOT-23-5 SOT-89-5 HSOP-6J HSOP-8E	Industrial (-50℃ to 125℃) PLP♡:SOT-23-5, SOT-89-5, HSOP-6J, HSOP-8E

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

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Part No.	Automotive	Input Voltage [V] min.	Input Voltage [V] max.	Output Current [mA]	Output Voltage*1 [V] min.	Output Voltage*1 [V] max.	V_{OUT} 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
R5112 ♡	✓	3.5	42	200	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%
R1526 ♡	✓	3.5	42	300	1.8	9	± 0.6	0.4	–	32	–	Yes	-40	105	Thermal High Immunity	HSOP-8E	Industrial (-40℃ to 125℃)
R5116 ♡	✓	3.5	42	500	3.3	5	± 0.5	0.9	65	25	–	Yes	-40	105	Thermal Built-in Window VD Released Hysteresis: 0.7% (Max.)	HSOP-8E HQFN0808-28	Industrial (-50℃ to 125℃) PLP♡: HSOP-8E Detector Threshold Range: OV: 3.3V to 5.5V UV: 2.5V to 5.0V Detector Threshold Accuracy: ± 0.5%
R5117 ♡	✓	3.5	42	500	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℃) PLP♡: HSOP-8E Detector Threshold Range: SVD: 2.5V to 5.0V, BVD: 3.5V to 12.0V Detector Threshold Accuracy SVD: ± 0.5%, BVD: ± 0.8%
NJW4183	–	4.0	40	100	2	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 Control (A ver.) Thermal Reverse	SOT-89-3, SOT-89-5-2, TO-252-3-L1, TO-252-5-L3	
NJW4184	✓	4.0	40	300	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 Control (A ver.) Thermal	SOT-89-3, SOT-89-5-2 TO-252-3-L1, TO-252-5-L3	
R1515 ♡	✓	4.0	36	50	2	12	± 2.0	0.20	–	9	–	Yes	-40	105	Thermal	SOT-89-5 HSOP-6J	
R8151 ♡	✓	4.0	36	50	2	12	± 2.0	0.32	–	9	–	Yes	-40	110	Thermal	SOT-89-5 HSOP-6J	Automotive only
R1514 ♡	✓	4.0	36	150	2	12	± 2.0	0.20	–	9	–	Yes	-40	105	Thermal	SOT-89-5 HSOP-6J	Industrial (-40℃ to 105℃)
R8150 ♡	✓	4.0	36	150	2	12	± 2.0	0.32	–	9	–	Yes	-40	125	Thermal	HSOP-6J	Automotive only
R1516 ♡	✓	4.0	36	150	1.8	6.2	± 1.0	–	–	29	–	Yes	-40	105	Thermal	SOT-89-5 HSOP-6J	
R1524 ♡	✓	3.5	36	200	1.8	12	± 0.6	0.6	–	2.2	–	Yes	-40	105	Thermal	DFN(PLP)1820-6 SOT-23-5 SOT-89-5 HSOP-6J HSOP-8E	Industrial (-50℃ to 125℃)
R8160 ♡	✓	3.5	36	200	3.3	9	± 0.6	0.6	–	2.2	–	Yes	-40	125	Thermal	SOT-23-5 SOT-89-5 HSOP-6J	Automotive only
R1510 ♡	✓	3.5	36	300	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 ♡	✓	3.5	36	300	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 ♡	✓	3.5	36	300	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 ♡	✓	3.5	36	300	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℃)

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

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LDO Linear Regulators

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.	V_{OUT} Deviation [%]	Drop-out 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
R8153 ♡	✓	3.5	36	300	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
R1517 ♡	✓	3.5	36	500	2.5 (Fix/ Adj)	8.5 (Fix) 20 (Fix)	± 0.8 (Fix) ± 20mV (Adj)	0.35	–	18	–	Yes	-40	105	Constant: Ext. Adjustable Ver.E/F Discharge: Ver.D/F Thermal	HSOP-6J TO-252-5-P2	Industrial (-40℃ to 125℃)
R8154 ♡	✓	3.5	36	500	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
R1518 ♡	✓	3.5	36	1000	2.5 (Fix/ Adj)	9 (Fix) 20 (Adj)	± 0.8 (Fix) ± 20mV (Adj)	0.70	–	18	–	Yes	-40	105	Constant: Ext. Adjustable Ver.E/F Discharge: Ver.D/F Thermal	HSOP-6J TO-252-5-P2	Industrial (-40℃ to 125℃)
R8155 ♡	✓	3.5	36	1000	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 TO-252-5-P2	Automotive only
NJM2386	–	–	35	1000	3.3	12	± 2.0	0.2	67	–	5000	Yes	-40	85	Thermal Electrolytic	TO-252-5-L3	
NJM2386A	–	–	35	1000	3.3	12	± 2.0	0.2	67	–	5000	Yes	-40	85	Thermal Electrolytic	TO-252-5-L3	
NJM2387	–	3.8	35	1000	1.5	20	± 2.0	0.2	67	–	5000	Yes	-40	85	Adjustable type Thermal Electrolytic	TO-252-5-L3	Vref=1.26V
NJM2387A	–	3.8	35	1000	1.5	20	± 2.0	0.2	65	–	5000	Yes	-40	85	Adjustable type Thermal Electrolytic	TO-252-5-L3	Vref=1.26V
NJM2388	–	–	35	1000	3.3	12	± 2.0	0.2	67	–	5000	Yes	-40	85	Thermal Electrolytic	TO-220F-4	
NJM2389	–	3.8	35	1000	1.5	20	± 2.0	0.2	65	–	5000	-	-40	85	Adjustable type Thermal Electrolytic	TO-220F-4	Vref=1.26V
Middle-Voltage (Maximum Input Voltage 6.5V to 30V)																	
R1154 ♡	–	–	24	150	2.5 (Fix/ Adj)	12 (Fix) 24 (Adj)	± 2 (Fix) ± 50mV (Adj)	0.2	–	5	–	Yes	-40	105	Thermal	DFN1616-6 SOT-23-5 SOT-89-5	
R1150 ♡	✓	–	24	150	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	–	3.5	24	150	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	
R1500 ♡	✓	4.0	24	500	3	12	± 2.0	0.115	60	70	–	Yes	-40	105	Thermal	SOT-89-5	
R1501 ♡	✓	3.0	24	1000	3	18	± 2.0	0.575	60	70	–	Yes	-40	105	Thermal	HSOP-6J TO-252-5-P2	
R8152 ♡	✓	3.0	24	1000	3	18	± 2.0	0.575	–	70	–	Yes	-40	125	Thermal	HSOP-6J TO-252-5-P2	Automotive only
NJM11100 ♡	✓	2.1	20	240	1.3	17	± 1.0	0.2	75	200	320	Yes	-40	85	Adjustable type With Noise Bypass Pin Output low dropout adjustable type Thermal Reverse	SOT-23-6-1 DFN6-H1 (ESON6-H1)	Vref=1.25V
NJM2831 ♡	–	–	20	100	2.1	15.5	± 1.0	0.1	75	120	180	Yes	-40	85	Thermal	DFN6-G1 (ESON6-G1) SOT-23-5	PLP♡: SOT-23-5
NJM2370	–	–	20	150	2	15.5	± 3.0	0.1	60	180	–	Yes	-40	85	With Noise Bypass Terminal Thermal Electrolytic	SOT-89-5-1 MSOP8(TVSP8), MSOP8(VSP8)	
NJM2830 ♡	✓	2.3	20	300	2.1	15.5	± 1.0	0.1	75	130	180	Yes	-40	85	Thermal	SOT-89-5-1	
NJM2835	–	–	20	500	2.1	15.5	± 1.0	0.18	75	200	300	-	-40	85	Thermal	TO-252-3-L1	
NJM2836	–	–	20	500	2.1	15.5	± 1.0	0.18	75	200	300	Yes	-40	85	Thermal	TO-252-5-L3	

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

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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.	V_{OUT} Deviation [%]	Drop-out 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
NJM2837	–	–	20	1000	2.4	15	± 1.0	0.2	80	420	570	Yes	-40	85	Thermal Reverse	TO-252-5-L3	
NJU7231	–	2.3	18	15	1.2	5.2	± 2.0	0.2	–	10	20	–	-40	85	Electrolytic	SOT-23-5 SOT-89-3	
NJM2839	–	-12.0	18	100	-6 12	-7.5 15	± 1.5	0.1 0.13	75 65	120 130	180 200	Yes	-40	85	Positive /Negative 2-Channel Thermal	MSOP8(VSP8)	
NJU7223	–	2.5	18	500	1.8	5	± 2.0	0.4	57	30	60	–	-40	85	Thermal Electrolytic	TO-220F-3, TO-252-3-L1	
R1191 ♡	✓	3.5	16	300	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	PLP♡: SOT-23-5, SOT-89-5
R1190 ♡	✓	3.5	16	1000	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	PLP♡: HSOP-6J, TO-252-5-P2
NJU7241	–	–	15	60	1.8	6	± 2.0	0.2	55	20	40	Yes	-40	85	Electrolytic	SOT-23-5	
NJU7202 series	–	2.5	15	100	3	5	± 5.0	0.4	–	20	–	–	-25	75	Electrolytic	SOT-89-3	
NJU7222 series	–	2.5	15	100	3	5	± 2.0	0.4	–	20	–	–	-25	75	Electrolytic	SOT-89-3	
NJU7200 series	–	–	14	15	1	5.5	± 5.0	0.36	–	1.2	–	–	-25	75	Electrolytic	SOT-89-3	
NJU7201 series	–	2.0	14	15	1.2	5.5	± 5.0	0.2	–	19	–	–	-25	75	Electrolytic	SOT-89-3	
NJU7221 series	–	2.3	14	15	1.2	5.5	± 2.0	0.2	–	19	–	–	-25	75	Electrolytic	SOT-89-3	
NJM2860	–	2.5	14	100	1.5	5	± 1.0	0.1	70	120	180	Yes	-40	85	With Noise Bypass Terminal Thermal	SC-88A	
NJM2861	–	–	14	100	1.5	5	± 1.0	0.1	70	120	180	Yes	-40	85	With Noise Bypass Terminal Thermal	SOT-23-5	
NJM2862	–	–	14	100	1.5	5	± 1.0	0.1	70	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2861) With Noise Bypass Terminal Thermal	SOT-23-5	
NJM2863	–	–	14	100	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	With Noise Bypass Terminal Ultra Low Noise: Typ. 12uVrms Thermal	SOT-23-5	
NJM2864	–	–	14	100	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2863) With Noise Bypass Terminal Ultra Low Noise: Typ. 12uVrms Thermal	SOT-23-5	
NJM2865 ♡	–	2.3	14	100	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	Thermal	SC-88A SOT-23-5	PLP♡:SOT-23-5
NJM2866	–	2.3	14	100	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2865) Thermal	SOT-23-5	
NJM2867 ♡	–	–	14	100	2.1	5	± 1.0	0.1	75	120	180	Yes	-40	85	Thermal	SC-88A SOT-23-5	PLP♡:SOT-23-5
NJM2868	–	–	14	100	2.1	5	± 1.0	0.1	75	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2867) Thermal	SOT-23-5	
NJM2892	–	2.3	14	100	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	
NJM2871 ♡	✓	2.5	14	150	1.5	5	± 2.0	0.1	70	120	180	Yes	-40	85	With Noise Bypass Terminal Thermal	SOT-23-5	

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

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LDO Linear Regulators

Part No.	Auto-motive	Input Voltage [V]		Out-put Cur-rent [mA]	Output Volt-age*1 [V]		VOUT Devia-tion [%]	Drop-out Volt-age [V]	Ripple Rejection Ratio [dB]	Quiescent Current [μA]		ON/ OFF Con-trol	Operating Tempera-ture [℃]		Key Features	Package Outline	Notes
		min.	max.		min.	max.		typ.	typ.	typ.	max.		min.	max.			
NJM2871A	✓	2.5	14	150	1.5	5	± 1.0	0.1	70	120	180	Yes	-40	85	With Noise Bypass Terminal Thermal	SOT-23-5	
NJM2871B	–	2.3	14	150	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	With Noise Bypass Terminal Thermal	SOT-23-5	
NJM2872 ♡	✓	2.5	14	150	1.5	5	± 2.0	0.1	70	120	180	Yes	-40	85	Variation of Pin Configuration(NJM2871) With Noise Bypass Terminal Thermal	SOT-23-5	
NJM2872A	✓	2.5	14	150	1.5	5	± 1.0	0.1	70	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2871A) With Noise Bypass Terminal Thermal	SOT-23-5	
NJM2872B	–	2.3	14	150	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2871B) With Noise Bypass Terminal Thermal	SOT-23-5	
NJM2874	✓	–	14	150	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2875/76) Thermal	SOT-23-5	
NJM2875	✓	–	14	150	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2874/76) Thermal	SOT-23-5	
NJM2876	✓	–	14	150	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	Variation of Pin Configuration (NJM2874/75) Thermal	SOT-23-5	
NJM2870	–	2.0	14	150	1.5	5	± 2.0	0.12	60	200	300	Yes	-40	85	4.7μF(Tantalum Capacitor) With Noise Bypass Terminal Thermal	SOT-23-5	
NJM2801	–	–	14	150	1.5	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	–	–	14	150	1.5	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	–	–	14	150	1.5	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	MSOP8(TVSP8)	
NJM2880	–	2.3	14	300	1.5	5	± 1.0	0.1	70	120	180	Yes	-40	85	With Noise Bypass Terminal Thermal	SOT-89-5-1	
NJM2881	–	2.3	14	300	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	With Noise Bypass Terminal Thermal	SOT-23-5	
NJM2882	–	2.3	14	300	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	Variation of Pin Configuration(NJM2881) With Noise Bypass Terminal Thermal	SOT-23-5	
NJM2883	–	2.3	14	300	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	With Noise Bypass Terminal Thermal	SOP8 JEDEC 150mil(EMP8)	
NJM2804	–	2.3	14	300	1.5	5	± 1.0	0.1	75	250	350	–	-40	85	With Reset (Input Voltage Monitor Type) Thermal	SOT-89-5-1	
NJM2805	–	–	14	300	1.5	5	± 1.0	0.1	75	250	350	–	-40	85	With Reset (Output Voltage Monitor Type) Thermal	SOT-89-5-1	
NJM2885	–	2.3	14	500	1.5	5	± 1.0	0.18	75	200	300	–	-40	85	Thermal	TO-252-3-L1	
NJM2886	✓	2.3	14	500	1.5	5	± 1.0	0.18	75	200	300	Yes	-40	85	Thermal	TO-252-5-L3	
NJM2887	✓	2.3	14	500	1.5	6	± 1.0	0.18	70	200	300	Yes	-40	85	Adjustable type Thermal	TO-252-5-L3	Vref=1.29V
NJM2806	–	–	14	500	1.5	5	± 1.0	0.18	75	330	430	–	-40	85	With Reset (Input Voltage Monitor Type)	TO-252-5-L3	
NJM2845	–	2.5	14	800	1.5	5	± 1.0	0.18	75	400	600		-40	85	Thermal	TO-252-3-L1	

Part No.	Auto-motive	Input Voltage [V]		Out-put Cur-rent [mA]	Output Volt-age*1 [V]		VOUT Devia-tion [%]	Drop-out Volt-age [V]	Ripple Rejection Ratio [dB]	Quiescent Current [μA]		ON/ OFF Con-trol	Operating Tempera-ture [℃]		Key Features	Package Outline	Notes
		min.	max.		min.	max.		typ.	typ.	typ.	max.		min.	max.			
NJM2846	–	2.5	14	800	1.5	5	± 1.0	0.18	75	400	600	Yes	-40	85	Thermal	TO-252-5-L3	
NJU7272	–	–	11	100	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	
RP173 ♡	–	2.5	11	150	1.2	5.5	± 1.0	0.90	–	2	–	Yes	-40	85	Reverse Discharge: Ver.D	DFN(PLP)1010-4 SOT-23-5	
Rx5RL ♡	–	–	10	55	2	6	± 2.5	0.04	–	1	–	Yes	-40	85	–	SOT-23-5 SOT-89	
RH5RE	–	–	10	80	2	6	± 2.5	0.5	–	1.1	–	Yes	-40	85	–	SOT-89	
NJU7741	–	–	10	100	1.5	6	± 1.0	0.17	–	1.5	3.5	Yes	-40	85	–	SOT-23-5	
NJU7744	–	–	10	100	1.5	6	± 1.0	0.17	–	1.5	3.5	Yes	-40	85	Discharge	SOT-23-5	
NJU7747	–	–	10	100	1.5	5	± 1.0	0.17	–	1.5	3.5	Yes	-40	85	–	SC-82AB	
NJU7748	–	–	10	100	1.5	5	± 1.0	0.17	–	1.5	3.5	Yes	-40	85	Discharge	SC-82AB	
NJU7751	–	2.3	10	100	1.5	5	± 1.0	0.15	65	20	40	Yes	-40	85	–	SOT-23-5	
NJU7754	–	2.3	10	100	1.5	5	± 1.0	0.15	65	20	40	Yes	-40	85	Discharge	SOT-23-5	
NJU7757	–	2.3	10	100	1.5	5	± 1.0	0.15	65	20	40	Yes	-40	85	–	SC-82AB	
NJU7758	–	2.3	10	100	1.5	5	± 1.0	0.15	65	20	40	Yes	-40	85	Discharge	SC-82AB	
NJU7771	–	2.3	10	150	1.5	5	± 1.0	0.15	65	18	35	Yes	-40	85	Thermal	SOT-23-5	
NJU7772	–	2.3	10	150	1.5	5	± 1.0	0.15	65	18	35	Yes	-40	85	Variation of Pin Configuration (NJU7771) Thermal	SOT-23-5	
NJU7773	–	2.3	10	150	1.5	5	± 1.0	0.15	65	18	35	Yes	-40	85	Variation of Pin Configuration (NJU7771) Thermal	SOT-23-5	
NJU7774	–	2.3	10	150	1.5	5	± 1.0	0.15	65	18	35	Yes	-40	85	Discharge Thermal	SOT-23-5	
NJU7775	–	2.3	10	150	1.5	5	± 1.0	0.15	65	18	35	Yes	-40	85		SOT-23-5	
NJU7776	–	2.3	10	150	1.5	5	± 1.0	0.15	65	18	35	Yes	-40	85	Discharge Configuration(NJU7774) Thermal	SOT-23-5	
RP171 ♡	✓	2.6	10	150	1.2	6.5	± 1.0	0.40	70	23	-	Yes	-40	85	Thermal Constant Discharge: Ver.D	SC-88A SOT-23-5	PLP♡: SOT-23-5 Industrial (-40℃ to 105℃)
NJM2877	–	2.3	10	150	1.5	5	± 1.0	0.1	75	120	180	Yes	-40	85	With Noise Bypass Terminal Thermal	SC-88A, SOT-23-5	
NJM2847	–	2.3	10	150	0.8	1.4	± 1.0	–	85	140	200	Yes	-40	85	Low Output Voltage Type With Noise Bypass Pin Thermal	SC-88A	
NJM2878	–	2.3	10	150	1.5	5	± 1.0	0.1	75	140	195	Yes	-40	85	Thermal	DFN4F1(ESON4-F1) SC-82AB SC-88A	
NJU7780	–	2.3	10	300	1.5	5	± 1.0	0.15	65	20	40	Yes	-40	85	Thermal	SOT-89-5-1	
NJU7781	–	2.3	10	300	1.5	5	± 1.0	0.15	65	20	40	Yes	-40	85	Discharge Thermal	SOT-89-5-1	

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

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LDO Linear Regulators

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 [%]	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
RP170 ♡	✓	2.6	10	300	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℃)
NJM2888 ♡	–	2.3	10	300	1.5	5	± 1.0	0.1	75	130	195	Yes	-40	85	Thermal	DFN4-F1(ESON4-F1) SOT-23-5	PLP♡: SOT-23-5
NJM2841 ♡	✓	–	10	500	0.8	2.5	± 1.0	0.1	86	180	300	Yes	-40	85	Low Output Voltage Type Dual Supply Voltage Type (sequence free) High Stability for Load : Max. 0.002%/mA Thermal	SOT-23-5 SOT-89-5-2	PLP♡: SOT-23-5
NJM2884 ♡	✓	2.3	10	500	1.5	5	± 1.0	0.18	75	200	300	Yes	-40	85	Thermal	SOT-89-5-1	
NJM2884A	–	2.3	10	500	1.5	5	± 1.0	0.18	75	200	300	Yes	-40	85	Thermal	DFN6-H1(ESON6-H1) TO-252-5-L3	
NJM2855	–	2.5	10	1000	1.5	5	± 1.0	0.2	75	400	600	-	-40	85	Thermal	TO-252-3-L1	
NJM2856	–	2.5	10	1000	1.5	5	± 1.0	0.2	75	400	600	Yes	-40	85	Thermal	HSOP8-M1 TO-252-5-L3	
NJM2391	–	–	10	1000	2.5	5	± 1.0	1.1	62	2300	4000	-	-40	85	Thermal Electrolytic	TO-252-3-L1	
NJM2857	–	2.6	10	1500	1.5	5	± 1.0	0.2	80	500	750	Yes	-40	125	Thermal Reverse	TO-252-5-L3	
NJM2815	✓	5.5	10	1500	5.5	8	± 1.0	0.2	–	980	1350	Yes	-40	85	Voltage Correction Circuit Error Flag Output (FAULT) Thermal Soft-Start Reverse	HSOP8-M1	
NJM2816	✓	5.5	10	1800	5.5	8	± 1.0	0.25	–	1150	1600	Yes	-40	125	Voltage Correction Circuit Error Flag Output (FAULT) Thermal Soft-Start Reverse	HSOP8-M1	
NJM2819A	–	2.3	10	2000	1.8	7	± 1.0	0.1	65	500	800	Yes	-40	85	Thermal	TO-252-5-L3	
RN5RF	–	1.8	10	–	1.2	6	± 2.0	0.1	60	30	–	Yes	-40	85	External Tr. Tantalum	SOT-23-5	
NJU7254	–	2.3	9	100	1.5	5	± 1.0	0.09	65	18 30	35 60	Yes	-40	85	2-Channel 1-Input,2-Output	SOT-23-6-1	
NJU7777	–	2.3	9	150	1.5	5	± 1.0	0.13	65	18	35	Yes	-40	85	Thermal	SC-82AB	
NJU7250	–	–	9	150	2.5	3.3	± 2.0	0.2	–	35	70	Yes	-40	85	Electrolytic	SOT-23-5	
NJU7790	–	2.3	9	500	1.5	5	± 1.0	0.12	65	30	60	Yes	-40	85	Thermal	SOT-89-5-1	
RN5RT	–	–	8	65	2	6	± 2.0	0.3	–	4	–	Yes	-40	85	–	SOT-23-5	
Rx5RW	–	–	8	80	1.5	6	± 2.0	0.04	–	1.5	–	Yes	-40	85	–	SON1612-6 SC-82AB	
Rx5RZ	–	–	8	100	2	6	± 2.0	0.2	55	20	–	Yes	-40	85	Tantalum	SOT-23-5 SOT-89	
R1111	–	2.0	8	150	1.5	5	± 2.0	0.2	70	35	–	Yes	-40	85	Replaceable with LP2980/2985 Tantalum	SOT-23-5	
R1121	–	2.0	8	150	1.5	5	± 2.0	0.2	70	35	–	Yes	-40	85	Replaceable with TK111/112/113 Tantalum	SOT-23-5	
R1130 ♡ 2029	✓	2.5	8	300	1.5 (Fix/ Adj)	5 (Fix/ Adj)	± 2 (Fix) ± 36mV (Adj)	0.25	60	50	–	Yes	-40	85	–	SOT-89-5	
NJM2879-H	✓	–	7	200	1.5	5	± 2.0	0.12	66	150	180	Yes	-40	85	Discharge Thermal Reverse	SOT-23-5	
NJM12877 ♡	–	2.3	7	200	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	
NJM12888 ♡	–	2.3	7	300	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	
NJM12884 ♡	✓	2.3	7	500	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	
NJM2842 ♡	✓	–	7	1000	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	PLP♡: SOT-89-5-2
NJM12856 ♡	–	2.5	7	1000	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	
RP130 ♡	✓	1.7	6.5	150	1.2	5.3	± 1.0	0.32	80	38	–	Yes	-40	85	TempCo: ± 20ppm/℃ Discharge: Ver.D	DFN(PLP)1010-4 SC-82AB SOT-23-5 DFN1212-4	PLP♡: DFN(PLP)1010-4, DFN1212-4, SOT-23-5 Industrial (-40℃ to 105℃) DFN1212-4 : Automotive
RP131	–	1.6	6.5	1000	0.8	5.5	± 1.0	0.50	70	65	–	Yes	-40	85	Thermal Inrush Discharge: Ver.D	DFN(PLP)1820-6 SOT-89-5 HSOP-6J TO-252-5-P2	
RP132 ♡	✓	1.4	6.5	1000	0.8 (Fix/ Adj)	5.5 (Fix/ Adj)	± 1(Fix) ± 15mV (Adj)	0.52	70	65	–	Yes	-40	85	Inrush: Ext. Adjustable Ver.E/F Load Reg: Typ.5mV Discharge: Ver.D/F Thermal	DFN(PLP)1820-6 SOT-89-5 HSOP-6J TO-252-5-P2	Industrial (-40℃ to 105℃)
Low-Voltage (Maximum Input Voltage <6.5V)																	
R1100	–	–	6	100	0.9	4	± 2.0	0.025	–	1.5	–	Yes	-40	85	–	SON1408-3	
R1141	–	2.2	6	120	1.5	4	± 1.5	0.18	70	90	–	Yes	-40	85	Succeeding Products : RP109 Discharge: Ver.D	SC-82AB	
R1180 ♡	✓	1.7	6	150	1.2	3.6	± 2.0	0.25	–	1	–	Yes	-40	85	–	SC-82AB SOT-23-5 SON1612-6	PLP♡:SOT-23-5 Industrial (-50℃ to 105℃)
R1163 ♡ 2029	✓	2.0	6	150	1.5	5	± 1.5	0.25	70	6	–	Yes	-40	85	Reverse Manual Discharge: Ver.D	SOT-23-5 SON-6	PLP♡: SOT-23-5
R1116	–	1.8	6	150	1.5	4	± 1.5	0.29	70	10	–	Yes	-40	85	Seamless Discharge: Ver.D	SON1612-6 SOT-23-5	
R5326 ♡	–	1.4	6	150	0.8	4.2	± 1.0	0.19	70	11	–	Yes	-40	85	2CH Automatic Discharge: Ver.B	DFN(PLP)1820-6	
R1114 ♡ 2029	✓	2.0	6	150	1.5	4	± 2.0	0.22	70	75	–	Yes	-40	85	Succeeding Products : RP109x, RP130x Discharge: Ver.D	SON1612-6 SC-82AB SOT-23-5	PLP♡: SOT-23-5
R1122	–	2.0	6	150	1.5	5	± 2.0	0.19	80	100	–	Yes	-40	85	Replaceable with TK111/112/113 Succeeding Products : RP112x,RP130x	SOT-23-5	
R1160	–	1.4	6	200	0.8	3.3	± 2.0	0.14	70	4.5	–	Yes	-40	85	Manual Tantalum	SOT-23-5	
R5324	–	2.0	6	200	1.5	4	± 2.0	0.22	70	270	–	Yes	-40	85	3CH Discharge: Ver.B	DFN(PLP)2527-10	
R1161	–	1.4	6	300	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	–	1.4	6	300	0.8	3.3	± 2.0	0.23	65	60	–	Yes	-40	85	Succeeding Products : RP101 Discharge: Ver.D	SOT-23-5 SON-6	
R1170 ♡ 2029	✓	–	6	800	1.5	5	± 2.0	0.12	50	80	–	Yes	-40	85	Thermal	SOT-89-5 HSON-6 HSOP-6J	PLP♡: SOT-89-5
R1172 ♡	✓	1.4	6	1000	0.8	5	± 2.0	0.05	70	60	–	Yes	-40	85	Thermal Inrush Discharge: Ver.D	SOT-23-5 SOT-89-5 HSOP-6J HSON-6	PLP♡: SOT-23-5, SOT-89-5, HSOP-6J
R1173 ♡	–	1.4	6	1000	0.8 (Fix) 1.0 (Adj)	5.0 (Fix) VIN (Adj)	± 2 (Fix) ± 30mV (Adj)	0.05	70	60	–	Yes	-40	85	Load Reg: Typ.-3mV Thermal Inrush Discharge: Ver.D	SOT-89-5 HSON-6 HSOP-6J	PLP♡: HSOP-6J

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

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LDO Linear Regulators

Part No.	Auto-mo-tive	Input Voltage [V] min.	Input Voltage [V] max.	Out-put Cur-rent [mA]	Output Volt-age*1 [V] min.	Output Volt-age*1 [V] max.	VOUT Devi-ation [%]	Drop-out Voltage [V] typ.	Ripple Rejection Ratio [dB] typ.	Quiescent Current [μA] typ.	Quiescent Current [μA] max.	ON/ OFF Con-trol	Operating Tempera-ture [℃] min.	Operating Tempera-ture [℃] max.	Key Features	Package Outline	Notes
R1171 ♡	✓	2.1	6	1500	1.5	5	± 2.0	0.09	50	130	–	Yes	-40	85	Thermal	HSOP-6J	
RP118 ♡	–	1.7	5.5	100	1.2	3.6	± 0.8	0.10	–	0.2	–	Yes	-40	85	Automatic Discharge: Ver.D	WLCSP-4-P8 DFN(PLP)1010-4 SOT-23-5	
RP124 ♡	–	1.7	5.5	100	1.2	3.6	± 0.8	0.1	–	0.2 BM:0.1	–	Yes	-40	85	+BM : with Battery Monitor Assist Function Automatic Discharge: Ver.D	DFN1212-6 SOT-23-5	
NEW **NR1640** ♡	✓	2.7	5.5	200	2.5	4.8	± 1.0	0.10	80	350	–	Yes	-40	125	Output noise 6μVrms Discharge Thermal	SOT-23-5-DC	Industrial
RP123 ♡	–	1.9	5.5	250	1.2	4.8	± 0.8	Z:0.090 N/K: 0.105	90	9.5	–	Yes	-40	85	Output noise 8μVrms Seamless Thermal Inrush Discharge: Ver.D	WLCSP-4-P8 WLCSP-4-P12 DFN(PLP)1010-4 SOT-23-5	PLP♡: WLCSP-4-P8, DFN(PLP) 1010-4, SOT-23-5
RP122 ♡	–	1.9	5.5	400	1.2	4.8	± 0.8	Z:0.145 N/K: 0.170	90	9.5	–	Yes	-40	85	Output noise 8μVrms Seamless Thermal Inrush Discharge: Ver.D	WLCSP-4-P8 WLCSP-4-P12 DFN(PLP)1010-4 SOT-23-5	PLP♡: WLCSP-4-P8, DFN(PLP) 1010-4, SOT-23-5
NEW **RP120** ♡	–	2.4	5.5	1500	0.6 (Fix/ Adj)	2.0 (Fix) 3.6 (Adj)	± 0.7	0.102	95	35	–	Yes	-40	85	very low dropout LDO with BIAS pin Thermal Soft-Start Discharge Inrush	WLCSP-6-P11	
RP104 ♡	–	1.7	5.25	150	1.2	3.3	± 0.8	0.24	–	1	–	Yes	-40	85	Succeeding Products : RP110 TempCo: Typ. ± 40ppm/℃ Discharge: Ver.D	DFN(PLP)1010-4 SOT-23-5	PLP♡: DFN(PLP)1010-4
RP110 ♡	–	1.4	5.25	150	0.8	3.6	± 1.0	0.28	–	1	–	Yes	-40	85	Constant Discharge: Ver.D	DFN(PLP)0808-4 DFN1010-4 SC-88A SOT-23-5	PLP♡: DFN1010-4, SOT-23-5
RP201	–	1.4	5.25	150	0.8	4	± 1.0	0.12	70	1.5	–	Yes	-40	85	Manu/Auto Discharge: Ver.D	DFN(PLP)1212-6	
RP103	–	1.7	5.25	150	1.2	3.3	± 1.0	0.21	75	36	–	Yes	-40	85	Succeeding Products : RP109x TempCo: Typ. ± 30ppm/℃ Discharge: Ver.D	DFN(PLP)1010-4 SC-82AB SOT-23-5	
RP109 ♡	–	1.4	5.25	150	0.8	3.6	± 1.0	0.25	75	50	–	Yes	-40	85	TempCo: Typ. ± 30ppm/℃ Load Reg.: TYP.5mV Discharge: Ver.D	DFN(PLP)0808-4 DFN1010-4 SC-88A SOT-23-5	PLP♡: DFN1010-4, SOT-23-5
RP112 ♡	–	2.0	5.25	150	1.2	4.8	± 1.0	0.20	80	75	–	Yes	-40	85	Output noise10μVrms TempCo: Typ. ± 30ppm/℃ Discharge: Ver.D	DFN(PLP)1010-4 SC-88A SOT-23-5	PLP♡: SOT-23-5
RP152 ♡	–	1.4	5.25	150	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	PLP♡: DFN1212-6
RP202 ♡	–	1.4	5.25	200	0.8	4	± 1.0	0.20	70	2.5	–	Yes	-40	85	Constant Automatic Discharge: Ver.D	DFN(PLP)1010-4 SC-88A SOT-23-5	PLP♡: DFN(PLP) 1010-4, SOT-23-5
RP107	–	1.4	5.25	200	1.0	4.2	± 1.0	0.27	60	9.5	–	Yes	-40	85	Output Capacitor-less Constant Discharge: Ver.D	WLCSP-4-P5 DFN(PLP)1212-6 SC-88A	
RP100	–	1.7	5.25	200	1.2	3.3	± 0.6	0.13	75	18	–	Yes	-40	85	TempCo: Typ. ± 30ppm/℃ Discharge: Ver.D	DFN(PLP)1612-4 SOT-23-5	

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

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Part No.	Auto-mo-tive	Input Voltage [V] min.	Input Voltage [V] max.	Out-put Cur-rent [mA]	Output Volt-age*1 [V] min.	Output Volt-age*1 [V] max.	VOUT Devi-ation [%]	Drop-out Voltage [V] typ.	Ripple Rejection Ratio [dB] typ.	Quiescent Current [μA] typ.	Quiescent Current [μA] max.	ON/ OFF Con-trol	Operating Tempera-ture [℃] min.	Operating Tempera-ture [℃] max.	Key Features	Package Outline	Notes
RP155 ♡	–	1.9	5.25	200	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	
RP200	–	1.4	5.25	300	0.8	4	± 1.0	0.23	70	1.5	–	Yes	-40	85	Manu/Auto Discharge: Ver.D	DFN(PLP)1212-6 SOT-23-5	
RP101 ♡	–	1.7	5.25	300	1.2	3.3	± 0.6	0.13	75	18	–	Yes	-40	85	TempCo: Typ. ± 30ppm/℃ Discharge: Ver.D	DFN(PLP)1612-4 DFN(PLP)1612-4B SOT-23-5	PLP♡: DFN(PLP) 1612-4
RP150	–	2.5	5.25	300	1.5	3.3	± 1.0	0.21	80	48	–	Yes	-40	85	2CH TempCo: Typ. ± 30ppm/℃ Discharge: Ver.B	DFN(PLP)2020-8	
RP102 ♡	–	1.7	5.25	300	1.2	3.3	± 0.8	0.12	80	50	–	Yes	-40	85	TempCo: Typ. ± 20ppm/℃ Discharge: Ver.D	WLCSP-4-P2 DFN(PLP)1820-6 SOT-23-5	PLP♡: DFN(PLP) 1820-6
RP114 ♡	–	1.4	5.25	300	0.8	3.6	± 1.0	0.25	75	50	–	Yes	-40	85	Discharge: Ver.D	DFN(PLP)1010-4B SC-88A SOT-23-5	PLP♡: DFN(PLP) 1010-4B, SOT-23-5
RP114 ♡ 2027																DFN(PLP)1010-4	
RP154 ♡	✓	1.4	5.25	300	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	PLP♡: DFN2020-8, SOT-23-6 Industrial (-40℃ to 105℃)
RP105	–	2.4	5.25	400	0.6	1.5	± 1.0	L: 0.105 N/K: 0.180	80 (VIN Ripple)	28	–	Yes	-40	85	Dual power supply Discharge: Ver.D/F	DFN1212-5 DFN(PLP)1212-6 SOT-23-5	
RP111 ♡	✓	1.4	5.25	500	0.7 (Fix/ Adj)	3.6 (Fix/ Adj)	± 0.8	0.23	75	80	–	Yes	-40	85	TempCo: Typ. ± 30ppm/℃ Load Reg.: Typ.1mV Thermal Inrush Discharge: Ver.D Load transient response accuracy : Typ.-75mV/+45mV	DFN1212-6 SOT-23-5 SOT-89-5 HSOP-6J	Industrial (-40℃ to 105℃) HSOP-6J : Automotive only
RP108 ♡	✓	1.6	5.25	3000	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℃)
RP115 ♡	✓	1.4	5.25	500	0.7	4.3	± 1.0	0.065	80	110	–	Yes	-40	85	TempCo: Typ. ± 30ppm/℃ Load Reg.: Typ.1mV Thermal Reverse Inrush Constant Discharge: Ver.D	DFN1216-8	Industrial (-40℃ to 105℃) DFN2020-8B : Automotive only
				1000				L:0.13 H:0.17			–					DFN1216-8 DFN2020-8B SOT-89-5	
NJW4111	✓	0.8	4	3000	0.8	1.8	± 1.0	0.08	–	1400	2200	Yes	-40	85	Adjustable type Dual input voltage (VIN: 0.8 to 3.3V / VBIAS:4.3 to 5.5V) Output low dropout adjustable type Short circuit protection (Timer latch type) Load Reg.: Max. 10mV Discharge UVLO Thermal Soft-Start	HSOP8-M1	VFB= 0.65V ± 1.0%
RP106	–	1.0	3.6	400	0.7	1.8	± 0.8	0.22	60 f= 10kHz	48	–	Yes	-40	85	Constant Discharge: Ver.D	WLCSP-4-P5 DFN(PLP)1212-6 SC-88A	
RP116	–	1.0	3.6	400	0.7	1.8	± 0.8	0.22	60 f= 10kHz	48	–	Yes	-40	85	Thinner than RP106Z (t=0.36mm) Constant Discharge: Ver.D	WLCSP-4-P7	

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

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3-Terminal Voltage 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./max.	Package Outline	Notes
NJM78	–	Positive type Thermal Electrolytic	35/40	5 to 24	TO-220F-3, TO-252-3-L1	
NJM7800S ♡	–	Positive type Thermal	35/40	5 to 24	TO-252-3-L1	Wide temperature rang (-40℃ to +125℃), Output Capacitor (Ceramics)
NJM78L	–	Positive type Thermal Electrolytic	30/35/40	2.6 to 24	SOT-89-3, SOP8 JEDEC 150mil(EMP8)	
NJM78L00S ♡	–	Positive type Thermal	30/35	3 to 15	SOT-89-3	Wide temperature rang (-40℃ to +125℃), Output Capacitor (Ceramics)
NJM78LR05	–	With Reset Thermal Electrolytic	20	5	DIP8, DMP8, SIP8 SOT-89-5-1	
NJM78M	–	Positive type Thermal Electrolytic	35/40	5 to 24	TO-220F-3, TO-252-3-L1	
NJM78M00S ♡	–	Positive type Thermal	35	5 to 15	TO-252-3-L1	Wide temperature rang (-40℃ to +125℃), Output Capacitor (Ceramics)
NJM79L00S	–	Negative type Thermal Electrolytic	-40	-5 to -15	SOT-89-3	Direct replacement from NJM79L00 series Wide temperature rang (-40℃ to +125℃)
NJW4181	–	Quiescent Current 9uA(typ.) Io=100mA ON/OFFControl (A ver.) Thermal Reverse	40	2.5 to 15	DFN6-G1(ESON6-G1), SOT-89-3	

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 [uA] typ.	Quiescent Current [uA] 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	Foldback Protection Circuit Thermal High Immunity	SOT-23-5 HSOP-8E	Industrial (-40℃ to 125℃)
U.D. NR4250	✓	4.0	40	50	2.5	36	± 10	0.1	80	40	80	Yes	-40	125	Overcurrent Protectio Thermal High Immunity	SOT-23-5-DC	
U.D. NR4254	✓	4.0	40	70	2.5	36	± 5	0.2	80	40	80	Yes	-40	125	Output Voltage Accuracy: at VADJ/EN=5V Overcurrent Protection Thermal High Immunity	SOT-89-5-DF	
U.D. NR4252	✓	4.0	40	250	1.5	36	± 10	0.28	80	45	80	Yes	-40	125	Overcurrent Protection Thermal High Immunity	SOT-89-5-DF	

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

Voltage Detectors (Reset ICs)

Part No.	Auto-motive	Key Features	Operating Voltage [V]	Manual Reset	Voltage Detection (Deviation) [%]	Hysteresis Voltage [V] typ.	Hysteresis Voltage [V] typ.	Voltage Detection [V] min./ max.	Package Outline	Notes
NJU7700 ♡	✓	Nch. Open Darin Type	10	–	1.3 to 6(0.1step)	± 1.0	VDET x0.05	0.8	SC-82AB, SOT-23-5	
NJU7701 ♡	✓	C-MOS Output Type	10	–	1.3 to 6(0.1step)	± 1.0	VDET x0.05	0.8	SC-82AB, SOT-23-5	PLP♡: SOT-23-5
NJU7702	–	Nch. Open Darin Type	10	–	1.3 to 6(0.1step)	± 1.0	VDET x0.05	0.8	SOT-23-5	
NJU7703	–	C-MOS Output Type	10	–	1.3 to 6(0.1step)	± 1.0	VDET x0.05	0.8	SOT-23-5	
NJU7704 ♡	✓	"Nch. Open Darin Type Delay Time (External Capacitor)"	10	Yes	1.5 to 6(0.1step)	± 1.0	90m	0.9	SC-88A, SOT-23-5	
NJU7705 ♡	✓	"C-MOS Output Type Delay Time (External Capacitor)"	10	Yes	1.5 to 6(0.1step)	± 1.0	90m	0.9	SC-88A, SOT-23-5	PLP♡: SOT-23-5
NJU7706 ♡	–	"Nch. Open Darin Type Delay Time(Built-in 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 50ms/100ms/200ms)"	10	Yes	1.5 to 6(0.1step)	± 1.0	90m	1.3	SOT-23-5	
NJU7708	–	"Nch. Open Darin Type Delay Time (Adiustable 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 (Adiustable 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 x0.05	0.8	SC-88A, SOT-23-5	
NJU7712	–	Nch. Open Darin Type	10	–	1.3 to 6(0.1step)	± 1.0	VDET x0.05	0.8	SC-88A, SOT-23-5	
NJU7713	–	C-MOS Output Type	10	–	1.3 to 6(0.1step)	± 1.0	VDET x0.05	0.8	SC-88A, SOT-23-5	
NJU7719	–	Nch. Open Darin Type	10	–	1.3 to 6(0.1step)	± 1.0	VDET x0.05	0.8	SOT-89-3	

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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 Current*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	PLP♡: SC-82AB, SOT-23-5, SOT-89
R3112 ♡	–	0.7 to 6.0	0.9 to 5.0	± 2.0	L	–	–	Ext. Capacitor	Not specified	0.5	Yes	SON1612-6 SC-82AB SOT-23-5	PLP♡: SC-82AB, SOT-23-5
R3114 ♡	–	0.5 to 6.0	0.7 to 5.0	± 0.8	L	–	–	–	–	0.35	Yes	DFN(PLP)1010-4 SC-82AB SOT-23-5	PLP♡: DFN(PLP) 1010-4
R3116 ♡	✓	0.5 to 6.0	0.7 to 5.0	± 0.8	L	–	–	Ext. Capacitor	± 15	0.35	Yes	DFN(PLP)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(PLP)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. Capacitor	± 30	0.4	Yes	DFN(PLP)1212-6 SC-88A SOT-23-5	
R3119xxxxA *5 ♡	✓	1.2 to 36.0	2.3 to 12.0	± 1.5	L	–	–	Ext. Capacitor	-50, +80	3.3	Yes	DFN(PLP)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. Capacitor	-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. Counter	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. Counter	240ms ± 15	0.8	–	SON1612-6 SC-82AB	
R3133	–	0.8~6.0	1.0 to 5.0	± 2.0	H	–	Yes	Int. Counter	240ms ± 15	0.8	–	SON1612-6	
R3134 ♡	✓	0.75 to 6.0	1.0 to 5.0	± 1.8	L	–	Yes	Int. Counter	240ms ± 15	0.8	–	SOT-23-5	
RN5VD ♡	–	0.7 to 10.0	0.9 to 6.0	± 2.5	L	–	–	Ext. Capacitor	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. Counter	50ms ± 5 200ms ± 5	0.95	–	DFN(PLP)1010-4B SOT-23-5	
R3121xxxxA/G ♡	✓	1.4 to 36.0	3.0 to 12.0	± 1.5	L	–	–	Ext. Capacitor	-35, +40	3.8	A/E: Yes G: No	SOT-23-6	Industrial (-40℃ to 125℃)
R3121xxxxE ♡	✓	2.4 to 6.0 *4				Yes		Ext. Capacitor		3.5			
R8300xxxxA/G *6 ♡	✓	1.4 to 36.0	3.0 to 12.0	± 1.5	L	–	–	Ext. Capacitor	-35, +40	3.8	A/E: Yes G: No	SOT-23-6	
R8300xxxxE *6 ♡	✓	2.4 to 6.0 *4				Yes		Ext. Capacitor		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 Delay 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 ♡	✓				H								
R3150xxxxE ♡	✓	3.6 to 6.0 *4			L	Yes				3.5			
R3150xxxxF ♡	✓				H								
R3151xxxxA ♡	✓	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 Delay 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 ♡	✓				H								
R3151xxxxE ♡	✓	3.6 to 6.0 *4			L	Yes				3.5			
R3151xxxxF ♡	✓				H								
R8315xxxxA *6 ♡	✓	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 Delay 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	
R8315xxxxB *6 ♡	✓				H								
R8315xxxxE *6 ♡	✓	3.6 to 6.0 *4			L	Yes				3.5			
R8315xxxxF *6 ♡	✓				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. Capacitor	-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. Capacitor	-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. Capacitor	± 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. Capacitor	-37.5, +100	10.0	Yes	HSOP-18	4 CH Industrial (-40℃ to 125℃)
U.D. NV3600 *6	✓	2.4 to 6.0 *4	Detector Threshold Range: 3.3 to 19.8 Release Threshold Range: 4.5 to 22.2	-1.25 to 0.75 Full Temp.	–	Yes	–	–	–	3	–	SOT-23-5-DC	Industrial -VDET & +VDET Individually set voltage
U.D. NV3601 *6	✓	2.4 to 6.0 *4	UV:3.3 to19.8 OV:4.5 to 22.2	-1.25 to 0.75 Full Temp.	–	Yes	–	–	–	3	–	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

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Power Management ICs

System Reset ICs

Part No.	Auto-motive	Key Features	Operating Voltage [V]	Watch Dog Timer	Voltage Detection (Arbitray)	Voltage Detection (Setting by Inside) [V]	Quiescent Current [μA]	Operating Voltage [V] min.	Package Outline	Notes
NJU2103A ♡	–	Suitable for replacement from MB3771 / NJM2103	20	–	Yes	4.2	280	2.5	DMP8, DIP8, MSOP8(TVSP8)	PLP♡:DMP8, MSOP8(TVSP8)
NJU2103B	–	Suitable for replacement from MB3771 / NJM2103	20	–	Yes	4.2	280	2.5	SOP8 JEDEC 150mil(EMP8)	V_{SB}, V_{SC}, t_{PD} Suitable for replacement from MB3771
NJU7291 ♡	✓	-	8	Yes	Yes	3	170	2.5	DIP8, MSOP8(TVSP8)	PLP♡: MSOP8(TVSP8)
NJU7295	✓	With Delay Circuit (Rising / Falling independent setting)	7	–	Yes	1 (Adjustable)	1.7	1.5	SOT-23-6-1	
NJU7296	–	With Delay Circuit (Rising / Falling independent setting)	7	–	Yes	1 (Adjustable)	1.7	1.5	SOT-23-6-1	

Watchdog Timers (WDT)

● Watchdog Timer (WDT) with Voltage Detectors (Reset ICs) and LDO Linear Regulators

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
R5101	–	1.5	10	1.7 to 4.5	± 2.5	7	14	35	50	120	250	○	1.8 to 5.0	± 2.5	50	5	SSOP-8G	
R5104 ♡ 2029	✓	Max.36.0		2.8 to 4.0	± 2.0	–			200	300	510	○ xxxA	3.3 to 5.0	± 2.0	Depends on Ext. Tr.	60	SSOP-10	Automotive only
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 ♡	✓	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 ♡												○					HSOP-18	

*1 R5101: CD =0.001μF、R5110/R5111/R5114/R5115: CD = 0.22μF *2 R5101/R8360: CW = 0.01μF, R5104: CTW = 0.1μF、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 does 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 Timer (WDT) with Voltage Detectors (Reset ICs)

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[%]	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 ♡	✓	1.5	6								Industrial(-40℃ to 125℃) SENSE Pin is included.
R5109*1 ♡	✓	0.9	6						11.5		Industrial(-40℃ to 125℃) 2 Clock Input Type
R8355*2 ♡	✓	0.9	6					×	11	SOT-23-6	Automotive only
R8356*2 ♡	✓							○		SSOP-8G	Automotive only MR Pin is included.
R8357*2 ♡	✓										Automotive only SENSE Pin is included.
R8358*2 ♡	✓	1.5	6								Automotive only 2 Clock Input Type
R8359*2 ♡	✓	0.9	6						11.5		

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

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Part No.	Auto-motive	Key Features	Operating Voltage [V]	Watch Dog Timer	Voltage Detection (Arbitray)	Voltage Detection (Setting by Inside) [V]	Quiescent Current [uA]	Operating Voltage [V] min.	Package Outline	Notes
NJU2102A ♡	–	Suitable for replacement from MB3773 / NJM2102	20	Yes	Yes	4.2	320	3.5	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	SR0, SR1	xxxA: RST xxxB: RST, RST2	0.28: at standby	7.5, 11.25	–	DFN(PLP)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			

Battery Back-up ICs

Part No.	Auto-motive	Key Features	Operating Voltage [V]	Quiescent Current Normal Operation [μA]	Quiescent Current Back-up Mode [μA]	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)	

Shunt Regulators

Part No.	Auto-motive	Reference Voltage [V] typ.	Ref. tol.	Cathode Voltage [V] max.	Cathode Current [mA] max.	Minimum Cathode Current [μA] typ.	Package Outline	Notes
NJM1431A ♡	✓	2.465	± 1	36	100	400	DFN4-F1(ESON4-F1), SOT-23-5, SOT-89-3	PLP♡:SOT-23-5, SOT-89-3
NEW **NJM17431** ♡	–	2.5 2.495	± 0.8	36	100	250	SOT-23-5, SOT-89-3	PLP♡:SOT-23-5 Wide Safety Operating Boundary Condition Replacement from HA17431 (Renesas)
NJM2373	–	1.25	± 2	13	30	80	SOT-23-5	
NJM2373A	–	1.25	± 1	13	30	80	SOT-23-5, SOT-89-3	
NJM2376	–	1.25	± 1	13	30	80	SOT-23-5, SOT-89-3	
NJM2380	–	2.465	± 2	18	100	400	DMP8, SOP8 JEDEC 150mil (EMP8), SOT-23-5, SOT-89-3	
NJM2380A	✓	2.465	± 1	18	100	400	DMP8, SOP8 JEDEC 150mil (EMP8), SOT-23-5, SOT-89-3	
NJM2390	–	2.465	± 2	18	100	400	SOT-89-3	
NJM2390A	–	2.465	± 1	18	100	400	SOT-89-3	
NJM2820	✓	1.25	± 0.7	13	30	80	SOT-23-5	
NJM2821	–	1.25	± 0.7	13	30	80	SOT-23-5	
NJM2822	–	1.25	± 0.7	13	30	80	SOT-23-5	
NJM2823 ♡	✓	1.136	± 0.4	13	12	20	SOT-23-5	
NJM2825	–	1.2	± 0.5	13	12	0.7	SOT-23-5	
NJM431	✓	2.495	± 2	36	100	400	DIP8, DMP8, SOT-89-3	
NJM431S	–	2.495	± 1.8	36	100	400	SOT-89-3, SOT-23-5	
NJM432S	–	2.495	± 1.8	36	100	400	SOT-89-3, SOT-23-5	Variation of Pin Configuration (NJM431S)

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Power Management ICs

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
Single-Wire : Single Wire Interface
Diode : Diode Rectification
Synchro : Synchronous Rectification
SSCG : Spectrum Diffusion Type Oscillator
PG : Power Good Function

Buck

Part No.	Automotive	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Current [A]	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
NEW 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-type or Hiccup-type Synchro Soft-Start : Ext.Adjustable Ver.E/F UVLO OVLO Thermal SSCG : xxxB/D Phase : Ext.
NJW4150A	–	Buck	6.2	40	0.3	1 (Adj)	38 (Adj)	Internal FET	1	1000 (Fix)		Yes	–	-40	125	MSOP8 (TVSP8)	–
NJW1933 ♡	–	Buck	4.5	40	0.5	1.245 (Adj)	35.2 (Adj)	Internal FET	1	500 (Fix)		Yes	–	-40	105	SOT-23-6-1	Pin compatible R7:R8with LT1933 and LT2842 PWM Pulse-by-pulse current limit circuit Thermal Soft-Start : Ext.Adjustable Ver.E/F UVLO Phase Diode
NJW4152B ♡	✓	Buck	4.6	40	0.6	0.8 (Adj)	38 (Adj)	Internal FET	1	300	1000	Yes	–	-40	85	MSOP8 (VSP8)	PWM Pulse-by-pulse current limit circuit Thermal Soft-Start UVLO Diode
NEW NJW4175	✓	Buck	3.4	40	0.6	0.8 (Adj)	26 (Adj) 3.3,5.0 (Fix)	Internal FET	1	1950	2500	Yes	Yes	-40	125	HSOP8-M1	PWM Light Load Mode External Clock Synchronization Over Current Protection (Hiccup type) Thermal Soft-Start Synchro Phase UVLO
NJW4152A	✓	Buck	4.6	40	1	0.8 (Adj)	38 (Adj)	Internal FET	1	300	1000	Yes	–	-40	85	HSOP8-M1	PWM Pulse-by-pulse current limit circuit Thermal Soft-Start UVLO Diode
NJW4152-AB	✓	Buck	3.6	40	1	0.8 (Adj)	38 (Adj)	Internal FET	1	300	1000	Yes	–	-40	85	HSOP8-M1	PWM Pulse-by-pulse current limit circuit Thermal Soft-Start UVLO Diode
NJW4153 ♡	✓	Buck/ Invert-ing	4.6	40	1	0.8 (Adj)	34 (Adj)	Internal FET	1	1000 (Fix)		Yes	–	-40	85	SOT-89-5-2, DFN8-V1 (ESON8-V1)	PLP♡:SOT-89-5-2 PWM Pulse-by-pulse current limit circuit Thermal Soft-Start UVLO Phase Diode
NJW4170	–	Buck	4.5	40	1	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 Over Current Protection (Hiccup type) Thermal Soft-Start UVLO Phase Diode
NJM2374A ♡	✓	Buck/ Boost/ Invert-ing	2.5	40	1.5	1.25 (Adj)	38 (Adj)	Internal Tr.	1	0.1	100	–	–	-40	85	DIP8, DMP8 SOP8 JEDEC 150mil (EMP8), SSOP14	PLP♡:DMP8 PWM control version(NJM2360) Pulse-by-pulse current limit circuit Phase Diode
NJM2344	–	Buck/ Boost/ Invert-ing	3	40	1.5	1.25 (Adj)	38 (Adj)	Internal Tr.	1	1	150	Yes	–	-40	85	DIP8, DMP8	PWM, Standby function(NJM2392) Pulse-by-pulse current limit circuit Phase Diode
NJM2345	–	Buck	3	40	1.5	1.25 (Adj)	38 (Adj)	Internal Tr.	1	1	150	Yes	–	-40	85	DIP8, DMP8	PWM, Buck (NJM2344) Pulse-by-pulse current limit circuit Phase Diode
NJM2392	–	Buck/ Boost/ Invert-ing	3	40	1.5	1.25 (Adj)	38 (Adj)	Internal Tr.	1	1	150	–	–	-40	85	DIP8, DMP8	PWM control version(NJM2360) Pulse-by-pulse current limit circuit Phase Diode
NJM2393	–	Buck	3	40	1.5	1.25 (Adj)	38 (Adj)	Internal Tr.	1	1	150	–	–	-40	85	DIP8, DMP8	PWM, Buck (NJM2392) Pulse-by-pulse current limit circuit Phase Diode
NJW4155	–	Buck/ Invert-ing	4.5	40	1.8	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 type) Thermal Soft-Start UVLO Phase Diode
NJW4177	–	Buck	3.6	40	2	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 type) Thermal Soft-Start UVLO Discharge Phase Synchro
NJW4119	✓	Buck	6.5	40	2.4	5.1 (Adj)	5.185	Internal FET	1	300 (Fix)		Yes	Yes	-40	125	HTSSOP24-P1	USB Power Supply PWM, External Clock Synchronization Over Current Protection (Hiccup type) Thermal Soft-Start UVLO Diode
NJW4171	✓	Buck	3.4	40	2.5	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 Over Current Protection (Hiccup type) Thermal Soft-Start UVLO Diode
NJW4128	✓	Buck/ Invert-ing	4.5	40	2.5	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 Over Current Protection (Hiccup type) Thermal Soft-Start UVLO Phase Diode
NJW4154	✓	Buck	4.5	40	3	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 Over Current Protection (Hiccup type) Thermal Soft-Start UVLO Phase Diode
NJW4196	–	Buck	4.45	40	3.5	1 (Adj)	38 (Adj)	Internal FET	1	450 (Fix) 100	450 (Fix) 1000	Yes	Yes	-40	125	HSOP8-M1	PWM, External Clock Synchronization Over Current Protection (Hiccup type) Thermal Soft-Start UVLO Phase Diode
NJW4161	–	Buck	3.1	40	–	0.8 (Adj)	38 (Adj)	Controller	1	50	1000	Yes	–	-40	125	MSOP8(VSP8), DIP8	PWM, PWM/PFM Over Current Protection (Hiccup type, Latch type) Thermal Soft-Start UVLO Diode
NJW4162A	✓	Buck	4.3	40	–	0.8 (Adj)	38 (Adj)	Controller	2	100	1000	Yes	Yes	-40	125	SSOP20-C3	PWM, External Clock Synchronization Over Current Protection (Hiccup type) Soft-Start : Ext. Adjustable Thermal UVLO Diode
NJW4160	–	Buck	3	35	–	0.8 (Adj)	33 (Adj)	Controller	1	50	1000	Yes	–	-40	85	MSOP8(VSP8), DMP8	–
R1270 ♡	✓	Buck	3.6	34	3	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-type or Fold-back-type FLG Pin Diode UVLO Thermal OVLO Soft-Start : Ext.Adjustable Ver.E/F Phase : Ext.

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DC/DC Switching Regulators

Buck

Part No.	Automotive	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Current [A]	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. R1277	✓	Buck	4	34	8	0.7 (Adj)	5.3 (Adj)	Internal FET	1	250	1000	Yes	Yes	-40	105	QFN0505-32D	Industrial (-40℃ to 105℃) Forced PWM,PWM/VFM Ext.Synchronizable with PLL Circuit Tracking function Protection Circuit Type : Latch-type or Hiccup-type Synchro SSCG : Ver. 03x/13x UVLO Thermal OVP Soft-Start : Ext.Adjustable Ver.E/F Phase : Ext.
R1273	✓	Buck	4	34	14	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-type or Hiccup-type Synchro SSCG : Ver. 03x/13x UVLO OVP Thermal Soft-Start : Ext.Adjustable Ver.E/F 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-type or Hiccup-type Synchro UVLO SSCG : Ver. 03x/13x Soft-Start : Ext.Adjustable Ver.E/F Thermal OVP Phase : Ext.
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 Ver.E/F UVLO Maxduty Diode
NJM2383	–	Buck	3.6	32	–	0.52 (Adj)	30 (Adj)	Controller	1	5	350	Yes	–	-40	85	DIP14, DMP14, SSOP10	PWM Current Sensing Amplifier Soft-Start : Ext.Adjustable Ver.E/F UVLO Maxduty Diode
NJM2384	–	Buck	3.6	32	–	0.52 (Adj)	30 (Adj)	Controller	1	5	500	–	–	-40	85	DIP14, DMP14, SSOP10	PWM Current Sensing Amplifier Soft-Start : Ext.Adjustable Ver.E/F UVLO Maxduty Diode
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
R1271 ♡ 2030	✓	Buck	3.6	30	1	3.3,5.0		Internal FET	1	2000 (Fix)		Yes	Yes	-40	105	DFN3030-12B HSOP-18	PLP♡:HSOP-18 Industrial (-40℃ to 125℃) Forced PWM Protection Circuit Type : Latch-type or Hiccup-type Synchro Soft-Start : Ext.Adjustable Ver.E/F UVLO OVLO Thermal SSCG : xx1C/D
R1240	–	Buck	4.5	30	1.2	0.8 (Adj)	15.0 (Adj)	Internal FET	1	1250 (Fix)		Yes	–	-40	85	SOT-23-6W DFN(PLP)2527-10	PWM Protection Circuit Type : Latch or Fold-back Diode UVLO Soft-Start Thermal
R1245 ♡	✓	Buck	4.5	30	1.2	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(PLP)2020-8 DFN2020-8 SOT-23-6W HSOP-8E	PWM Protection Circuit Type : Latch-type or Fold-back-type Diode UVLO Soft-Start Thermal DFN2020-8 : Automotive only

Part No.	Automotive	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Current [A]	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
R1243 ♡	–	Buck	4.5	30	2	0.8 (Adj)	18.0 (Adj)	Internal FET	1	C/D:330 (Fix) A/B/E:1000 (Fix)		Yes	–	-40	85	DFN(PLP)2527-10 HSOP-8E	Forced PWM Protection Circuit Type : Latch-type or Fold-back-type FLG Pin Diode UVLO Thermal Soft-Start : Ext.Adjustable Ver.E/F
R1275 ♡ 2027	✓	Buck	3.6	30	2	3.3 (Adj)	5.0 (Adj)	Internal FET	1	2000 (Fix)		Yes	Yes	-40	105	HSOP-18	Industrial (-40℃ to 105℃) Forced PWM Ext.Synchronizable with PLL Circuit Protection Circuit Type : Hiccup-type Synchro SSCG : Ver. 003x UVLO Thermal OVLO Soft-Start : Ext.Adjustable Ver.E/F Phase : Ext.
R1278 ♡ 2030	✓	Buck	3.6	30	2	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 Synchro SSCG : Ver. 003x UVLO Thermal OVLO Soft-Start : Ext.Adjustable Ver.E/F Phase : Ext.
R1276 ♡ 2030	✓	Buck	3.6	30	3	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-type Synchro SSCG : Ver. xxxC UVLO Thermal OVLO Soft-Start : Ext.Adjustable Ver.E/F Phase : Ext.
R1242	–	Buck	5	30	3	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-type or Fold-back-type Synchro : with external low side UVLO Soft-Start Thermal
U.D. NC2700	–	Buck	4	28	20	0.7 (Adj)	5.3 (Adj)	Internal FET	1	250	1000	Yes	Yes	-40	85	QFN0910-65-MA	Industrial only Inductor Built-in DC/DC Module Forced PWM Protection Circuit Type : Latch-type or Hiccup-type Ext.Synchronizable with PLL Circuit Synchro UVLO Soft-Start : Ext.Adjustable Ver.E/F Phase : Ext. Thermal
U.D. NC2701					10												
U.D. NC2702					6												
NJW1616 ♡	–	Buck	4.5	20	0.5	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 Soft-Start : Ext.Adjustable Ver.E/F Thermal UVLO Diode Phase
R1224	–	Buck	2.3	18.5	–	1.2 (Fix) 1.0 (Adj)	6.0 (Fix) VIN (Adj)	Controller	1	L/M:180 (Fix) F/G:300 (Fix) F/H:500 (Fix)		Yes	–	-40	85	SOT-23-5	PWM,PWM/VFM Over Current Protection:Hiccup type 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
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

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DC/DC Switching Regulators

Buck

Part No.	Automotive	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Current [A]	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
NJU7630	–	Buck	2.2	8	–	1 (Adj)	7.5 (Adj)	Controller	1	300	1000	–	–	-40	85	DMP8, MSOP8(TVSP8)	PWM Protection Circuit Type : Latch Soft-Start UVLO Maxduty Diode
NJU7631	–	Buck	2.2	8	–	1 (Adj)	7.5 (Adj)	Controller	1	300	1000	–	–	-40	85	MSOP8 (TVSP8)	PWM/PFM Protection Circuit Type : Latch Soft-Start UVLO Maxduty Diode
NJU7632	–	Buck	2.2	8	–	1 (Adj)	7.5 (Adj)	Controller	1	300	1000	Yes	–	-40	85	MSOP8 (TVSP8)	PWM Protection Circuit Type : Latch Soft-Start UVLO Maxduty Diode
NJU7640	–	Buck	2.2 to 8	8	–	1 (Adj)	7.5 (Adj)	Controller	1	300	1000	–	–	-40	85	MSOP8 (TVSP8)	PWM Pulse-by-pulse current limit circuit Soft-Start UVLO Maxduty Diode
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 Soft-Start UVLO Maxduty Diode
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 Synchro
NJU7680	–	Buck/ Boost	2.3	7	–	1 (Adj)	–	Controller	2	300	1000	Yes	–	-40	85	PCSP24-ED, SSOP16	Buck,Boost/ SEPIC circuit(2-channel)
NJU7691	–	Buck	2.2	7	0.3	0.8	6.5 (Adj)	Internal FET	1	300	1000	Yes	–	-40	85	MSOP8 (TVSP8)	PWM Protection Circuit Type : Latch Thermal Soft-Start UVLO Synchro
RP511 ♡	–	Buck	2	5.5	0.1	1	4	Internal FET	1	1000 (Depends on conditions of Input/ Output Voltage and Output Current)		Yes	–	-40	85	WLCSP-8-P1 DFN(PLP)2527-10 SOT-89-5	VFM Ultra-Low Power Consumption: : 0.3μA Synchro UVLO Soft-Start Discharge : xx1B
RP514 ♡	–	Buck	1.8	5.5	0.1	1	4	Internal FET	1	1000 (Depends on conditions of Input/ Output Voltage and Output Current)		Yes	–	-40	85	WLCSP-9-P2 DFN(PLP)2527-10	VFM + BM : with Battery Monitor Assist Function Ultra-Low Power Consumption : 0.3μA (+BM:0.1μA) Synchro UVLO Soft-Start Discharge : xxxB
RP516 ♡	–	Buck	1.8	5.5	0.1	0.3	1.2	Internal FET	1	1000 (Depends on conditions of Input/ Output Voltage and Output Current)		Yes	–	-40	85	WLCSP-8-P1 DFN(PLP)2527-10 SOT-89-5	VFM Ultra-Low Power Consumption: 0.3μA Synchro UVLO Soft-Start Discharge : xxxB
RP512 ♡	–	Buck	2	5.5	0.3	1	4	Internal FET	1	1000 (Depends on conditions of Input/ Output Voltage and Output Current)		Yes	–	-40	85	WLCSP-8-P1 DFN(PLP)2527-10 SOT-89-5	VFM Ultra-Low Power Consumption: : 0.3μA Synchro UVLO Soft-Start Discharge : xx1D
RP515 ♡	–	Buck	1.8	5.5	0.3	1	4	Internal FET	1	1000 (Depends on conditions of Input/ Output Voltage and Output Current)		Yes	–	-40	85	WLCSP-9-P2 DFN(PLP)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 ♡	–	Buck	1.8	5.5	0.3	0.3	1.2	Internal FET	1	1000 (Depends on conditions of Input/ Output Voltage and Output Current)		Yes	–	-40	85	WLCSP-8-P1 DFN(PLP)2527-10 SOT-89-5	VFM Ultra-Low Power Consumption: 0.3μA Synchro UVLO Soft-Start Discharge : xxxD

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Part No.	Automotive	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Current [A]	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
R5220	–	Buck	2.8	5.5	0.4	1	3.3	Internal FET	1	1200 (Fix)		Yes	–	-40	85	DFN(PLP)2514-6	+LDO PWM Protection Circuit Type : Latch-type Built-in DC/DC and LDO Alternative Circuit Synchro Soft-Start UVLO
NEW **RM590** ♡	–	Buck	2.3	5.5	0.4	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
RP500	–	Buck	2.55	5.5	0.6	1.1	3.3	Internal FET	1	1200 (Fix)		Yes	–	-40	85	DFN(PLP)1820-6 SOT-23-6W	PWM,PWM/VFM Protection Circuit Type : Latch Synchro UVLO Soft-Start Discharge : xx3A/xx4A
RP507 ♡	–	Buck	2.3	5.5	0.6	0.7 (Adj)	5.5 (Adj)	Internal FET	1	2000 (Fix)		Yes	–	-40	85	DFN(PLP)1616-6D	PWM/VFM Synchro UVLO Soft-Start Thermal Discharge
RP503	–	Buck	2.5	5.5	0.6	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	2.3	5.5	0.6	0.8	3.3	Internal FET	1	2250 (Fix)		Yes	–	-40	85	DFN(PLP)1216-6F DFN1616-6B SOT-23-5	Forced PWM,PWM/VFM Protection Circuit Type : Latch MODE Pin Synchro UVLO Soft-Start Discharge : xx1D
RP508 ♡	–	Buck	2.3	5.5	0.6	0.8	3.3	Internal FET	1	6000 (Fix)		Yes	–	-40	85	DFN(PLP)1212-6F	Forced PWM,PWM/VFM MODE Pin Synchro UVLO Soft-Start Thermal Discharge : xx1B
RP901	–	Buck	4.5	5.5	0.9	DC/DC:1.2 LDO:2.5	DC/DC:1.8 LDO:3.3	Internal FET	1	1200 (Fix)		Yes	–	-40	85	DFN(PLP)2527-10	+LDO + VD : Detector Threshold Range 2.0V to 5.0V for DVD drive PWM,PWM/VFM Protection Circuit Type : Reset-type Synchro Soft-Start UVLO Thermal Sequencing
R1232	–	Buck	2.6	5.5	1	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-type Synchro UVLO Soft-Start
RP904	–	Buck	2.5	5.5	1	1.2 (VSET1) 1.0 (VSET2)	3.3 (VSET1) 1.5 (VSET2)	Internal FET	1	2000 (Fix)		Yes	–	-40	85	WLCSP-11-P2	PWM/VFM (Manual Switching) Built-in Bypass switch, Output Voltage selectable from VSET1 or VSET2 Protection Circuit Type : Latch-type Synchro Soft-Start UVLO
RP501	–	Buck	2.5	5.5	1	1	3.3	Internal FET	1	2250 (Fix)		Yes	–	-40	85	DFN(PLP)2527-10	PWM,PWM/VFM Protection Circuit Type : Latch-type MODE Pin Synchro UVLO Soft-Start Discharge : xx1B
RP505 ♡	–	Buck	2.3	5.5	1	0.6 (Fix) 0.8 (Adj)	3.3 (Fix) 3.3 (Adj)	Internal FET	1	2250 (Fix)		Yes	–	-40	85	DFN(PLP)2020-8	Forced PWM,PWM/VFM Protection Circuit Type: Latch-type MODE Pin Synchro UVLO Soft-Start Thermal Discharge : xx1B

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DC/DC Switching Regulators

Buck

Part No.	Automotive	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Current [A]	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
RP550 ♡	✓	Buck	2.3	5.5	1 × 2ch.	0.6 (Adj)	3.3 (Adj)	Internal FET	2	2250 (Fix)		Yes	–	-40	85	DFN(PLP)2730-12 DFN3030-12	Industrial (-40℃ to 105℃) 2CH Forced PWM,PWM/VFM Protection Circuit Type : Latch-type Synchro UVLO Soft-Start Thermal
RP509 ♡	–	Buck	2.3	5.5	1 or 0.5	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
RP519	–	Buck	2.3	5.5	1 or 0.5	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 ♡	–	Buck	2.3	5.5	1 or 0.5	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
NJW4122	–	Buck	2.7	5.5	2	0.6	5 (Adj)	Internal FET	1	100	2400	Yes	–	-40	125	DFN8-U1 (ESON8-U1)	PWM, External Clock Synchronization Over Current Protection (Hiccup type) Thermal Soft-Start UVLO Phase Synchro
RP506 ♡	✓	Buck	2.5	5.5	2	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(PLP)2527-10 DFN3030-12	Industrial (-40℃ to 105℃) MODE Pin Forced PWM,PWM/VFM Protection Circuit Type : Latch Synchro UVLO Thermal Soft-Start :Ext.Adjustable Ver.E/F Discharge : xx1B/E
U.D. **NC2600**	–	Buck	2.3	5.5	2	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-GA	Forced PWM,PWM/VFM MODE Pin Protection Circuit Type : Latch Synchro UVLO Thermal Soft-Start: Ext.Adjustable Ver.E/F Discharge :xx1A/B
NJW4110 ♡	✓	Buck	2.7	5.5	3	0.6	5 (Adj)	Internal FET	2	100	2400	Yes	Yes	-40	125	EQFN24-LE	PWM/PFM, External Clock Synchronization Over Current Protection (Hiccup type) Soft-Start: Ext.Adjustable Ver.E/F Thermal UVLO Phase Synchro
RP510 ♡	✓	Buck	2.5	5.5	4	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 UVLO Thermal Soft-Start : Ext.Adjustable Ver.E/F Discharge : xxxH/N
R1800 ♡	–	Buck	2	5.5	0.001	2	4.5	Internal FET	1	Depends on conditions of Input/ Output Voltage and Output Current		Yes	–	-40	85	DFN(PLP)2730-12	for Energy Harvest VFM 144 nA Low Quiescent Current Maximum Power Voltage: 2.0V to 5.3V Starting Power: 0.72 μW Reverse
R1801 ♡	–	Buck	2.3	5.5	0.001	2.3	4.5	Internal FET	1	Depends on conditions of Input/ Output Voltage and Output Current		Yes	Yes	-40	85	DFN(PLP)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
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-type UVLO Diode Soft-Start : Ext.Adjustable Ver.E/F Phase : Ext.

Boost/Fly-Back

Part No.	Automotive	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Switching Current [A]	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 [℃] min.	Operating Temperature [℃] max.	Package Outline	Notes
NJM2374A ♡	✓	Buck/ Boost/ Inverting	2.5	40	1.5	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 Diode
NJM2344	–	Buck/ Boost/ Inverting	3	40	1.5	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 Diode
NJM2392	–	Buck/ Boost/ Inverting	3	40	1.5	1.25 (Adj)	38 (Adj)	Internal Tr.	1	150	–	-40	85	DIP8, DMP8	PWM control version(NJM2360) Pulse-by-pulse current limit circuit Phase Diode
NJW4132 ♡	✓	Boost	4.5	40	1.75	4.5 (Adj)	38 (Adj)	Internal FET	300(Fix) 700(Fix) 2000(Fix)		Yes	-40	85	SOT-89-5-2	PWM, External Clock Synchronization Over Current Protection (Hiccup type) Thermal Soft-Start UVLO Phase Diode
NJW4138	–	Boost	4.5	40	1.75	4.5 (Adj)	38 (Adj)	Internal FET	2000 (Fix)		Yes	-40	125	SOT-89-5-2	Capacitor Charge application PWM, External Clock Synchronization Pulse-by-pulse current limit circuit Thermal Soft-Start UVLO Phase Diode
NJW4133	✓	Boost	3	40	5	3 (Adj)	38 (Adj)	Internal FET	100	2400	Yes	-40	125	HSOP8-M1	PWM, External Clock Synchronization Over Current Protection (Hiccup type) Thermal Soft-Start UVLO Diode
NJW4140 ♡	✓	Boost/ Fly-Back	3	40	–	3 (Adj)	–	Controller	40	1000	Yes	-40	85	DMP8, MSOP8 (VSP8)	PLP:MSOP8(VSP8) PWM Pulse-by-pulse current limit circuit Soft-Start UVLO Diode
NJW1871 ♡	✓	Boost/ Fly-Back	2.5	40	–	2.5 (Adj)	–	Controller	50	1000	Yes	-40	125	MSOP10 (VSP10)	5.2V Gate Drive PWM, RUN function, External Clock Synchronization Over Current Protection (Hiccup type) Thermal Soft-Start UVLO OVP Diode
NJW4141	✓	Boost	3	40	–	3 (Adj)	–	Controller	50	500	Yes	-40	125	SSOP20-C3	2 Phase PWM Pulse-by-pulse current limit circuit Soft-Start:Ext.Adjustable Ver.E/F UVLO Maxduty Diode
NJW4142 ♡	✓	Boost/ Fly-Back	2.5	40	–	2.5 (Adj)	–	Controller	50	1000	Yes	-40	125	MSOP10 (VSP10)	10V Gate Drive PWM, RUN function, External Clock Synchronization Over Current Protection (Hiccup type) Thermal Soft-Start UVLO OVP Diode
NJW4131B	–	Boost	4	35	1	4 (Adj)	33 (Adj)	Internal FET	300	1000	Yes	-40	85	MSOP8 (VSP8)	PWM Pulse-by-pulse current limit circuit Thermal Soft-Start UVLO Diode
NJW4131A	–	Boost	4	35	1.4	4 (Adj)	33 (Adj)	Internal FET	300	1000	Yes	-40	85	HSOP8-M1	PWM Pulse-by-pulse current limit circuit Thermal Soft-Start UVLO Diode
NJM2368	✓	Boost/ Fly-Back	3.6	32	–	3.6 (Adj)	–	Controller	5	350	–	-40	85	DIP8, DMP8 SOP8 JEDEC 150mil (EMP8), SSOP8	PWM, Tr. Drive Protection Circuit Type : Latch Soft-Start: Ext.Adjustable Ver.E/F UVLO Maxduty Diode
NJM2369	✓	Boost/ Fly-Back	3.6	32	–	3.6 (Adj)	–	Controller	5	350	–	-40	85	DIP8, DMP8 SOP8 JEDEC 150mil (EMP8), SSOP8	PWM, MOSFET Drive Protection Circuit Type : Latch Soft-Start: Ext.Adjustable Ver.E/F UVLO Maxduty Diode

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DC/DC Switching Regulators

Boost / Fly-Back

Part No.	Auto-motive	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Switching Current [A]	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 [℃] min.	Operating Temperature [℃] max.	Package Outline	Notes
NJM2379	–	Boost/ Fly-Back	3.6	32	–	3.6 (Adj)	–	Controller	5	350	–	-40	85	DIP8, DMP8 SOP8 JEDEC 150mil(EMP8), SSOP8	PWM, MOSFET Drive Only External Clock Synchronization Protection Circuit Type : Latch Soft-Start Ext.Adjustable Ver.E/F UVLO Maxduty Diode
NJM2381	–	Boost/ Fly-Back	3.6	32	–	3.6 (Adj)	–	Controller	5	350	–	-40	85	DIP14, DMP14, SSOP10	PWM Current Sensing Amplifier Soft-Start Ext.Adjustable Ver.E/F UVLO Maxduty Diode
NJM2377	✓	Boost/ Fly-Back	2.7	18	–	2.7 (Adj)	–	Controller	10	500	–	-40	85	DIP8, DMP8, SSOP8 MSOP8(VSP8)	PWM Protection Circuit Type : Latch Soft-Start Ext.Adjustable Ver.E/F UVLO Maxduty Diode
RN5RK	–	Boost	0.75 0.7	8 8	–	2	5.5	Internal FET Controller	–	100	Yes	-40	85	SOT-23-5	VFM Diode
R1210	–	Boost	0.9 0.8	8 8	–	2.2	6.5	Internal FET Controller	A/C:100(Fix) D:180(Fix)		Yes	-40	85	SOT-23-5	PWM xx1A: with frequency change-over Diode Soft-Start
NJU7600	–	Boost/ Fly-Back	2.2 to 8	8	–	2.2 (Adj)	–	Controller	300	1000	–	-40	85	DMP8, MSOP10 (TVSP10) MSOP8(TVSP8)	PWM Protection Circuit Type : Latch Soft-Start UVLO Maxduty Diode
NJU7601	–	Boost/ Fly-Back	2.2	8	–	2.2 (Adj)	–	Controller	300	1000	–	-40	85	DMP8, MSOP8 (TVSP8)	PWM/PFM Protection Circuit Type : Latch Soft-Start UVLO Maxduty Diode
NJU7602	–	Boost/ Fly-Back	2.2	8	–	2.2 (Adj)	–	Controller	300	1000	Yes	-40	85	DMP8, MSOP8(TVSP8)	PWM Protection Circuit Type : Latch Soft-Start UVLO Maxduty Diode
NJU7606	–	Boost/ Fly-Back	2.2	8	–	2.2 (Adj)	–	Controller	300	1000	Yes	-40	85	MSOP10 (TVSP10)	With load SW. function PWM Protection Circuit Type : Latch Soft-Start UVLO Maxduty Diode
NJU7610	–	Boost/ Fly-Back	2.2	8	–	2.2 (Adj)	–	Controller	300	1000	–	-40	85	DMP8, MSOP8(TVSP8)	PWM Pulse-by-pulse current limit circuit Soft-Start UVLO Maxduty Diode
NJU7620	–	Boost/ Fly-Back	2.2	8	–	2.2 (Adj)	–	Controller	300	1000	–	-40	85	MSOP8 (TVSP8)	Constant voltage/current control for output voltage PWM Soft-Start UVLO Maxduty Diode
NJU7677	–	Boost	1.8	7	–	1.8 (Adj)	–	Controller	300	1000	–	-40	85	MSOP8 (TVSP8)	PWM Protection Circuit Type : Latch Soft-Start UVLO Maxduty Diode
NJU7680	–	Buck/ Boost	2.3	7	–	1 (Adj)	–	Controller	300	1000	Yes	-40	85	PCSP24-ED, SSOP16	PWM Protection Circuit Type : Latch Soft-Start UVLO Maxduty Diode
R1211 ♡	✓	Boost	2.5	6	–	Adj		Controller	A/B:700 (Fix) C/D:300 (Fix)		Yes	-40	85	SON-6 SOT-23-6W	PLP♡:SOT-23-6W for LCD/CCD/OLED PWM Protection Circuit Type: Latch-type Soft-Start UVLO Diode Phase : Ext., xxxA/C Phase : Int., xxxB/D, with stand-b
RP400	–	Boost	0.7	5.5	0.6	1.8(Fix) 1.8 (Adj:DFN)	5.0(Fix) 5.0 (Adj:DFN)	Internal FET	700(Fix)		Yes	-40	85	DFN(PLP)1820-6 SOT-23-5	PWM/VFM Diode Soft-Start Anti-Ringing
NJW4813	–	Boost	2.7	5.5	1	2.7	35 (Adj)	Internal FET	380	810	Yes	-40	85	PCSP20-E3	Internal 2-channel Half Bridge Driver PWM Pulse-by-pulse current limit circuit Thermal Soft-Start UVLO Diode
RP401	–	Boost	0.6	5.5	1	1.8 (Fix) 1.8 (Adj:DFN)	5.5 (Fix) 5.5 (Adj:DFN)	Internal FET	1200(Fix)		Yes	-40	85	DFN(PLP)1820-6 SOT-23-5	PWM,PWM/VFM Protection Circuit Type: Latch-type Diode Soft-Start

Part No.	Auto-motive	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Switching Current [A]	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 [℃] min.	Operating Temperature [℃] max.	Package Outline	Notes
R1286	–	CH1: Boost/ CH2: Inverting	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)	Internal FET	1750 (Fix)		Yes	-40	85	DFN(PLP)2730-12	2CH for LCD/CCD/OLED PWM Protection Circuit Type: Latch-type Synchro Soft-Start UVLO Sequencing Discharge Thermal Single-Wire : xxxA/C to G, Inverting output can be dynamically changed by S-wire control.
R1287 ♡	–	CH1: Boost/ CH2: Inverting	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)	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	PLP♡:DFN3030-12 2CH for LCD/CCD/OLED PWM,PWM/VFM Protection Circuit Type: Latch-type Synchro Soft-Start UVLO Sequencing Discharge Thermal
RP600	–	Boost	DC/DC : 0.8 LDO : 2.0	DC/DC : 5.5 LDO : 5.5	1.4	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(PLP) 2527-10	+LDO +VD:Operating Voltage Range 0.8V to 5.5, Detector Threshold Range 1.0V to 4.5V PWM,PWM/VFM Diode Soft-Start Thermal : Except xxC Sequencing
R1283 ♡	–	CH1: Boost/ CH2: Inverting	2.5	5.5	1.5	CH1: Up to 20(Adj) CH2: Up to VDD-20(Adj)		Internal FET	A:300 (Fix) B:700 (Fix) C:1400 (Fix)		Yes	-40	85	DFN(PLP)2730-12	2CH for LCD/CCD/OLED PWM Protection Circuit Type: Latch-type Soft-Start UVLO Discharge : Inverting output Sequencing Diode
NJW4814	–	Boost	2.7	5.5	1.5	2.7	35 (Adj)	Internal FET	380	1000	Yes	-40	85	EQFN24-LE	Internal 2-channel H Bridge Driver PWM Pulse-by-pulse current limit circuit Thermal Soft-Start UVLO OVP Diode
R1290 ♡	✓	CH1: Boost/ CH2: Charge-pump, Boost/ CH3: Charge-pump, Inverting	2	5.5	CH1:2	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-type The charge pump operates at 1/4th operating frequency. Soft-Start : Ext.Adjustable Ver.E/F Sequencing UVLO Diode Phase : Ext. Maxduty : Ext.Adjustable
R1294 ♡	✓	CH1: Boost/ CH2: Charge-pump, Boost/ CH3: Charge-pump, Inverting	2	5.5	CH1:2	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-type The charge pump operates at 1/4th operating frequency. Soft-Start : Ext.Adjustable Ver.E/F Sequencing UVLO Diode Phase : Ext. Maxduty : Ext.Adjustable
R1293	–	Boost	DC/DC : 2.2 LDO: 2.2 Amp.: 5.0	DC/DC: 5.5 LDO: 5.5 Amp.: 16.0	3	DC/DC:Up to 16 (Adj) LDO:1.8 to 2.5 (Fix)		Internal FET	300	1000	Yes	-40	85	QFN(PLP)0404-32	+LDO +Amplifier for LCD/CCD/OLED PWM Protection Circuit Type: Latch-type DC/DC output with noise reduction function, VCOM amplifier 1 channel, GAMMA amplifier 6 channel Thermal UVLO Diode Soft-Start : Ext.Adjustable Ver.E/F Phase : Ext. Maxduty : Ext.Adjustable
R1213 ♡	–	Boost	2.3	5.5	3	3 (Adj)	15.0 (Adj)	Internal FET	1000 (Fix)	1000	Yes	-40	85	DFN(PLP)2730-12	PWM Protection Circuit Type: Latch-type Diode UVLO Thermal Phase : Ext. Shutdown : FLAG pin Soft-Start : Ext.Adjustable Ver.E/F

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DC/DC Switching Regulators

Boost / Fly-Back

Part No.	Auto-motive	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Switching Current [A]	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 [℃] min.	Operating Temperature [℃] max.	Package Outline	Notes
R1280	–	Boost/ Inverting	2.5	5.5	–	Adj		Controller	C:200 (Fix) A/B:700 (Fix)		Yes	-40	85	SON-10	2CH for LCD/CCD/OLED PWM Protection Circuit Type: Latch-type Soft-Start : Ext.Adjustable Ver.E/F UVLO Diode Phase : Ext., xxxA/C Phase : Int., xxxB, with stand-by
R1212	–	Boost	2.2	5.5	–	Adj		Controller	C:300(Fix) A:700(Fix) B:1400(Fix)		Yes	-40	85	SON-8	or LCD/CCD/OLED PWM Protection Circuit Type: Latch-type Soft-Start : Ext.Adjustable Ver.E/F UVLO Diode Phase : Ext. Maxduty : Ext.Adjustable
R1282	–	Boost/ Buck	2.5	5.5	–	Adj		Controller	700 (Fix)		Yes	-40	85	SON-10	2CH for LCD/CCD/OLED PWM Protection Circuit Type: Latch-type UVLO Diode Soft-Start : Ext.Adjustable Ver.E/F Phase : Ext.
R1215	–	Boost	1.8	5.5	–	Adj		Controller	A/E:700(Fix) B/F:1400(Fix)		Yes	-40	85	SON-8	for LCD/CCD/OLED PWM Protection Circuit Type: Latch-type Soft-Start : Ext.Adjustable Ver.E/F UVLO Diode Phase : Ext. Maxduty : Ext.Adjustable
RP402 ♡	–	Boost	0.6	4.8	1.5	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(PLP)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 Synchro Soft-Start OVP OVLO Anti-Ringing : xx1/001
R1810 ♡	–	Boost	0.35	2.1	0.001	2.3	4.5	Internal FET	Depends on conditions of Input/ Output Voltage and Output Current		Yes	-40	85	WLCSP-15-P1 DFN2735-14	for Energy Harvest VFM 600 nA IQ Low Quiescent Current Maximum Power Voltage: 0.2V to 2.1V Starting Power: 9 μ W Power Good Function : Output/Input Reverse

Inverting

Part No.	Auto-motive	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Switching Current [A] min.	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 [℃] min.	Operating Temperature [℃] max.	Package Outline	Notes
NJW4153 ♡	✓	Buck/ Inverting	4.6	40	1	0.8	34 (Adj)	Internal FET	1000 (Fix)		Yes	-40	85	SOT-89-5-2 DFN8-V1(ESON8-V1)	PLP:SOT-89-5-2 PWM Over Current Protection (Hiccup type) Thermal Soft-Start UVLO Phase Diode
NJM2374A	✓	Buck/ Boost/ Inverting	2.5	40	1.5	1.25	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 Diode
NJM2344	–	Buck/ Boost/ Inverting	3	40	1.5	1.25	38 (Adj)	Internal Tr.	1	150	Yes	-40	85	DIP8, DMP8	PWM, Standby function(NJM2392) Pulse-by-pulse current limit circuit Phase Diode
NJM2392	–	Buck/ Boost/ Inverting	3	40	1.5	1.25	38 (Adj)	Internal Tr.	1	150	–	-40	85	DIP8, DMP8	PWM control version(NJM2360) Pulse-by-pulse current limit circuit Phase Diode
NJW4155	–	Buck/ Inverting	4.5	40	1.8	0.8	36.8 (Adj)	Internal 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) Thermal Soft-Start UVLO Phase Diode

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Part No.	Auto-motive	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Switching Current [A] min.	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 [℃] min.	Operating Temperature [℃] max.	Package Outline	Notes
NJW4128	✓	Buck/ Inverting	4.5	40	2.5	0.8	35.2 (Adj)	Internal FET	450 (Fix, A ver.) 300 (Fix, B ver.)		Yes	-40	85	HSOP8-M1	PWM, External Clock Synchronization Over Current Protection (Hiccup type) Thermal Soft-Start UVLO Phase Diode
R1286	–	CH1: Boost/ CH2: Inverting	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)	Internal FET	1750 (Fix)		Yes	-40	85	DFN(PLP)2730-12	2CH for LCD/CCD/OLED PWM Protection Circuit Type: Latch-type Synchro Soft-Start UVLO Sequencing Discharge Thermal Single-Wire : xxxA/C to G, Inverting output can be dynamically changed by S-wire control.
R1287 ♡	–	CH1: Boost/ CH2: Inverting	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)	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	PLP♡:DFN3030-12 2CH for LCD/CCD/OLED PWM,PWM/VFM Protection Circuit Type: Latch-type Synchro Soft-Start UVLO Sequencing Discharge Thermal
R1283 ♡	–	CH1: Boost/ CH2: Inverting	2.5	5.5	1.5	CH1: Up to 20(Adj) CH2: Up to VDD-20(Adj)		Internal FET	A:300 (Fix) B:700 (Fix) C:1400 (Fix)		Yes	-40	85	DFN(PLP)2730-12	2CH for LCD/CCD/OLED PWM Protection Circuit Type: Latch-type Soft-Start UVLO Discharge : Inverting output Sequencing Diode
R1280	–	Boost/ Inverting	2.5	5.5	–	Adj		Controller	C:200 (Fix) A/B:700 (Fix)		Yes	-40	85	SON-10	2CH for LCD/CCD/OLED PWM Protection Circuit Type: Latch-type Soft-Start : Ext.Adjustable Ver.E/F UVLO Diode Phase : Ext., xxxA/C Phase : Int., xxxB, with stand-by

Buck Boost

Part No.	Auto-motive	Application	Operating Voltage [V] min.	Operating Voltage [V] max.	Switching Current [A]	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 [℃] min.	Operating Temperature [℃] max.	Package Outline	Notes
RP604 ♡	–	Buck Boost	1.8	5.5	0.3	1.6	5.2	Internal FET	Depends on conditions of Input/ Output Voltage and Output Current		Yes	-40	85	WLCSP-20-P2 DFN(PLP)2730-12	VFM Ultra-Low Power Consumption: 0.3μA Synchro UVLO OVP Thermal Soft-Start Discharge : xx1B
RP605 ♡	–	Buck Boost	1.8	5.5	0.3	1.6	5.2	Internal FET	Depends on conditions of Input/ Output Voltage and Output Current		Yes	-40	85	WLCSP-20-P3 DFN(PLP)2730-12	VFM + BM : Battery Monitor Assist Function Ultra-Low Power Consumption: 0.3μA (+BM:0.1μA) Synchro UVLO OVP Soft-Start Thermal Discharge : xxxB
RP601 ♡	–	Buck Boost	2.3	5.5	1.0	2.75	4.2	Internal FET	2400(Fix)		Yes	-40	85	WLCSP-16-P1	Forced PWM,PWM/VFM Forced Bypass Mode DVS: 50mV PG : Dynamic Control of Output Voltage Using S-Wire Synchro UVLO Soft-Start Discharge : ××× B Thermal
RP602 ♡	–	Buck Boost	2.3	5.5	1.5	2.7	4.2	Internal FET	2600(Fix)		Yes	-40	85	WLCSP-20-P1 DFN(PLP)2730-12	PLP♡:WLCSP-20-P1 Forced PWM,PWM/VFM Protection Circuit Type: Latch-type or Reset-type Synchro OVP UVLO Soft-Start Thermal Discharge : A/C/E/G

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Boost DC/DC Switching Regulators for White LEDs/PMOLEDs/General Use

For White LEDs

Part No.	Version	Auto-motive	Operating Temperature [℃] min.	Operating Temperature [℃] max.	Operating Voltage [V] min.	Operating Voltage [V] max.	Lx Current Limit*2 [mA]	Output Voltage*1 [V]	Diode	Application	SW. Device	VFB Voltage Accuracy [mV]	Switching Frequency [kHz]	OVP Voltage [Typ./V] [V]	Package Outline	Notes
R1202 ♡	3xxD	–	-40	85	1.8	5.5	350 700	Up to 22.2 (Adj)	Internal	Boost	Internal FET	0.2V ± 10	1200 (Fix)	14	DFN1616-6B TSOT-23-6	PWM UVLO Soft-Start Thermal Shutdown LED Adjust
	7xxD													23		
R1205 ♡	8x1B	–	-40	85	1.8	5.5	350 700	Up to 24.2 (Adj)		Boost	Internal FET	0.2V ± 10	1200 (Fix)	25	DFN1616-6B	PLP♡:DFN1616-6B PWM Succeeding Products : R1205N → R1207N UVLO Soft-Start Thermal LED Adjust
	8x1C											0.4V ± 10				
	8x3B											0.2V ± 10			TSOT-23-6 *3	
R1207 ♡	8x3B	–	-40	85	1.8	5.5	350 700	Up to 24.2 (Adj)		Boost	Internal FET	0.2V ± 10	1200 (Fix)	25	TSOT-23-6 *3	PWM UVLO Soft-Start Thermal LED Adjust
	8x3C															
R1218	021A	–	-40	85	1.8	5.5	700	Up to 17 (Adj)		Boost	Internal FET	0.2V ± 10	1200 (Fix)	9.5	SOT-23-6	PWM UVLO Soft-Start
	031A													14		
	041A													18.5		
R1203	071B	–	-40	85	1.8	5.5	700	Up to 28.7 (Adj)	External	Boost	Internal FET	0.2V ± 10	1200 (Fix)	29.5	SOT-23-6 *3	Succeeding Products : R1203N → R1206N PWM UVLO Soft-Start LED Adjust
R1206	071B	–	-40	85	1.8	5.5	700	Up to 28.7 (Adj)		Boost	Internal FET	0.2V ± 10	1200 (Fix)	29.5	SOT-23-6 *3	PWM UVLO Soft-Start LED Adjust
R1218	052A	–	-40	85	1.8	5.5	700	Up to 30 (Adj)		Boost	Internal FET	0.2V ± 10	1200 (Fix)	23	SOT-23-6	PWM UVLO Soft-Start
	062A													27.5		
	072A													31.5		
R1204 ♡	11xA/D	–	-40	85	2.3	5.5	900	Up to 40.2 (Adj)		Boost	Internal FET	0.2V ± 10	A:1000 (Fix) D:750 (Fix)	23	DFN(PLP)1820-6 TSOT-23-6	PWM UVLO 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		

For 2 or 4 Strings of White LEDs

Part No.	Version	Auto-motive	Operating Temperature [℃] min.	Operating Temperature [℃] max.	Operating Voltage [V] min.	Operating Voltage [V] max.	Lx Current Limit*2 [mA]	Output Voltage*1 [V]	Diode	Application	SW. Device	Max LED Current [mA]	LED Current Accuracy [%]	Switching Frequency [kHz]	OVP Voltage [Typ./V]	Package Outline	Notes
R1208 ♡	112A/B	–	-40	85	2.7	22	2	Up to 42 (Adj)	External	Boost	Internal FET	80 × 4	± 3	A:750(Fix) B:450(Fix)	23	DFN(PLP) 2730-12	4 strings PWM UVLO Soft-Start Thermal LED Adjust
	212A/B														33		
	312A/B														43.5		
R1214 ♡	211A/C	–	-40	85	2.7	5.5	1.9	Up to 29 (Adj)			Internal FET	40 × 2	A/B: ± 2 C/D : ± 1.5	221A/C:750(Fix) 211A/B/C/D:450(Fix)	35	WLC-SP-9-P1	2 strings PWM/VFM, PWM UVLO Soft-Start Thermal LED Adjust
	221A/C																
	211B																
	211D																

For PMOLEDs and General Use

Part No.	Version	Auto-motive	Operating Temperature [℃] min.	Operating Temperature [℃] max.	Operating Voltage [V] min.	Operating Voltage [V] max.	Lx Current Limit*2 [mA]	Output Voltage *1 [V]	Diode	Application	SW. Device	VFB Voltage Accuracy [mV]	Switching Frequency [kHz]	OVP Voltage (Typ./V) [V]	Package Outline	Notes
R1202 ♡	3xxA/B	–	-40	85	2.3	5.5	350 700	Uo to 22.2 (Adj)	Internal	Boost	Internal FET	1.0V ± 15	1200 (Fix)	14	DFN1616-6B TSOT-23-6	PWM UVLO Soft-Start Thermal Shutdown Discharge: Ver.A
	4xxA/B													17		
	5xxA/B													19		
	6xxA/B													21		
	7xxA/B													23		

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Part No.	Version	Auto-motive	Operating Temperature [℃] min.	Operating Temperature [℃] max.	Operating Voltage [V] min.	Operating Voltage [V] max.	Lx Current Limit*2 [mA]	Output Voltage *1 [V]	Diode	Application	SW. Device	VFB Voltage Accuracy [mV]	Switching Frequency [kHz]	OVP Voltage (Typ./V) [V]	Package Outline	Notes
R1205 ♡	8x1A	–	-40	85	2.3	5.5	350 700	Up to 24.2 (Adj)	Internal	Boost	Internal FET	1.0V ± 15	1200 (Fix)	25	DFN1616-6B	PLP♡:DFN1616-6B Succeeding Products : R1205N → R1207N PWM UVLO Soft-Start Thermal
	8x3A														TSOT-23-6 *3	
R1207 ♡	8x3A	–	-40	85	2.3	5.5	350 700	Up to 24.2 (Adj)		Boost	Internal FET	1.0V ± 15	1200 (Fix)	25	TSOT-23-6 *3	PWM UVLO Soft-Start Thermal
R1200	001x	–	-40	85	2.3	5.5	700	Up to 20 (Adj)		Boost	Internal FET	1.0V ± 15	1200 (Fix)	17	DFN1616-6 SOT-23-6	PWM 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(PLP)1820-6 TSOT-23-6	PWM, PWM/VFM UVLO Soft-Start Thermal
	21xB/C/E/F													33		
	31xB/C/E/F													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.

Termination Regulator

Part No.	Automo-tive	Key Features	Operating Voltage[V] max.	Operating Voltage[V] min.	Package Outline	Notes
NJW4118T1	✓	± 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

Battery Charger Ics

Part No.A7:M8	Auto-motive	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	

Switching Drivers

Gate Drivers

Part No.	Auto-motive	Chan-nels	Operating Voltage [V] min./max.	UVLO	Operating Temperature Range [℃]	Output Peak Cur-rent [A]	Output Rise Time [nsec] typ.	Output Fall Time [nsec] typ.	Key Features	Package Outline
NJW4840	✓	1	8 to 20	Yes	-40 to 105	± 4	27.5	27.5	Built-in Thermal Shut Down Under Voltage Lockout Short Circuit Protection (power/ground fault)	MSOP8(VSP8)
NJW4841 ♡	✓	1	4 to 20	Yes	-40 to 85	± 2	25	20	Built-in Thermal Shut Down Under Voltage Lockout	MSOP8(VSP8)
NJW4860	–	2	4 to 20	Yes	-40 to 125	± 1	15	15	Built-in Thermal Shut Down Under Voltage Lockout LDO	HSOP8-M1 DFN8-V1 (ESON8-V1)

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Power Management ICs

Switching Drivers

Half/Full Bridge Drivers

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

Switch ICs

High Side Switches/ Low Side Switches

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

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] max.	UVLO	Operating Temperature Range [℃] min.	Operating Temperature Range [℃] max.	Input Current [uA]	Drain Current [A]	On-Resistance [mohm]	Operating Temperature [℃] min.	Operating Temperature [℃] max.	Function	Package Outline
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)
NJW4828-B	–	8	40	Yes (POR)	3	5.5	–	0.3	900	-40	125	8-channel Parallel Input Parallel Output Slew Rate Control Thermal FLT Output	HTSSOP24-P1
NJW4829	✓	8	40	Yes	3	5.5	–	0.3	900	-40	125	8-channel SIPO Slew Rate Control Thermal	HTSSOP24-P1
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 ♡	–	1	36	Yes	2.3	36	–	3.0	54	-40	85	External Power Switch IC / OVP Switch IC Debounce Time Delay Circuit Internal FET: Nch Thermal Soft-Start OVLO Reverse : OFF PG	WLCSP-9-P1
R5560 ♡	–	1	28	–	2.5	28	–	4.5	38	-40	85	OVP Switch IC Surge Clamp Circuit: 80 V Debounce Time Delay Circuit Internal FET: Nch Thermal Soft-Start PG OVLO Threshold	WLCSP-12-P2
R5542 ♡	–	1	5.5	Yes	2.3	5.5	–	6.0	9	-40	85	Load Switch IC / Battery Line Switch IC Built-in Voltage Detector (CMOS Output) Detector Threshold: 2.0 V to 5.0 V Detector Threshold Accuracy: ± 2.0% Internal FET: Nch Soft-Start Reverse : OFF	WLCSP-12-P3
R5527 ♡	–	1	5.5	–	1.8	5.5	–	3.0	45	-40	85	Load Switch IC / Battery Line Switch IC Internal FET: Nch Reverse : ON/OFF=001x, OFF=002x Soft-Start Discharge : xxxC/D	DFN(PLP)1612-4D
R5524 ♡	✓	1	5.5	Yes	2.7	5.5	–	0.55	100	-40	85	PLP□SOT-23-5 Industrial (-40℃ to 105℃) USB Switch IC / Load Switch IC FLG Internal FET: Nch Thermal Soft-Start Reverse : OFF Discharge : xxxA	DFN(PLP)1820-6 SOT-23-5
R5520	–	1	5.5	Yes	4	5.5	–	0.5	100	-40	85	USB Switch IC FLG Internal FET: Pch Thermal Soft-Start	SOT-89-5
R5523 ♡	✓	1	5.5	Yes	2.2	5.5	–	0.5	130	-40	85	USB Switch IC FLG Internal FET: Pch Thermal Soft-Start	SOT-23-5
R5533	–	1	5.5	–	3	5.5	–	–	–	-40	85	PC Card Power Switch IC Internal FET: Nch	SSOP-16
R5550	–	1	5.25	Yes	2.3	5.25	–	1.0	180	-40	85	Intelligent Power Switch IC Internal FET: Pch	DFN(PLP)1010-4F
R5590	–	1	5.25	–	0.9	5.25	–	–	400 or 500	-40	85	Rectifier Switch IC Internal FET: Nch	SON1612-6 SOT-23-5
R5541 ♡	–	1	4.8	Yes	2.5	5.5	–	3.0	18	-40	85	Load Switch IC Internal FET: Nch Thermal Reverse : OFF Discharge : xxxD Soft-Start : Ext.Adjustable	DFN(PLP)1216-6G
R5543 ♡	–	1	4.8	Yes	2.5	5.5	–	3.0	18	-40	105	Load Switch IC Operating Temp.,Tj: -40 to 105℃ Internal FET: Nch Thermal Reverse : OFF Discharge : xxxD Soft-Start : Ext.Adjustable	DFN(PLP)1216-6G
R5540 ♡	–	1	3.6	–	0.75	3.6	–	0.45	120	-40	85	Load Swich IC Internal FET: Nch Reverse : OFF Discharge : xxxC/D Soft-Start : Ext.Adjustable Reverse : OFF	DFN(PLP)1010-4F
R5538	–	1	3.6	–	1.35	3.6	–	–	40	-40	85	Express Card Power Switch IC Internal FET: Nch	QFN0404-20

Charge Pumps

Part No.	Auto-motive	Output Function	Operating Voltage [V] min.	Operating Voltage [V] max.	Output Resistance [ohm] max.	Oscillation Frequency [kHz] typ.	Quiescent Current [mA] max.	Package Outline	Notes
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	DIP14, DMP14, SSOP14	
NJW4190	✓	Doubler type	5	17	42	300	1.25	MSOP8(VSP8), DMP8	Maximum Output Voltage 34V ON/OFF Function
NJW4191	–	Negative type	4.7	17	34	300	1.22	MSOP8(VSP8), DMP8	Maximum Output Voltage -17V ON/OFF Function

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Power Management ICs

Power Management Multi-channel ICs (PMIC)

Part No.	Auto-motive	Package Outline	Operating Voltage[V] min.	Operating Voltage[V] max.	Operating Voltage [V] min.	Operating Voltage [V] max.	Inter-face	Main Function BuckDC/DC	LDO	VD	Charge	Battery-Gauge (Fuel-Gauge)	WDT	ADC	RTC	GPIO
RN5T566 ♡	–	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
U.D. 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 grade

PMIC (Power Management IC)

Part No.	Automo-tive	Number of Outputs	Configuration	Operating Voltage[V] min./max.	Output Current [A]	Oscillation Frequency [kHz] min./max	Package Outline	Notes
NJW4750T1 ♡	✓	4	HV Buck LV Buck LV Buck LV LDO	3.9 to 40 2.4 to 5.5 2.4 to 5.5 2.4 to 5.5	1.2 0.6 0.6 0.3	280 to 2400 280 to 2400 280 to 2400 -	EQFN26-HH	Ch3: Selectable Reg

Li-ion Battery Protection ICs

1-Cell Li-ion Battery Protection ICs

Product Name	Sens-ing Type	Supply Cur-rent Typ. [μA]	Standby Current Max. [μA]	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	Package	Other Features
U.D. NB7140	RSENS	1.5	UVP Latch type: 0.04 UVP Auto Release type: 0.20	4.2 to4.7, ± 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% (TBD)	WLCSP-8-P10	Forced Standby Function Two Phase Discharge Over Current Detection High Accuracy Detection Forced Rest Function
U.D. NB7141	RSENS	2.0	UVP Latch type: 0.04 UVP Auto Release type: 0.20	4.2 to4.7, ± 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% (TBD)	WLCSP-8-P10	Forced Standby Function Two Phase Discharge Over Current Detection High Accuracy Detection WDT Function
R5443	RSENS	2.5	0.04	4.2 to 4.6, ± 10	2.0 to 3.4, ± 2.0%	0.015 to 0.150, ± 3, ± 10% or ± 5	-0.150 to -0.015, ± 4, ± 20% or ± 8	0.040 to 0.300	Latch	Acceptable or Inhibition 1.25 ± 0.25	WLCSP-6-P7	
R5445	RSENS	5.0	0.04	4.2 to 4.6, ± 10	2.0 to 3.4, ± 35	0.015 to 0.150, ± 3, ± 10% or ± 5	-0.150 to -0.015, ± 4, ± 20% or ± 8	0.040 to 0.200	Latch	Inhibition 1.25 to 2.0, ± 0.05	WLCSP-8-P4	Shipping Mode Function RSENS in High-side Over Temp. Protection (External NTC, Over Temp. Protection for Charge/ Discharge)
NEW R5446	RSENS	2.5	0.04	4.2 to 4.6, ± 15	2.0 to 3.4, ± 35	0.012 to 0.080, ± 2 , ± 10% or ± 4	-0.080 to -0.012, ± 3, ± 10% or ± 5	0.040 to 0.190	Latch	Acceptable or Inhibition 1.1 to 2.3 ± 0.05	WLCSP-6-P9	
R5448	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	Latch	Acceptable or Inhibition 1.0 to 2.0 ± 0.05	WLCSP-8-P9	Shipping Mode Function UVP output Function Over Temp. Protection (External NTC, Over Temp. Protection for Charge/ Discharge)
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	Shipping Mode Function RSENS in High-side Over Temp. Protection (External NTC, Over Temp. Protection for Charge/ Discharge)
R5480	RSENS	4.0	0.1	4.1 to4.5, ± 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(PLP)1414-6	
R5486	RSENS	4.0	0.1	4.1 to4.6, ± 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	Latch	Inhibition 0.7 , 1.5 ± 0.3	DFN(PLP)1414-6	Two Phase Discharge Over Current Detection
R5494	RSENS	3.0	0.5	4.1 to4.5, ± 20	2.1 to 3.0, ± 35	0.030 to 0.048, ± 15%	-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	
R5610	RSENS	3.0	0.5	4.2 to4.7, ± 20	2.1 to 3.0, ± 55	0.015 to 0.043, ± 3	-0.043 to -0.017, ± 3	0.050 to 0.200	Auto Release	Acceptable	DFN1816-6	Two Phase Discharge Over Current Detection Low Resistance RSENS High Accuracy Detection

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Product Name	Sens-ing Type	Supply Current Typ. [μA]	Standby Current Max. [μA]	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	Package	Other Features
R5611	RSENS	3.0	0.5	4.2 to 4.7, ± 20	2.1 to 3.0, ± 55	0.015 to 0.043, ± 3	-0.043 to -0.017, ± 3	0.050 to 0.200	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	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 Rest/Forced Standby Function
NEW 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
U.D. R5661	RSENS	3.5	0.04	4.2 to 4.6, ± 10	2.0 to 3.4, ± 2.0%	0.015 to 0.150, ± 3, ± 10% or ± 5	-0.150 to -0.015, ± 3, ± 10% or ± 5	0.040 to 0.280	Latch	Acceptable or Inhibition 1.25 ± 0.25	WLCSP-8-P2	Over Temp. Protection
U.D. NB7142 NB7143	FET	1.5	UVP Latch type: 0.04 UVP Auto Release type: 0.5	4.2 to 4.7, ± 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	NB7142: DFN1212-6-GK NB7143: 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	
R5487 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	-0.150 to -0.020, ± 10% or ± 5	0.150 to 0.400	Latch or Auto Release	Acceptable or Inhibition 1.2 ± 0.4	R5487L: DFN1814-6B DFN1414-6B R5497L: 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	
R5499	FET	4.0	0.1	4.3 to 4.6, ± 12	2.0 to 3.0, ± 2.5%	0.030 to 0.080, ± 5	-0.100 to -0.050, ± 15	0.150 or 0.230	Latch	Acceptable	WLCSP-6-P4	

2-Cells Li-ion Battery Protection ICs

Product Name	Sens-ing Type	Supply Current Typ. [μA]	Standby Current Max. [μA]	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	Package	Other Fea-tures
U.D. 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 0.100, ± 2.5	-0.003 to -0.030, ± 1.0	0.020 to 0.100 ± 4.0	Auto Re-lease/ Latch	Acceptable or Inhibition	DFN1616-8-GM	
R5460	FET	4.0	0.1 or 2.0 or 4.0	4.1 to 4.5, or 3.5 to 4.0, ± 25	2.0 to 3.0 or 3.2 ± 2.5%	0.05 to 0.20, ± 15	-0.1, -0.2, -0.4 ± 30, ± 30, ± 40	1.1 ± 0.4 or 0.3 to 0.5	Auto Re-lease/ Latch or Auto Release	Acceptable or Inhibition	DFN(PLP)1820-6 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 Re-lease/ Latch	Acceptable or Inhibition	DFN(PLP)2527-10	Built-in Alarm Notifiction 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 Re-lease/ Latch or Auto Release	Acceptable or Inhibition	DFN(PLP)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 Re-lease/ Latch	Acceptable or Inhibition	DFN(PLP)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 Re-lease/ Latch	Acceptable or Inhibition	DFN(PLP)2527-10	Built-in Alarm Notifiction 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 Re-lease/ Latch	Acceptable	DFN(PLP)2527-10	Built-in Alarm Notifiction Function

Multi-Cell Li-ion Battery Protection ICs

Product Name	Num-ber of Cells	Supply Current Typ. [μA]	Standby Current Max. [μA]	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	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 VD3-2BA: 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, ± 40	BA: 1.0 BB/BC:0.75 BD: VD3-2 × 1.67	Auto Release	Accept-able or Inhibition	SSOP-24	Built-in Cascadable, Cell Balance Function, and Open Wire Detection

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Power Management ICs

Li-ion Battery Management

Multi-Cell Li-ion Battery Protection ICs

Product Name	Number of Cells	Supply Current Typ. [μA]	Standby Current Max. [μA]	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	Package	Other Features
R5433 ♡	3 to 5	6.0	–	3.6 to 4.5, ± 25	2.0 to 3.0, ± 2.5%	–	–	–	Auto Release	Accept-able	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	Accept-able	TSSOP-28	Built-in Cascadable, Cell Balance Function, Open Wire Detection, and 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	Accept-able or Inhibition	TSSOP-20	Built-in Temp. Protection (External NTC, Over Temp. Protection for Charge/ Discharge)
NEW **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, 0.35 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 0.7	Auto Release	Inhibition	TSSOP-24	Built-in Open Wire Detection and Temp. Protection (External NTC, Over Temp. Detection for Charge/ Discharge, Under Temp. Detection for Charging)

Li-ion Battery Second Protection ICs

Product Name	Number of Cells	Supply Current Typ. [μA]	Standby Current max. [μA]	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(PLP)1616-6B TSOT-23-6	
R5437 ♡ **R5438** ♡	1 to 3	0.85	0.1	4.10 to 4.65, ± 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 4.65, ± 20	4.7	Shutdown1 detector threshold:3.8 Shutdown2 detector threshold:2.3 to 2.8	DFN(PLP)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	
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
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)
NEW **R5642**	1 to 3	0.85	0.1	4.10 to 4.65, ± 15	4.7	3.5	DFN2020-6	

Battery Management AFEs

ProductName	Number of Cells	Supply Current Typ [μA]	Standby Current max. [μA]	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

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LED Driver / Controller

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

White LED Drivers

Part No.	Auto-motive	Key Features	Operating Voltage [V] min./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 to 5.5	1 Series	1	100	5.5	PWM	SOT-23-6-1	
NJW4615A ♡	–	Linear Type Constant Current	2.5 to 35	10 Series	1	100	35	PWM	SOT-23-6-1	
NJW4616 ♡	–	Linear Type Constant Current	2.5 to 40	10 Series	1	300	40	PWM	SOT-89-5-2	
NJW4617 ♡	–	Linear Type Constant Current	2.5 to 40	10 Series	1	500	40	PWM	TO-252-5-L3	

RGB LED Drivers

Part No.	Auto-motive	Operating Voltage [V] min./max. min.	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.	Auto-motive	Operating Voltage [V] min./max. min.	max.	Output Current [mA]	Output Port	Interface	Cascade	Package Outline	Notes
NJU3711A	–	2.4	5.5	25	8	Serial	–	SSOP14	
NJU3712A	–	2.4	5.5	25	8	Serial	Yes	SSOP16	
NJU3715A	–	2.4	5.5	25	16	Serial	–	SSOP24-C2	
NJU3719A	–	2.4	5.5	25	24	Serial	–	SSOP32	
NJW4828-B	–	3	5.5	300	8	Serial	–	HTSSOP24-P1	
NJW4829	–	3	5.5	300	8	Serial	Yes	HTSSOP24-P1	

LED Driver Controller

Part No.	Auto-motive	Input Voltage [V] min.	max.	Absolute Max. Ratings (V)	Max. SOURCE Pin Voltage Accuracy (mV)	Signal Input Circuit	Dimming Control (%)	Standby Current[μA] Typ.	Supply Current [μA] Typ.	Package Outline	Notes
R1580 ♡	✓	3.6	34	36	400 ± 8	Comparator Input, H=1.3 V, L=1.1 V	1 to 100	140	320	SOT-23-6	Industrial (-40℃ to 105℃) 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			

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

Audio Amplifiers

High Quality Audio Operational Amplifiers

Part No.	Automotive	No.of Circuit	Power Supply	Supply Voltage [V] min.	Supply Voltage [V] max.	Icc/ch. [mA]	V_{IO} [mV]	I_B [nA]	I_{IO}[nA]	SR [V/μsec]	GBW [MHz]	f_T [MHz]	Noise typ. V_{NI} [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
MUSES03	–	1	Dual	± 3.5	± 18	5.8	–	0.005	0.002	35	12	13	1	7.5	DIP8	THD(typ.)=0.00003% J-FET Input
MUSES8820	–	2	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
MUSES8920	–	2	Dual	± 3.5	± 17	4.5	5	0.005	0.002	25	11	10	1.1	8	DIP8, SOP8 JEDEC 150mil(EMP8) DFN8-X7(ESON8-X7)	THD(typ.)=0.0004% J-FET Input
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

Power Amplifiers/ Headphone Amplifiers

Part No.	Automotive	Operating Voltage [V] min.	Operating Voltage [V] max.	Channel	Output Power Po	Output Power V^+ [V]	Output Power R_L [ohm]	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), SIP8 SSOP8, MSOP8(VSP8)	
NJM2135	–	2	16	BTL 1ch.	400mW min.	12	100	Yes	Yes	Low Voltage Operation	DIP8, DMP8, SIP8 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	Electronic Volume	DMP20, SSOP20-F1 SSOP20	
NJM2166	–	2.7	8.5	BTL 1ch.	500mW typ.	5	8	Yes	Yes	Electronic Volume	SSOP14, MSOP10(VSP10)	
NJM2768B	–	2.8	5.5	2ch.	100mW typ.	5	16	–	Yes	Fix Gain 0dB typ.	DMP8, MSOP8(TVSP8)	
NJM2769B	–	2.8	5.5	2ch.	100mW typ.	5	16	–	Yes	Fix Gain 6dB typ.	DMP8, MSOP8(TVSP8)	
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)	
NJM2777	–	8	10	2ch.	100mW typ.	9	100	–	Yes	Electronic Volume	DIP14, DMP14, SSOP14	
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 Electronic volume	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	PLP♡:DFN8-V1 (ESON8-V1)
NJU72040	–	2.7	3.6	2ch.	80mW typ.	3.3	32	–	Yes	Output Coupling Capacitor-less Single-end/Differential Input Gain(+6.4dB/+12.4dB (RL=32ohm), +7.1dB/+13.1dB (RL=10kohm) 2Vrms output(RL=10kohm)	SSOP14	
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	Volume Single-end/Differential Input	MSOP10(TVSP10),SSOP20-C3	
NJW1109	–	7.5	10	2ch.	100mW typ.	9	100	–	Yes	Electronic Volume I^2C Bus Interface	DIP14, DMP14, SSOP14	

Class D Amplifiers

Part No.	Automotive	Operating Voltage [V] min.	Operating Voltage [V] max.	Channel	Input Signal	Output Power/Output Voltage Po	Vom	V^+ [V]	R_L [ohm]	C_L [nF]	Output Filter -less	Stand-by Function	Key Features	Package Outline
NJU72501	–	2.3	5	BTL 1ch.	PWM/ PDM	–	18Vpp typ.	3	–	15nF	–	Yes	Built in Charge Pump Adjust Output Voltage	EQFN12-JE, EQFN16-G2 SSOP14
NJU8754	–	2.7	5.25	BTL 1ch.	Analog	1.2W typ.	–	5	8	–	–	Yes	–	QFN20-M1, SSOP10
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
NEW **NJU8759A**	✓	1.8	5.5	BTL 1ch.	Analog	3W typ.	–	5	4	–	Yes	Yes	Single-end input Differential input corresponds	HSOP8-M1
NJU8789	–	1.8	4.5	BTL 1ch.	PWM/ PDM	500mW typ.	–	3.3	8	–	–	Yes	–	SSOP10
NJW1280	–	2	5.5	BTL 1ch.	PWM/ PDM	–	30Vpp typ.	5	–	30nF	–	Yes	Built in Charge Pump 30Vpp Differential Output	EQFN16-G2 MSOP10(TVSP10)

Line Amplifiers

Part No.	Automotive	Operating Voltage [V] min.	Operating Voltage [V] max.	Channel	Voltage Gain	Output Voltage Vom	Output Voltage V^+ [V]	Output Voltage R_L [ohm]	Output Coupling Capacitor -less	Pop Noise Suppression Circuit	Mute	Key Features	Package Outline
NJM2160B	–	6	12	2ch.	+8dB typ.	5.2Vrms typ.	9	10k	–	–	–	–	DMP16, SSOP16
NJM2792	–	6	11	4ch.	+8dB typ.	5.2Vrms typ.	9	10k	–	–	–	–	SSOP20
NJU72013	–	2.7	3.6	2ch.	+6.2dB typ.	2.3Vrms typ.	3.3	47k	Yes	Yes	Yes	–	MSOP10(TVSP10)
NJU72014	–	2.7	3.6	2ch.	+10.5dB typ.	2.3Vrms typ.	3.3	47k	Yes	Yes	Yes	–	MSOP10(TVSP10)
NJU72015	–	3	3.6	2ch.	Adjustable type	2.3Vrms typ.	3.3	10k	Yes	Yes	Yes	–	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 Single-end/Differential Input Gain(+6.4dB/+12.4dB (RL=32ohm), +7.1dB/+13.1dB (RL=10kohm) 2Vrms output(RL=10kohm))	SSOP14
NJW1230	–	2.7	3.6	2ch.(Audio) 1ch.(Video)	+6.2dB typ.	2.2Vrms typ.	3.3	47k	Yes	Yes	–	Audio: Ground Referenced Output Video: AC or DC Coupling Output	SSOP16
NJW1240	–	6	10	6ch.	+6dB typ. +8.3dB typ.	5Vrms min.	8	47k	Yes	Yes	Yes	–	SSOP32
NJW1241	–	6	10	BTL 3ch.	+12dB typ. +16dB typ.	10Vrms min.	8	47k	Yes	Yes	Yes	–	SSOP32

Microphone Amplifiers

Part No.	Auto motive	Operating Voltage [V] min./max.	Channel	Voltage Gain	Mute	Key Features	Package Outline
NJD2201	–	1 to 10	1ch.	– 4dB typ.	–	For ECM, THD (0.1% typ.)	ESON4-E1
NJM2173A	–	2.7 to 4.5	2ch.	+13dB typ. +29dB typ.	Yes	Built-in Regulator for Microphone	SSOP14
NJM2781	–	2.7 to 4.5	1ch.	Adjustable type	–	Built-in Regulator for Microphone	SSOP8, MSOP8(TVSP8)
NJM2783	–	2.7 to 13	1ch.	+20 to +63dB	–	Auto level control (ALC) function	SSOP14
NEW **NJU72090**	–	1.8 to 16	1ch.	+24 to +40dB	–	2-Wired, FET for impedance converter, Fine Tune Sensitivity	MSOP10(TVSP10)
NEW **NJU72097**	–	2.7 to 16	1ch.	+24 to +40dB	–	2-Wired, Fine Tune Sensitivity	MSOP10(TVSP10)
NJU7907A	–	4.5 to 16	1ch.	+24 to +40dB	–	2-Wire	EPFFP10-C4 MSOP10(TVSP10)

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Audio Amplifiers

Isolation Amplifiers

Part No.	Automotive	Operating Voltage [V] min./max.	Channel	Voltage Gain	Key Features	Package Outline
NJM2754	–	4.7 to 12	2ch. (4-Input,1-Output)	0dB typ.	CMRR=60dB typ.	SSOP20
NJM2794	–	4.3 to 13	2ch.	0dB typ.	CMRR=60dB typ.	SSOP14, MSOP10(TVSP10)
NJM2795	–	4.3 to 20	2ch.	+6 to +52dB	CMRR=80dB typ.	SSOP14

Audio Signal Processing

Electronic Volumes

Part No.	Auto-motive	Operating Voltage [V] min./max.	Ch.	Volume Range	Tone Control	Input Selector	Control	Function	Package Outline
MUSES72320	–	± 8.5 to ± 18 3 to 6	2	0 to -111.5dB (0.5dB step) +31.5 to 0dB (0.5dB step)	–	–	Three-wired Serial	Zero Cross Detection, Selectable external OPAmp	SSOP32
NJM2172	–	2.7 to 5.5	2	-3 to -95dB	–	–	DC Control	Include OpAmp	SSOP14
NUU72315	–	± 3 to ± 5.5 1.6 to 3.6	2	0 to -62dB (2dB step)	–	–	I²CC BUS	Zero Cross Detection, Soft-Step, Selectable external OPAmp	WCSP16
NJU72322	–	± 10 to ± 18 3 to 5.5	2	0 to -111.5dB (0.5dB step) +21 to 0dB (3dB step)	–	–	Three-wired Serial	Zero Cross Detection Selectable external OPAmp	SSOP32
MUSES72323	–	± 10 to ± 18 3 to 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 OPAmp	SSOP32
NJU72341	–	4.5 to 14.5	2	0 to -95dB (1dB step)	–	–	I²C BUS	Zero Cross Detection	SSOP14
NJU72342	–	4.5 to 14.5	4	0 to -95dB (1dB step)	–	–	I²C BUS	Zero Cross Detection	SSOP14
NJU72343	–	± 4.5 to ± 7.5 9 to 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 to ± 7.5	2	0 to -95dB (1dB step) 0,+3,+6,+12,+18,+24	–	–	Two-wired Serial	Zero Cross Detection	SSOP14
NJU7391A	–	4.7 to 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 to 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 to 5.5	2	+6 to -62dB	–	–	Push Button	Standby	SSOP20-C3
NJW1119A	–	± 4.5 to ± 7.5	2	-	0 to ± 12dB (1dB step)	–	Three-wired Serial	–	SSOP32
NJW1159	–	± 4.5 to ± 7.5	2	0 to -95dB (1dB step)	–	–	Three-wired Serial	Selectable external OPAmp	DIP16 DMP16 SSOP16
NJW1184	–	7.5 to 13	4	0 to -100dB (0.5dB step)	–	–	I²C BUS	VCA Volume	DMP20
NJW1190	–	8 to 13	2	0 to -44dB	3-Band 0 to ± 14dB (2dB step)	Stereo 5-input/1-Output	I²C BUS	Surround, Bass Boost	SSOP44
NJW1192	–	7.5 to 13	4	+6 to -30dB (1dB step) -30 to -68dB (2dB step)	2-Band 0 to ± 14dB (2dB step)	Stereo 3-input (Mono 1-input/1-Output)	I²C BUS	Loudness	SSOP32
NJW1194	–	± 4.5 to ± 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	–	SSOP32
NJW1195A	–	± 3.5 to ± 7.5 7 to 15	4	+31.5 to -95dB (0.5dB step)	–	Stereo 4-input/2-Output (Stereo 4-input/1-Output) (Differential 2-input/1-Output)	Three-wired Serial	Zero Cross Detection Differential transmission select function	SSOP32
NJW1200	–	2.7 to 5.5	2	0 to -78dB (2dB step)	–	Differential 2-input/1-Output	I²C BUS	eala Surround Bass Boost	SSOP32
NJW1201A	–	7.5 to 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 to ± 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 Processors

Part No.	Auto-motive	Function	Operating Voltage [V] min.	Operating Voltage [V] max.	Input [ch.]	Output [ch.]	NJR's Original Surround: eala	NJR's Original Surround: Base Boost	NJR's Original Surround: Simulated Surround	License: BBE	License: SRS 3D Steteo	License: SRS Tru-Surround	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
NJW1146A	–	3channel Output (Lch, Rch, Low Pass Filter Ch.)	8	13	2	3	Yes	–	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 Ineter Face	7.5	13	6	1	Yes	–	Yes		–	–	–	–	SSOP32
NJW1190	–	MIC.IN(Monaural), I²C Bus Ineter Face	8	13	5	2	Yes	Yes	–		–	–	–	–	SSOP44

Audio Signal Processing (3D Surround & Sound Enhancement ICs)

Part No.	Automotive	Function	Key Features	Operating Voltage [V] min./max.	Package Outline
NJM2150	–	Sound Enhancement Audio Processor	BBE	4.5 to 13	DMP20, SSOP20
NJM2150A	–	Sound Enhancement Audio Processor	BBE	4.5 to 13	DMP20, SSOP20
NJM2190	–	SRS Headphone Surround Processor	SRS Headphone	4.7 to 13	DIP16, DMP16, SSOP16
NJM2194	–	SRS Dialog Clarity Processor	SRS Dialog Clarity	4.7 to 13	DIP14, DMP14
NJM2199	–	SRS 3D Audio Processor	SRS 3DStereo	4.7 to 13	DMP14, SSOP14
NJM2702	–	3D Surround	eala Stereo	4.7 to 13	DIP14, DMP14, SSOP10
NJM2703	–	Headphone Surround	eala Headphone	1.8 to 6	MSOP10(TVSP10)

Audio Switches

Part No.	Automotive	Function	Operating Voltage [V] min./max.	Input	Output	Package Outline	Notes
NJM2750	–	Stereo Audio Selector	4.7 to 13	4	1	DMP16	
NJM2752	–	Stereo Audio Selector	4.7 to 10	2	1	SSOP14,MSOP10(TVSP10)	
NJM2753	–	Stereo Audio Selector	4.7 to 10	3	1	SSOP14	
NJM2754	–	Stereo Audio Selector With Ground Noise Isolation Amplifier	4.7 to 12	4	1	SSOP20	CMRR=60dB typ.
NJM2755	–	Stereo Audio Selector	4.7 to 10	4	1	SSOP16	
NJU72750A	–	Stereo Analog Switch 2-wired Serial BUS Control	± 4.5 to ± 7.5 9 to 15	7	3	SSOP32	
NJU72751A	–	Stereo Analog Switch 2-wired Serial BUS Control	± 4.5 to ± 7.5 9 to 15	4	4	SSOP32	
NJW1110	–	Stereo Audio Selector I²C Bus Interface Gain Control	7.5 to 15	9	3	SSOP32	
NJW1111	–	Stereo Audio Selector Three-wired Serial Gain Control	± 4.5 to ± 7.5	9	3	SSOP32	
NJW1112	–	Stereo Audio Selector Three-wired Serial Output switch	± 4.5 to ± 7.5	8	4	SSOP32	
NJW1156A	–	Stereo Audio Selector I²C Bus Interface Gain Control	4.75 to 13	5	1	SSOP20	

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Video Amplifiers

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

Part No.	Auto-motive	Function	Operating Voltage [V]		Ch.	Input			output			Gain [dB]	LPF	75ohm Driver	Package Outline
			min.	max.		V	S	C	V	S	C				
NJM2274	–	Low Operating Voltage Y/C MIX Sag Correction	2.8	5.5	1	–	1	–	1	–	–	12	–	Yes	MSOP8(VSP8)
NJM2274A	–	Low Operating Voltage Y/C MIX Sag Correction	2.8	5.5	1	–	1	–	1	–	–	6	–	Yes	MSOP8(VSP8)
NJM2504	✓	Video Differential Transmission Single-end Input Differential Output	4.5	9	1	1	–	–	2	–	–	6	–	Yes	MSOP8(TVSP8)
NJM2505A	–	Isolation Amplifier	4.5	9	1	1	–	–	1	–	–	0	–	–	SOT-23-5
NJM2507	✓	Video Differential Transmission Differential Input Single-end Output	4.5	9	1	2	–	–	1	–	–	6 (Reverse phase)	–	Yes	MSOP8(TVSP8)
NJM2512	✓	Low Operating Voltage 47uF AC-Coupling Capacitor	3	6	1	1	–	–	1	–	–	6	6th order	Yes	MSOP8(TVSP8)
NJM2512A	–	Low Operating Voltage 47uF AC-Coupling Capacitor	3	6	1	1	–	–	1	–	–	12	6th order	Yes	MSOP8(TVSP8)
NJM2515	–	Wide frequency range 3-input 1-output	4.5	5.5	3	–	–	3	–	–	1	6	Bypass 13.5MHz	Yes	SSOP32
NJM2516	–	47uF AC-Coupling Capacitor Sag Correction Wide band	4.5	9.5	3	–	–	1	–	–	1	6	4th order	Yes	SSOP20-C3
NJM2538	–	Y/C MIX Sag Correction	4.5 2.7	5.3	3	–	1	–	1	1	–	6	4th order	Yes	SSOP20
NJM2559	✓	Output Capacitor-less (0.5V DC Output) Power Supply Short-circuit Protection	4.5	5.5	1	1	–	–	1	–	–	12	6th order	Yes	MSOP8(TVSP8)
NJM2561	✓	Low Operating Voltage Sag Correction	2.8	5.5	1	1	–	–	1	–	–	6	6th order	Yes	DFN6-G1 (ESON6-G1) SOT-23-6-1
NJM2561A	–	Low Operating Voltage Sag Correction DC Coupling Screening Type	2.6	5.5	1	1	–	–	1	–	–	6	6th order	Yes	DFN6-G1 (ESON6-G1)
NJM2561B	–	DC Coupling Screening Type	2.6	5.5	1	1	–	–	1	–	–	6	6th order	Yes	SOT-23-6-1
NJM2562	✓	Low Operating Voltage Sag Correction	2.8	5.5	1	1	–	–	1	–	–	12	6th order	Yes	SOT-23-6-1
NJM2563	–	Low Operating Voltage Sag Correction	2.8	5.5	1	1	–	–	1	–	–	16	6th order	Yes	SOT-23-6-1
NJM2564	–	Dual Supply Voltage Y/C MIX Wide band	2.8 4.5 -5.5	3.5 5.5 -2.8	6	–	1	1	1	1	1	6	4th order	Yes	SSOP32
NJM2565	–	Sag Correction Y/C MIX Wide band	4.5	5.5	6	–	1	1	1	1	1	6	2nd order	Yes	SSOP32
NJM2566A	–	DC Interface for S2, RGB In Y/C MIX Wide band	4.5	5.5	6	1	1	1	1	1	1	6	4th order	Yes	SSOP32
NJM2567	–	Low Operating Voltage Y/C MIX Sag Correction	2.8	5.5	3	–	1	–	1	1	–	6	6th order	Yes	SSOP14
NJM2570A	–	Y/C MIX Sag Correction DC Output for Aspect Ratio	4.5	5.5	3	–	1	–	1	1	–	12	6th order	Yes	SSOP16
NJM2573	–	Low Operating Voltage CLAMP/BIAS Switch Sag Correction	2.8	5.5	3	1	1	–	1	1	–	6	2nd order	Yes	SSOP14
NJM2574	–	Low Operating Voltage CLAMP/BIAS Switch LPF/Through Switch	2.8	5.5	1	1	–	–	1	–	–	12	3rd order Bypass	Yes	MSOP8(TVSP8)
NJM2575	–	Low Operating Voltage Sag Correction	2.8	5.5	1	1	–	–	1	–	–	6	2nd order	Yes	SOT-23-6-1
NJM2580	–	High Definition Sag Correction	4.5	5.5	3	–	–	1	–	–	1	6	–	Yes	DIP14, DMP14 SSOP14
NJM2581	–	High Definition Dual Voltage	± 4.5	± 5.5	3	–	–	1	–	–	1	6	–	Yes	DIP14, DMP14

Part No.	Auto-motive	Function	Operating Voltage [V]		Ch.	Input			output			Gain [dB]	LPF	75ohm Driver	Package Outline
			min.	max.		V	S	C	V	S	C				
NJM2582	–	DC Output for SCART	4.5 -5.5 10.5	5.5 -4.5 11.5	4	1	1	1	1	1	1	6	3rd order	Yes	SSOP32
NJM2583A	–	High Definition Sag Correction Y/C MIX	4.5	5.5	6	–	1	1	1	1	1	6	4th order	Yes	SSOP32
NJM2589	–	LPF for 480p Sag Correction	4.5	5.5	6	1	1	1	1	1	1	6	4th order	Yes	SSOP32
NEW NJM41001T	✓	Low Voltage Wide Band	3	7	1	1	–	–	1	–	–	6	–	Yes	SOT-23-6-1
NJM41005T	✓	Isolation Amplifier with Video Driver	4.5	5.5	1	1	–	–	1	–	–	0	–	Yes	SOT-23-5
NJM41030	–	3dB Gain	4.5	5.5	1	1	–	–	1	–	–	3	–	–	SOT-23-6-1
NJM41031	–	Sag Correction	4.5	5.5	1	1	–	–	1	–	–	6	6th order	Yes	SOT-23-6-1
NJM41033	–	Low Operating Voltage Isolation Amplifier	2.6	5.5	3	3	–	1	3	–	1	0	–	–	SSOP14
NJM41035	–	Low Operating Voltage Isolation Amplifier Gain Adjust	2.7	9.5	1	1	–	–	1	–	–	ADJ	6th order	–	MSOP8(TVSP8)
NJM41041	–	High Definition Y/C MIX	4.5	5.5	4	1	1	1	1	–	1	6	2nd order(SD) 3rd order(HD)	Yes	SSOP20-C3
NJM41042	–	High Definition Auto Power Save DC-Coupling	4.5	5.5	4	1	–	1	1	–	1	6	2nd order(SD) 3rd order(HD)	Yes	SSOP20-C3
NJM41045	–	High Definition Wide band(to 400MHz)	4.5 ± 3	9.5 ± 5	3	–	–	1	–	–	1	6	–	Yes	SSOP20-C3
NJU71031	–	Low Operating Voltage Output Capacitor-less (0V DC Output)	2.5	3.45	1	1	–	–	1	–	–	6	3rd order	Yes	MSOP8(TVSP8), DFN8-U1(ESON8-U1)
NJU71032	–	Low Operating Voltage Output Capacitor-less (0V DC Output)	2.5	3.45	1	1	–	–	1	–	–	12	3rd order	Yes	MSOP8(TVSP8)
NJU71041	–	Output Capacitor-less(0V DC Output) Coaxial Receiver	2.5	3.45	1	1	–	–	1	–	–	6	3rd order	Yes	MSOP10(TVSP10)
NJU71042	–	Output Capacitor-less(0V DC Output) Coaxial Receiver	2.5	3.45	1	1	–	–	1	–	–	12	3rd order	Yes	MSOP10(TVSP10)
NJU71044	–	Output Capacitor-less(0V DC Output) Coaxial Receiver	2.5	3.45	1	–	1	–	1	–	–	12	3rd order	Yes	MSOP10(TVSP10)
NJU71074	–	Y/C MIX Output Capacitor-less(0V DC Output)	2.5	3.45	1	–	1	–	1	–	–	12	3rd order	Yes	MSOP10(TVSP10)
NJU71091T1	✓	1ch. Video Driver with Short to Battery Protection	2.65	3.45	1	1	1	–	–	1	–	–	6th order	Yes	DFN8-U1(ESON8-U1)
NJU71094T1	✓	Differential Output Video Driver with Short to Battery Protection	2.65	3.45	2	2	1	–	–	2	–	–	6th order	Yes	DFN8-W1(ESON8-W2)
NJW1230	–	Video: AC or DC Coupling Output Audio: Ground Referenced Output	2.8	3.6	1 (Video)2 (Audio)	1	–	–	1	–	–	6	6th order 1st order	Yes	SSOP16
NJW1350	–	Low Operating Voltage Output Capacitor-less (0V DC Output)	2.5	3.45	1	1	–	–	1	–	–	12	6th order	Yes	DFN10-K1(SON10-K1), MSOP8(TVSP8)
NJW1351	✓	Low Operating Voltage Output Capacitor-less (0V DC Output)	2.5	3.45	1	1	–	–	1	–	–	6	6th order	Yes	DFN10-K1(SON10-K1), MSOP8(TVSP8) DFN8-U1(ESON8-U1)
NJW1352	–	Low Operating Voltage Output Capacitor-less (0V DC Output)	2.5	3.45	1	1	–	–	1	–	–	9	6th order	Yes	DFN10-K1(SON10-K1), MSOP8(TVSP8)
NJW1353	–	Low Operating Voltage Output Capacitor-less (0V DC Output)	2.5	3.45	1	1	–	–	1	–	–	16	6th order	Yes	DFN10-K1(SON10-K1), MSOP8(TVSP8)

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Video Amplifiers

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

Part No.	Auto-motive	Function	Operating Voltage [V] min.	Operating Voltage [V] max.	Input V	Input S	Input C	output V	output S	output C	Clamp [dB]	Bias	6dB AMP	75ohm Driver	Package Outline
NJM2526	–	Isolation Amplifier for CVBS	4.5	9	4	–	–	1	–	–	Yes	–	–	–	SSOP16
NJM2533	–	–	4.75	13	2	–	–	1	–	–	–	Yes	–	–	DIP8, DMP8, SIP8, SSOP8
NJM2534	–	–	4.5	13	3	–	–	1	–	–	–	Yes	–	–	DIP8, DMP8, SIP8, SSOP8
NJM2535	–	–	4.5	13	3	–	–	1	–	–	Yes	–	–	–	DIP8, DMP8, SIP8, SSOP8
NJM2584A	–	High Definition	4.5	9	–	–	–	–	–	1	Yes	Yes	–	–	DMP16
NJM2586A	–	High Definition	± 4.5	± 5.5	–	–	–	–	–	1	–	Yes	Yes	Yes	SDIP22, SSOP20-C3
NJM2595	–	Dual Power Supply	± 4	± 6.5	5	–	–	3	–	–	–	Yes	Yes	Yes	DMP16
NJM41010	–	–	4.5	9.5	2	–	–	1	–	–	Yes	–	Yes	Yes	SOT-23-6-1
NJM41050	✓	LPF Mute 47uF AC-Coupling Capacitor	4.5	9.5	3	–	–	1	–	–	Yes	–	Yes	Yes	SSOP14
NJW1327	–	Wide band I²C BUS control function	3 -3	3.45 -5.5	9	–	6	5	–	4	–	Yes	Yes	Yes	QFP100-U1
NJW1328	–	Wide band Differential input Signal Detector I²C BUS control function	4.5	5.5	7	–	3	3	–	2	Yes	Yes	Yes	Yes	LQFP52-H2
NJW1329	–	Wide band Signal Detector I²C BUS control function	3 -3	3.45 -5.5	7	–	3	2	–	1	–	Yes	Yes	Yes	LQFP52-H3
NJW1340	–	I²C BUS control function 6th order LPF	4.5	5.5	5	3(x2)	–	1	1	–	Yes	Yes	–	–	SSOP32
NJW1341	–	47uF AC-Coupling Capacitor Isolation Amplifier I²C BUS control function	4.5	9.5	8	–	–	2	–	–	–	Yes	Yes	Yes	SSOP20-C3

Audio & Video misc.

Part No.	Automo-tive	Key Features	Operating Voltage [V] min.	Operating Voltage [V] max.	Package Outline	Notes
NJD2201	–	For ECM, THD (0.1% typ.)	1	10	DFN4-E1(ESON4-E1)	
NJM2529	–	NTSC/PAL Matching, Y/C Separating Circuit	4.75 11 -5.25	5.25 13 -4.75	QFP64-H1	
NJM2761	–	Audio Limiter (Speaker Protection),Limit Level: 0.2 to 1Vrms Mixed L+Rch signal detection	2.7	13	SSOP14, MSOP10(TVSP10)	
NJM2762	–	Speaker Protection Limit Level:0.2 to 1Vrms 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	

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FM IF Demodulator ICs

Part No.	Auto-motive	Function	Key Features	Operating Voltage [V] min./max.	Operating Current [mA] typ.	IF	Mixer	RSSI	Filter Amp	FSK Comp	Quick Charge	Other	Package Outline
NJM14570	–	Wide Band FM IF Demodulator	Up to 15MHz IF	1.8 to 9	2.9	10.7kHz	–	Yes	–	–	–	–	MSOP8(TVSP8)
NJM2292	–	Narrow Band FM IF	-	1.8 to 7	2	455kHz	Up to 100MHz	Yes	Yes	–	–	Squelch	SSOP20
NJM2294	–	FM IF for Pager	Suitable for battery use	1.1 to 4	0.6	455kHz	–	Yes	Yes	Yes	–	Battery Save Battery Alarm	SSOP16
NJM2295A	–	FM IF for Remote Keyless Entry System	Suitable to 10.7MHz application	2.7 to 7	5	10.7MHz	Up to 450MHz	Yes	Yes	Yes	Yes	Battery Save	SSOP20
NJM2537	–	FM IF for Pagers	Suitable for battery use	1.1 to 4	1.2	455kHz	Up to 50MHz	Yes	Yes	Yes	–	Battery Save Battery Alarm	SSOP20
NJM2549	–	Wide Band FM IF Demodulator	Up to 15MHz IF	2.7 to 9	3	10.7MHz	–	Yes	–	–	–	–	MSOP10(TVSP10)
NJM2550	–	10.7MHz Input FM IF Demodulator	IF 5MHz to 50MHz Adjust RSSI 's Thermal Characteristics	2 to 9	4.4	10.7MHz	–	Yes	Yes	Yes	Yes	–	SSOP16
NJM2552	–	100MHz Input Mixer and 450kHz FM/AM IF Demodulator	Up to 2MHz IF Built-in AM demodulator	2.2 to 9	2.5(FM) 5(AM)	450kHz	Up to 100MHz	Yes	Yes	–	–	AM AGC AM SW	SSOP20
NJM2590	–	455kHz Input FM IF Demodulator	Low current/voltage	1.6 to 5.5	0.55	455kHz	–	Yes	Yes	Yes	Yes	RSSI Comparator	SSOP14
NJM2591	–	100MHz Input 450kHz FM IF Demodulator for Voice	Low current	1.8 to 9	2.5	450kHz	Up to 100MHz	Yes	Yes	–	–	Noise Detector Noise Comparator	SSOP16
NJM2592	–	470MHz Input Mixer and 455kHz FM IF Demodulator	50 ohm Mixer Input Imp.	1.8 to 9	2.2	455kHz	Up to 470MHz	Yes	Yes	Yes	Yes	RSSI Comparator	SSOP20
NJM2593	–	50MHz Input Mixer and 450kHz FM IF Demodulator	Low current/voltage	1.8 to 9	1.2	450kHz	Up to 50MHz	Yes	Yes	Yes	Yes	RSSI Comparator	SSOP20
NJM2597	–	455kHz Input FM IF Demodulator	Low current/voltage	1.6 to 5.5	0.55	455kHz	–	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 to 5.5	23	1.5M to 15M	–	–	–	–	–	Low Noise Amp. for Voice	SSOP14

Amplifier/ PLL ICs

Part No.	Auto-motive	Function	Key Features	Operating Voltage [V] min./max.	Operating Current [mA] typ.	Operating Frequency (Reference) [MHz]	Amp	Mixer	PLL	Package Outline
NJM2275	–	VHF/UHF Band RF Amplifier	Cascode Amplifier Built-in Bias Circuit Peak for External CL	1.8 to 6	0.8	Up to 800			–	SOT-23-6-1
NJM2278	–	20mW Power Amplifier	Down Converter Built-in Bias Circuit Peak for External CL	2 to 5.5	20	300 to 500			–	SOT-23-6-1
NJM2287	–	100MHz Input Mixer and 450kHz IF Gain Control IC	Dynamic range (Up to 80dB) Built-in RSSI	2.7 to 5.5	4.7	RF: Up to 100 IF: 0.45			–	SSOP14
NJW1504	–	PLL Synthesizer with I²C Bus for TV Tuner	Prescaler up to 1GHz 36V max. Tuning Voltage Output	4.5 to 5.5	15	80 to 1000			Yes	SSOP16

Modulation /Demodulation /Mixer ICs

Part No.	Auto-motive	Function	Key Features	Operating Voltage [V] min./max.	Operating Current [mA typ.	Operating Frequency (Reference) [MHz]	Mixer	Modulation /Demodulation	Package Outline
NJM2288	–	300/400MHz Band Down Mixer with Amplifier	Low Current Gain Flatness for Temp.	2 to 5.5	2.8	300MHz to 500MHz			SOT-23-6-1
NJM2299	–	Wave Shaping Circuit for FSK	Low data error rate Short wake-up time	1.8 to 5.5	0.6	Up to 2kHz (Up to 4kbps)			MSOP10(TVSP10)
NJM2519A	–	RF Modulator for VHF Band	–	4.5 to 5.5	15.3	–	–	Modulation	DMP8
NJM2536A	–	RF Modulator for VHF Band	Carrier-off switch External ANT switch drive output	4.5 to 5.5	16	–	–	Modulation	DMP14, SSOP14
NJM2542	–	VIF/SIF Demodulator	AFT: Adjustment Free FM-PLL Demodulator: Adjustment Free	4.75 to 5.25	51	–	–	Demodulation	SSOP20
NJM2594	–	Double Balanced Modulation/ Demodulation	Up to 200MHz Mod/ Demod/ Doublers	4.5 to 9	11	Up to 200MHz	Yes	Yes	DMP8, SSOP8
NJU7512	–	1200 bps MSK Modem for Data Communication	High Receiving Sensitivity Noise Susceptibility	1.8 to 5.5	1.9	1200Hz/1800Hz (1200bps)	–	Modem	SSOP20
NJW2307	–	FM modulation/ Demodulation with PLL	Adjustment needlessness Built-in VCO, PLL, AFC	3.8 to 5.5	Mod: 9 Dem: 9.5	2.3MHz 2.8MHz	–	Modem	SSOP20-C3

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Power Line Communication IC

Part No.	Auto-motive	Key Features	Operating Voltage [V]		Operating Current1 (Transmit) [mA]	Operating Current2 (Transmit) [mA]	Transmit Amplifier					Receive Amplifier				Package Outline
			min.	max.			Zo [ohm]	VIO [mV]	IB [μA]	SR [V/us]	GBW [MHz]	Noise Figure [dB]	SR [V/us]	GBW [MHz]	THD [%]	
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 Amplifier

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	2x2.5x0.7	EMCM10-EC

Front-End Modules

Part No.	Auto-motive	Applications	Gain [dB]	NF [dB]	P-1dB [dBm]	IIP3 [dBm]	Frequency 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	2.5x2.5x0.63	HFFP10-CD	
NJG1159PHH	–	GNSS (GPS/ GLONASS/ BeiDou/ Galileo)	Gain(2.8V)/ (1.8V) 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	1.5x1.1x0.5 (max.)	HFFP10-HH	
NEW NJG1159PHH-A	✓	GNSS (GPS/ GLONASS/ BeiDou/ Galileo)	Gain(2.8V) 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	1.5x1.1x0.5 (max.)	HFFP10-HH	
NEW 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	2.5x2.5x0.63	HFFP10-CD	
NJG1168PCD	–	GPS	18/17	1.65/1.70	-12/-15	+1/-4	1575	2.8/1.8	2.4/1.8	2.5x2.5x0.63	HFFP10-CD	

Low Noise Amplifiers

GNSS(Global Navigation Satellite System)

Part No.	Auto-motive	Applica-tions	Gain [dB] typ.	NF [dB] typ.	P-1dB [dBm] typ.	IIP3 [dBm] typ.	Frequency Range [MHz]	Operating Voltage [V]	Operating Current [mA] typ.	Package Size [mm]	Package Outline	Notes
NJG1107HB3	–	GNSS	17	1.1	–	-4	1575	2.7	2.5	1.5x1.5x0.75	USB8-B3	
NJG1107HB6	–	GNSS	17	1.1	–	-4	1575	2.7	2.5	1.5x1.5x0.55	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	2.1x2.0x0.75	FLP6-B2	
NJG1108HA8	–	GNSS/ WLAN/ WIMAX	19	1	-15	0	1575	2.7	2	1.0x1.2x0.38	USB6-A8	Stand-by function
NJG1117HA8	–	GNSS	19.5	0.7	-16.5	-2	1575	2.7	3	1.0x1.2x0.38	USB6-A8	
NJG1130KA1	–	GNSS	29	0.65	+11(out)	+14(OIP3)	1575	2.85	5	1.6x1.6x0.6	FLP6-A1	
NJG1143UA2	–	GNSS	20/19	0.7/0.75	-16.5/-19.5	-2/-6	1575	2.85/1.8	4/3	1.0x1.0x0.37	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	1.6x1.6x0.55	FLP6-A1	
NJG1150UA2	–	GNSS	16/16	0.6/0.6	-7/-9	+1/-1	1575	2.8/1.8	4.9/4.2	1.0x1.0x0.37	EPFFP6-A2	Stand-by function
NJG1155UX2	–	GNSS	19/18.5	0.75/0.75	-12.5/-16	-1.5/-5	1575	2.8/1.8	3.5/3.1	1.1x0.7x0.37	EPFFP6-X2	Stand-by function
NEW 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	1.6x1.6x0.397	DFN6-G1 (ESON6-G1)	

Digital Mobile TV

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]	Operating Voltage [V]	Operating Current [mA] typ.		Package Size [mm]	Package Outline
			H	L		H	L	H	L			H	L		
NJG1129MD7	–	Digital Mobile TV	15	-4	1.4	-6	+12	+1	+20	470 to 770	2.8	5	16uA	1.6x1.6x0.397	EQFN14-D7
NJG1131HA8	–	Digital Mobile TV	10	–	1.4	-5	–	+5	–	470 to 770	2.7	3.4	–	1.0x1.2x0.38	USB6-A8
NJG1134HA8	–	Digital Mobile TV	10	-0.6	1.2	-5	–	+5	+23	470 to 770	2.8	4	10uA	1.0x1.2x0.38	USB6-A8
NJG1139UA2	–	Digital Mobile TV	14	-2	1.2	-12	+15	-4	+30	470 to 770	1.8	3.5	11uA	1.0x1.0x0.37	EPFFP6-A2
NJG1142KA1	–	Digital Mobile TV	14	-1	1.5	0	+17	+2	+22	170 to 900	2.8/1.8	6	11uA	1.6x1.6x0.55	FLP6-A1

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TV Tuner/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]	Operating 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	–	1.6x1.6x0.55	FLP6-A1
NJG1145UA2	–	TV Tuner/ STB	15	-1	1.5	0	+15	+10	+30	90 to 2150	2.8	20	11uA	1.0x1.0x0.37	EPFFP6-A2
NJG1146KG1	–	TV Tuner/ STB	12	-1	2.2	+6	+16	+22	+33	40 to 900	5	60	30uA	1.6x1.6x0.397	DFN6-G1 (ESON6-G1)
NJG1151MD7	–	TV Tuner/ STB	6	–	2.5	+7	–	+20	–	40 to 1000	5	100	–	1.6x1.6x0.397	EQFN14-D7
NJG1152KA1	–	TV Tuner/ STB	18	-1	0.9	-5	+15	+7	+30	40 to 900	3.3	20	17uA	1.6x1.6x0.55	FLP6-A1
NJG1162K64	–	TV Tuner/ STB	13	-1	2.2	+4	+16	+20	+33	40 to 1000	3.3	50	20uA	1.5x1.5x0.375	DFN8-64
NEW NJG1740MHH	–	TV Tuner/ STB	18	-1	0.9	–	–	-5	1	40 to 780	5	40	10	3.4x2.6x0.7	EQFN26-HH

Cellular

H: High gain mode L: Low gain mode

Part No.	Auto-motive	Applica-tions	Gain [dB] typ.		NF [dB] typ.		P-1dB [dBm] typ.		IIP3 [dB] typ.		Fre-quency Range [MHz]	Oper-ating Voltage [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	1.5x1.5x0.55	USB8-B6
NJG1127HB6	–	Cellular	15	-2.5	1.4	2.5	+9	+8	+11	+19	800	2.8	10	1uA	1.5x1.5x0.55	USB8-B6
NJG1128HB6	–	Cellular	15	-3	1.4	3	+9	+8	+11	+21	410	2.8	10	1uA	1.5x1.5x0.55	USB8-B6
NJG1133MD7	–	Cellular	16 16 16 16	-3.5 -4 -3 -3	1.35 1.35 1.4 1.55	3.5 4 3 3	-11.5 -8 -9.5 -9	+14 +16 +17 +16	+0.5 0 -2 0	+12 +15 +12 +15	2140 1860 885 1495	2.8	2.3	48uA	1.6x1.6x0.397	EQFN14-D7
NJG1135MD7	–	Cellular	16 16	-2.5 -3.5	1.4 1.4	2.5 4	-4 -6	+10.5 +8.5	+10 +8	+19 +17	880 1960	2.8	10	30uA	1.6x1.6x0.397	EQFN14-D7
NJG1138HA8	–	Cellular	16	-3	1.4	3	-8.5	+16	0	+14	942.5	2.8	2.3	10uA	1.0x1.2x0.38	USB6-A8
NJG1169UX2	–	3G/LTE	12.5	-2.5	0.8	–	+1.0	–	0	–	880	2.8	4.8	15uA	1.1x0.7x0.37	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	1.1x0.7x0.37	EPFFP6-X2
NJG1173UX2	–	Cellular	13.5	-3.5	1	–	-10	+10	+5	+18	3500	2.8	5	15uA	1.1x0.7x0.37	EPFFP6-X2
NJG1175KG1	–	LTE/WLAN	16	-5.5	0.95	–	-5	+9	+9	+14	5500	3.3	13	20uA	1.6x1.6x0.397	DFN6-G1 (ESON6-G1)
NJG1182UX2	–	LTE/WLAN	15	-3.5	1.1	–	-11	+7.5	+2	+18	5500	2.8	5	20uA	1.1x0.7x0.37	EPFFP6-X2

WLAN/WiMAX

H: High gain mode L: Low gain mode

Part No.	Auto-motive	Applica-tions	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	Notes
			H	L		H	L	H	L			H	L			
NJG1148MD7	–	WLAN	12.5	-5	1.5	-5	+10	+5	+10	4900 to 5950	3.3	7	5uA	1.6x1.6x0.397	EQFN14-D7	
NJG1175KG1	–	Cellular/ WLAN	16	-5.5	0.95	-5	+9	+9	+14	5500	3.3	13	20uA	1.6x1.6x0.397	DFN6-G1 (ESON6-G1)	
NJG1182UX2	–	Cellular/ WLAN	15	-3.5	–	-11	+7.5	+2	+18	5500	2.8	5	20uA	1.1x0.7x0.37	EPFFP6-X2	
NJG1730MD7	–	WLAN	15	-6	1.6	-4	+9	+7	+13	2400 to 2500	3.6	10	4uA	1.6x1.6x0.397	EQFN14-D7	SP3T Switch + LNA
NJG1739K51	–	WLAN	12	-8.5	2.5	0	+15	+9	+14	4900 to 5900	3.6	8	4uA	2.0x2.0x0.375	QFN12-51	SPDT Switch + LNA

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RF Switches

Part No.	Auto-motive	Function	P-0.1dB [dB] typ.	Power Level	Insertion Loss [dB] typ.	Isolation [dB] typ.	Frequency Range [MHz]	Package Size [mm]	Package Outline
NJG1512HD3	–	SPDT Switch	20	Low Power	0.6@1.0GHz	44@1.0GHz	0.001 to 3	2.0x1.8x0.85	USB6-D3
NJG1608KB2	–	SPDT Switch	27	Middle 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	2.1x2.0x0.75	FLP6-B2
NJG1615HA8	–	SPDT Switch	27	Middle Power	0.55@5.85GHz	25@2.5GHz	0.1 to 6	1.0x1.2x0.38	USB6-A8
NJG1617K11	–	DPDT Switch	31	High Power	0.75@6GHz	25@6GHz	0.1 to 6	3.0x3.0x0.75	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	1.5x1.5x0.55	USB8-B6
NJG1647HD3	–	SPDT Switch	36	High Power	0.25@0.9GHz 0.3@1.9GHz	25@0.9GHz 20@1.9GHz	0.2 to 3	2.0x1.8x0.8	USB6-D3
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	1.5x1.5x0.55	USB8-B6
NJG1649HB6	–	SPDT Switch	29	Middle 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	1.5x1.5x0.55	USB8-B6
NJG1650HB6	–	SP3T Switch	28	Middle 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	1.5x1.5x0.55	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	2.0x2.0x0.397	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	1.6x1.6x0.397	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	1.0x1.2x0.38	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	1.6x1.6x0.397	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	1.6x1.6x0.397	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	1.6x1.6x0.397	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	1.6x1.6x0.397	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	1.6x1.6x0.397	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	1.6x1.6x0.397	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	2.0x2.0x0.397	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	1.8x1.8x0.397	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 to1990MHz 33@452 to 2690MHz	0.2 to 3	2.6x3.4x0.7	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	1.6x1.6x0.397	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	2.0x2.0x0.397	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	1.0x1.0x0.38	ESON6-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	1.6x1.6x0.397	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	1.55x1.15x0.55	EPCSP10-B2
NEW NJG1801AKG-CA	✓	SPDT Switch	31	Middle 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	0.05 to 8.5	1.6x1.6x0.78	ESON6-GC
NEW NJG1801BKG-CA	✓	SPDT Switch	31	Middle 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	0.05 to 8.5	1.6x1.6x0.78	ESON6-GC
NJG1801K75	–	SPDT Switch	31	Middle Power	0.35@2.4 to 2.5GHz 0.45@4.9 to 5.9GHz	28@2.4 to 2.5GHz 30@4.9 to 5.9GHz	0.05 to 6	1.0x1.0x0.375	ESON6-75
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	2.0x2.0x0.375	QFN12-51
NJG1804K64	–	SP3T Switch	29	Middle 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	1.5x1.5x0.375	ESON8-64
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	1.0x1.0x0.375	ESON6-75
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	1.1x1.1x0.425	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	2.0x2.0x0.397	EQFN18-E7
NEW NJG1812AMET-A	✓	DPDT Switch	36	High Power	0.25@900MHz 0.35@1900MHz 0.45@2700MHz	25@900MHz 20@1900MHz 17@2700MHz	0.2 to 3	2.0x2.0x0.78	EQFN12-ET
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	2.0x2.0x0.397	EQFN12-E4
NJG1813KG1	–	DPDT Switch	30	Middle Power	0.45@920MHz	30@920MHz	0.05 to 3	1.6x1.6x0.397	EQFN6-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	1.6x1.6x0.397	EQFN14-D7
NEW NJG1815AK75-A	✓	SPDT Switch	31	Middle 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	1 to 6	1.0x1.0x0.375	ESON6-75
NJG1815K75	–	SPDT Switch	31	Middle 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	1.0x1.0x0.375	ESON6-75
NEW NJG1816K75	–	SPDT Switch	30	Middle Power	0.45@920MHz	30@920MHz	0.05 to 3	1.0x1.0x0.375	ESON6-75
NEW 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	2.0x2.0x0.397	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	2.0x2.0x0.397	EQFN14-ER

* With balanced mode operation

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Motor ICs

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Actuator / Gate Drivers

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	Number of channel	max.	Absolute Maximum Rating	Operating Voltage min.	Operating Voltage max.		
NJU7325A4:K17	–	BTL	2	0.6	7	2.4	5.5	–	MSOP8(VSP8), MSOP8(TVSP8), DFN8-V1(ESON8-V1)
NJU7381A	–	Half Bridge	4	0.4	7	1.8	5.5	–	SSOP16, EQFN16-JE
NJU7385	–	Half Bridge	4	0.7	9	3	8	2.5 to 5.5	SSOP20-C3
NJU7386	–	Half Bridge	2	1.5	7	1.8	5.5	–	MSOP8(TVSP8)
NEW NJU7386A	–	Half Bridge	2	1.7	7	1.8	5.5	–	DFN8-V1(ESON8-V1)
NJW4381	✓	Half Bridge	4	1.5	40	8	36	–	SSOP32
NJW4801	–	Half Bridge	1	0.45	40	8	35	–	MSOP8(VSP8)
NJW4810A	–	Half Bridge	2	1	45	8	40	–	HSOP8-M1
NJW4813	–	Half Bridge	2	0.2	40	8	35	2.7 to 5.5	PCSP20-E3
NJW4814	–	Half 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.	Automo-tive	Operating Temperature Range [℃]	External FET Type	Channei	Output Current [A] max.	Supply Voltage [V]		Package Outline
						Absolute Maximum Rating	Operating Voltage min./max.	
NJW4840	✓	-40 to +105	Low Side Nch.	1	4	24	8 to 20	MSOP8(VSP8)
NJW4841 ♡	✓	-40 to +85	Low Side Nch.	1	2	40	4 to 20	MSOP8(VSP8)
NJW4860	–	-40 to +125	Low Side Nch.	2	1	40	4 to 20	HSOP8-M1, DFN8-V1(ESON8-V1)

Stepper Motor Drivers

Bipolar

Part No.	Auto-motive	Output Cur-rent [A]	Motor Voltage			Logic Voltage[V]	Num-ber of Mo-tors	key Features				Package Out-line	Notes
		max.	Absolute Maxi-mum Rating [V]	Operating Voltage [V]				Input Mode	Exitation Mode	Constant Current			
				max.	min.					VR Input	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	
NJW4375	–	0.8(Bipolar) 1.5(Unipolar)	40	10	36	2.7 to 5.5	1	SPI	2/1-2	Yes	Data	SDIP22, 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 SDIP22	PLP♡:HTSSOP24-P1

Unipolar

Part No.	Automo-tive	Output Current [V] max.	Motor Voltage [V]		Logic Volt-age [V]	Number of Motors	Key Features				Package Outline
			Absolute Maxi-mum Rating	Operating Volt-age min./max.			Input Mode	Excitation Mode	Constant Current		
									VR Input	Current Select	
NJW4350	–	1.5	55	5 to 50	4.5 to 5.5	1	CLK	2/1-2	–	–	DIP16
NJW4351	–	1.5	55	to 50	2.7 to 5.5	1	CLK	2/1-2	–	–	SSOP20-C3

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Controllers

Part No.	Automotive	Logic Voltage [V]	Number of Motors	Key Features			Package Outline
				Input Mode	Output Mode	Excitation Mode for Motor Driver	
NJU7380	–	4.75 to 5.25	1	CLK	Phase +EN	2/1-2	DMP14

Three-Phase BLDC Motor Drivers

Pre-Drivers

Part No.	Auto-motive	Operating Temperature Range[℃]	Phase Input	Supply Voltage [V]		Output Drive Mode	Lead Angle	Package Outline	Notes
				Absolute Maxi-mum Rating	Operating Voltage min./max.				
NJM2624A ♡	–	-25 to +85	2Inx3	20	4.5 to 18	120° Square Wave	–	DIP16, DMP16, SSOP16	PLP♡:SSOP16
NJM2626	–	-40 to +85	1Inx3	28	6 to 26	120° Square Wave	–	SSOP16, SSOP20-C3	
NJM2627	–	-40 to +85	2Inx3	15	4.5 to 14	120° Square Wave	–	DIP16, DMP16, SSOP16	
NJW4303 ♡	–	-40 to +85	2Inx3	40	9 to 35	120° Square Wave	–	SSOP32	
NJW4305A	✓	-40 to +105	2Inx3	40	7.3 to 36	120° Square Wave	–	SSOP20-C3	
NJW4315T1	✓	-40 to +125	2Inx3	40	6.3 to 36	120° Square Wave	–	EQFN24-LE	
NJU7387	–	-40 to +105	2Inx3	7	4.5 to 5.5	150° Square Wave	Yes	SSOP20-C3	External FET: High Side Nch. + Low Side Nch. (Bootstrap Circuit)
NJU7388B ♡	–	-40 to +105	2Inx3	7	4.5 to 5.5	150° Square Wave	Yes	SSOP20-C3	External FET: High Side Pch. + Low Side Nch.

Single-Phase / Two-Phase Unipolar BLDC Motor Pre-Drivers

Single-Phase BLDC Motor Drivers

Part No.A2:P3	Auto-motive	Operating Temperature Range [℃]	Output Current [A]		Motor Voltage [V]		Trapezoi-dal Output Form	Speed Control	Lock Protection	Start up Assist	Package Outline
			typ.	max.	Absolute Maxi-mum Rating	Operating Volt-age min./max.					
NJM2660A	–	-40 to +85	Pre-Drive	-	36	4.5 to 30	Linear	Yes (D-PWM)	Yes (External Capacitor)	–	DMP16, SSOP16
NJU7325	–	-40 to +85	0.25	0.6	7	2.4 to 5.5	Linear	–	–	–	MSOP8(VSP8), MSOP8(TVSP8), DFN8-V1(ESON8-V1)
NJU7326	–	-40 to +85	0.25	0.6	7	2.4 to 5.5	Linear	–	–	–	MSOP8(VSP8), MSOP8(TVSP8)
NJU7329B	–	-40 to +85	0.35	0.6	7	2.4 to 5.5	Linear	–	Yes (External Capacitor)	–	MSOP10(TVSP10)
NJU7342	✓	-40 to +85	0.25	0.6	7	2.4 to 5.5	Linear	–	–	–	MSOP8(VSP8), MSOP8(TVSP8)
NJU7356	–	-40 to +85	0.4	1	7	2.2 to 5.5	Linear	–	Yes	–	MSOP8(TVSP8)
NJU7360	–	-40 to +85	0.25	0.6	7	2.2 to 5.5	Linear	–	–	–	MSOP8(TVSP8)
NJU7364	–	-40 to +85	0.25	0.6	7	2 to 5.5	Linear	–	–	–	MSOP8(TVSP8), DFN8-U1(ESON8-U1)
NJU7365	–	-40 to +85	0.35	1	7	2 to 5.5	Linear	Yes (D-PWM)	Yes	–	MSOP8(TVSP8)
NJU7366	–	-40 to +85	0.25	0.6	7	2 to 5.5	Linear	Yes (A-PWM)	–	Yes	MSOP8(TVSP8)
NJU7367	–	-40 to +85	0.35	0.7	7	2 to 5.5	Linear	Yes (D-PWM)	Yes	–	MSOP8(TVSP8)
NJU7367A	–	-40 to +85	0.35	0.7	7	2 to 5.5	Linear	Yes (D-PWM)	Yes	Yes	MSOP8(TVSP8)
NJU7367B	✓	-40 to +105	0.35	0.7	7	2 to 5.5	Linear	Yes (D-PWM)	Yes	Yes	MSOP8(TVSP8)
NJW4320 ♡	–	-40 to +105	0.3	0.7	40	6 to 36	Switching	Yes (D-PWM)	Yes	Yes	SSOP16
NJW4321 ♡	–	-40 to +105	0.3	0.7	40	6 to 36	Switching	Yes (D-PWM/ A-PWM)	Yes	Yes	SSOP16

Two-Phase Unipolar BLDC Motor Pre-Drivers

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

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Optoelectronic Devices

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Photo Diodes

Part No.	Absolute Maximum Ratings VR [V]	Peak Wave-length [nm] typ.	Dark Current [nA] max.	Cut off f Frequency [MHz] typ.	Response Time (Rise/Fall) [ns] typ.	Sensitivity [A/W] typ.	MSL (Moisture Sensitivity Levels)	Package Size [mm] typ.	Package Out-line	Notes
NJL6193R-3	35	850	2	–	10/10	0.48	MSL5	1.2x1.7x0.5	COBP	
NJL6195R	35	890	10	–	25/42	0.55	MSL5	3.55x3.95x0.82	COBP	
NJL6195R-W	35	890	10	–	25/42	0.55	MSL5	3.55x3.95x0.82	COBP	
NJL6401R-3	35	780 650 405	2	250 300 350	2/2	0.47 0.42 0.28	MSL5	1.2x1.7x0.8	COBP	
NJL6402R-2	35	780 650 405	2	200 220 250	2/2	0.47 0.42 0.28	MSL5	1.6x2.4x0.8	COBP	
NJL6407R	35	800	2	–	9/9	0.47	MSL5	2.0x2.9x0.75	COBP	
NJL6414R	35	900	5	–	16/22	0.47	MSL5	2.1x2.6x0.8	COBP	

Photo Reflectors

Part No.	key Features	Absolute Maximum Ratings				Dark Current [μA] ma max.	Output Current [μA] min./max.	Response Time (Rise/Fall) [μs]	MSL (Moisture Sensitivity Levels)	Package Size [mm] typ.	Package Outline
		P_{tot} [mW]	I_F [mW]	V_{CEO} [V]	V_{ECO} [V]						
NJL5303R	built in Green LED	60	20	16	6	0.2	12 to 50	30	MSL5	1.9x2.6x0.8	COBP
NJL5304R	Optical filtered PTr	85	15	20	5	–	–	–	MSL5	3.15x4.35x0.8	COBP
NJL5310R	built in Two Green LED	85	15	35(VR)	–	0.2	7 to 20	0.4/0.25 (VR=2.5V)	MSL5	3.15x4.35x0.8	COBP
NJL5311R	Two Green LEDs & Optical filtered PD	85	15	35(VR)	–	0.2	6 to 18	0.25/0.25(VR=2.5V)	MSL5	3.15x4.35x0.8	COBP
NJL5312R	Two Green LEDs & Optical filtered PD	85	15	35(VR)	–	0.2	2.1 to 11	0.3/0.3 (VR=2.5V)	MSL5	3.15x4.7x0.8	COBP
NJL5313R	Two Green LEDs & Optical filtered PD	85	15	35(VR)	–	0.2	0.8 to 7	0.4/0.4	MSL5	3.15x6x0.65	COBP
NJL5501R	Red & Infrared LED	85	30	16	6	5(RED) 1(IR)	1000 to 4300 (RED) 145 to 580(IR)	20	MSL5	1.9x2.6x0.8	COBP
NJL5510R	PD & Red & IR	85	50(RED) 50(IR)	35(VR)	–	0.1(RED) 0.1(IR)	2.5 to 8(RED) 0.6 to 1.8(IR)	0.25(RED) 0.4(IR)	MSL5	2.4x3.75x0.8	COBP
NJL5911R	Ultra thin Photo Re-flector	60	20	16	6	5	400 to 1000	20	MSL5	1.66x1.24x0.35	COBP
NJL5912R	High sensitive Photo Reflector	60	20	16	6	2	600 to 2200	20	MSL5	1.06x1.46x0.5	COBP
NJL5513R	Red & IR & Two Green LEDs	85	50(RED) 50(IR) 15(GREEN)	35(VR)	–	0.1(RED) 0.1(IR) 0.2(GREEN)	8 to 22(RED) 2 to 12(IR) 2 to 10(GREEN)	0.25(RED) 0.3(IR) 0.25(GREEN)	MSL5	3.2x5.0x0.65	COBP
NJL5901AR	Transistor Output	60	30	16	6	2	180 to 450	30	MSL5	1.6x2.4x0.8	COBP
NJL5901AR-1	Transistor Output	60	30	16	6	5	280 to 700	30	MSL5	1.3x1.6x0.6	COBP
NJL5901R-2	Transistor Output	60	20	16	6	5	165 to 412	20	MSL5	1.0x1.4x0.6	COBP
NJL5902R	Transistor Output	60	30	16	6	0.2	90 to 250	30	MSL5	1.9x2.6x0.8	COBP
NJL5902R-1	Transistor Output	60	30	16	6	0.5	160 to 400	30	MSL5	1.6x2.0x0.6	COBP
NJL5902R-2	Transistor Output	60	20	16	6	0.5	62 to 155	20	MSL5	1.2x1.7x0.6	COBP
NJL5908AR	Transistor Output	60	20	16	6	2	92 to 230	20	MSL5	1.06x1.46x0.5	COBP
NJL5909RL-4	with LENS (Focal length 4mm)	60	30	16	6	0.2	35 to 175	30	MSL5	1.9x2.6x1.6	COBP

Ambient Light Sensors

Part No.	Absolute Maximum Ratings VR [V]	Peak Wave-length [nm] typ.	Dark Current [nA] max.	MSL (Moisture Sensitivity Levels)	Package Size [mm] typ.	Package Outline	Notes
NJL6502R-1	6	580	0.5	MSL5	1.7x1.2x0.8	COBP	

Part No.	Absolute Maximum Ratings VR [V]	Peak Wave-length [nm] typ.	Dark Current [nA] max.	MSL (Moisture Sensitivity Levels)	Package Size [mm] typ.	Package Outline	Notes
NJL7302L-F3	15	550	100	–	–	–	
NJL7302L-F5	15	550	100	–	–	–	
NJL7502L	70	560	100	–	–	–	
NJL7502R	35	590	100	MSL5	1.6x1.3x0.65	COBP	

Position Sensors

Part No.	Recommended Operating Conditions			Detector Operating Current Icc typ. [μA]	Output Signals	Resolution [LPI]	MSL (Moisture Sensitivity Levels)	Package Size [mm] typ.	Package Outline
	Emitter Forward Current IF [mA]	Detector Supply Voltage V+ [V]	Sensor -Reflector Distanced [mm]						
NJL5820R	2 to 10	2.7 to 5.5	0.5 to 1.5	150	2 Phase Digital (0°, 90°)	50.8	MSL5	2.6x2.5x0.8	COBP
NJL9101R	5	2 to 3.3	0.7	–	3 Phase Analog	100	MSL5	2.3x2.0x0.6	COBP

Signal Conditioning Peripherals

LCD Drivers

Bit Map Type LCD Drivers

Part No.	Key Features	Display Size		DDRAM [bit]	Operating Voltage		Interface	Duty	Package Outline	E.V.R. [Step]
		Com	Seg		V_{DD} [V]	V_{LCD} [V] max.				
NJU6450A	Int. Oscillator 18KHz	16	61	2560	5	V_{DD} -13.5	8bit	1/16, 1/32	Chip	–

Character Type LCD Drivers

Part No.	Display			Operating Voltage		Voltage Booster	Duty	Icon	Package Outline	Notes
	Output	Channel	Line	V_{DD} [V]	V_{LCD} [V] max.					
NJU6424	–	10	3	3	V_{DD} -13.5	x3	1/26	100	Chip	
NJU6515	–	10	1	3	V_{DD} -5.5	x3	1/8, 1/9	118	Chip	
NJU6627	–	10	3	5	10	x2	1/16, 1/23	100	Chip	

Segment Type LCD Drivers

Part No.	Key Features	Display Size Seg	Operating Voltage		Interface	Duty	Package Outline	Notes
			V_{DD} [V]	V_{LCD} [V] max.				
NJU6434	P-sub	200	3/5	6	Serial	1/4	Chip, LQFP64-H2	
NJU6532	–	96(84), 128(112)	3/5	8	Serial	1/3, 1/4	LQFP48-R3, SSOP44	

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		
RN5C713	Cathode	2CH	5	400	1.25	50	50	70	QFN0606-48-P14	Need no VR, Digital method
RN5C711 ♡	Cathode	2CH	3.3 or 5.0	200	2.5	–	–	70	QFN0505-36-P6	Include APC (Automatic PowerControl), LVDS (LowVoltage DifferentialSignal) format data
RN5C716 ♡	Cathode	1CH	3.3 or 5.0	200	2.5	–	–	80	QFN0303-20-P25	

LD Driver ICs for Display

Part No.	Auto-motive	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

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Quartz Crystal Oscillator ICs

Fundamental Oscillator ICs

Part No.	Voltage Regulator	Oscillation Frequency [MHz]	Operating Voltage V [V] min./max.	I_{DD} @ V_{DD}=3.3V	Divider	Output	Package Outline	Chip Size [mm] typ.	Notes
NJU6212 series	Yes	to 60	1.62 to 3.63	5(typ.)	to f0/8	C-MOS	Chip	0.7x0.75	
NJU6221 series	Yes	to 60	1.62 to 3.63	2(typ.)	to f0/64	C-MOS	Thin-Chip Wafer	0.73x0.63	
NJU6222 series	–	20 to 50	1.62 to 3.63	5.5(typ.)	to f0/2	C-MOS	Thin-Chip Wafer	0.58x0.5888	For Special High Quality Audio Sound
NJU6229 series	Yes	32.768kHz	1.62 to 3.63	1.45uA(typ.)	–	C-MOS	Thin-Chip Wafer	0.53x0.53	
NJU6311 series	–	to 50	2 to 5	8(max.)	to f0/32	C-MOS	Thin-Chip MSOP10(VSP10)	0.7x0.95	
NJU6321 series	–	to 50	3 to 6	10(max.) @5V	to f0/8	C-MOS	Chip SOP8 JEDEC 150mil(EMP8), MSOP8(VSP8)	1.21x0.8	
NJU6322 series	–	to 50	3 to 6	10(max.) @5V	to f0/8	TTL	Chip, SOP8 JEDEC 150mil(EMP8)	1.24x0.8	
NJU6323 series	–	to 50	3 to 6	10(max.) @5V	to f0/8	C-MOS	Chip, SOP8 JEDEC 150mil(EMP8)	1.28x0.8	
NJU6324 series	–	to 50	3 to 6	10(max.) @5V	to f0/8	C-MOS	Chip, SOP8 JEDEC 150mil(EMP8)	1.24x0.8	
NJU6360 series	–	to 50	2.7 to 5.5	8(max.)	to f0/32	C-MOS	Thin-Chip	0.7x0.75	
NJU6363 series	–	to 40	1.5 to 3.6	2.5(max.)	to f0/32	C-MOS	Thin-Chip	0.7x0.75	
NJU6364 series	–	to 60	2 to 3.6	3.5(max.)	to f0/32	C-MOS	Thin-Chip	0.7x0.75	
NJU6365 series	–	to 32	1.8 to 3.6	1.5(max.)	to f0/32	C-MOS	Thin-Chip	0.7x0.75	
NJU6366 series	–	to 50	2 to 5.5	6(max.) @3V	to f0/8	C-MOS	Thin-Chip, SOT-23-6-1	0.67x0.75	
NJU6367 series	–	to 50	2 to 5.5	6(max.) @3V	to f0/32	C-MOS	Thin-Chip	0.7x0.75	
NJU6368 series	–	to 50	2.7 to 5.5	8(max.)	to f0/8	C-MOS	Thin-Chip, SOT-23-6-1	0.67x0.75	
NJU6369 series	–	to 50	1.5 to 3.6	5(max.)	to f0/32	C-MOS	Thin-Chip	0.7x0.75	
NJU6385	–	20 to 50	1.62 to 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./max.	I_{DD} @V_{DD}=3.3V	Output	Package Outline	Chip Size [mm] typ.	Notes
NJU6227 series	x1 (40 to 50) x2 (50 to 60) x3 (60 to 85) x4 (85 to 110) x5 (110 to 130) x6 (130 to 160)	1.62 to 3.63 1.62 to 3.63 2.25 to 3.63 2.25 to 3.63 2.25 to 3.63 2.25 to 3.63	3.1(typ.) 3.6(typ.) 7.0(typ.) 7.8(typ.) 8.2(typ.) 9.2(typ.)	C-MOS	Thin-Chip, Wafer	0.73x0.63	Built-in Voltage Regulator
NJU6376 series	G (30 to 40) H (40 to 50) J (50 to 60) K (60 to 75)	2.2 to 5.5	8(max.) @3V 10(max.) @3V 11(max.) @3V 12(max.) @3V	C-MOS	Chip, SOT-23-6-1	0.7x0.75	
NJU6377 series	E (30 to 40) F (40 to 50) G (50 to 60) H (60 to 75) J (45 to 55) K (40 to 50)	2.2 to 5.5	8(max.) @3V 10(max.) @3V 11(max.) @3V 12(max.) @3V 11(max.) @3V 11(max.) @3V	C-MOS	Thin-Chip	0.7x0.75	
NJU6394 series	A (75 to 90) B (90 to 105) C (105 to 125)	1.6 to 3.6	6(typ.) @1.8V 7(typ.) @1.8V 8(typ.) @1.8V	C-MOS	Thin-Chip	0.7x0.75	
NJU6396	(135 to 166)	2.7 to 3.6	27(typ.) @3.3V	C-MOS	Thin-Chip	0.7x0.75	
NJU6397 series	A (70 to 90) B (90 to 110) C (110 to 135)	2.3 to 3.6	13(typ.) @3.3V 13(typ.) @3.3V 18(typ.) @3.3V	C-MOS	Thin-Chip, Wafer	0.7x0.75	
NJU6397D	(100 to 125)	2.25 to 2.75	13(typ.) @2.5V	C-MOS	Thin-Chip, Wafer	0.7x0.75	

VCXO IC

Part No	Oscillation Frequency [MHz]	Operating Voltage V_{DD} [V]	IDD @VDD=3.3V	Output	Package Outline	Chip Size [mm] typ.	Notes
NJM2555	120(240) to 160(640)	3 to 3.6	50(typ.) @3.3V	LVPECL Equivalent	Chip, SSOP10	1.6x2.0	

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Real Time Clock (RTC)

4-wire Serial Interface (SPI Bus)

Part No	Package Outline	Time Keeping Current Typ. [μA]	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 ♡	QFN023023-16 TSSOP10G	0.45, at 3V	Typ. 0.66 to 5.50 Worst. 1.0 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	○	○	×	×	PLP♡:TSSOP10G
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
Rx5C348A	SSOP10 SSOP10G	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	○	○	×	×	
RV5C348B	SSOP10G	0.55, at 3V				Nch Open Drain Output, Keeping Output Enable						

3-wire Serial Interface

Part No	Package Outline	Time Keeping Current Typ. [μA]	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 ♡	QFN023023-16 TSSOP10G	0.45, at 3V	Typ. 0.66 to 5.50 Worst. 1.0 to 5.5	2 Sets, W/H/M, H/M	0.5s to 1Month	CMOS Output with Control Pin	1.6 or1.3	○	○	×	×	PLP♡: TSSOP10G
R2061 ♡	QFN023023-16 SSOP16	0.4, at 3V	Typ. 0.75 to 5.50 Worst. 1.0 to 5.5	2 Sets, W/H/M, H/M	0.5s to 1Month	—	2.10 or 1.35	○	○	○	○	1.7V, 2.8V PLP♡:SSOP16 2.4V
R2062	QFN023023-16	0.4, at 3V	Typ. 0.75 to 5.50 Worst. 1.0 to 5.5	2 Sets, W/H/M, H/M	0.5s to 1Month	CMOS Output with Level Shifter	2.10 or 1.35	○	○	○ *1	○	2.7V, 2.9V
R2262	QFN0202-18 TSSOP10G	0.3, at 3V	Typ. 0.6 to 5.5 Worst. 0.9 to 5.5	2 Sets, W/H/M, H/M	0.5s to 1Month	CMOS Output with Level Shifter	1.35	○	○	○ *2	○	2.7V
Rx5C338A	SSOP10 SSOP10G	0.35, at 3V	1.45 to 5.50	2 Sets, W/H/M, H/M	0.5s to 1Month	CMOS Output with Control Pin	2.1 or1.6	○	○	×	×	

2-wire Serial Interface (I²C Bus)

Part No	Package Outline	Time Keeping Current Typ. [μA]	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 ♡	QFN023023-16 TSSOP10G	0.45, at 3V	Typ. 0.66 to 5.50 Worst. 1.0 to 5.5	2 Sets, W/H/M, H/M	0.5s to 1Month	CMOS output with control pin	1.6 or 1.3	○	○	×	×	PLP♡: TSSOP10G
R2025 ♡	SOP14 SON22	0.48, at 3V	1.15 to 5.50	2 Sets, W/H/M, H/M	0.5s to 1Month	CMOS output with control pin	2.1 or 1.3	○	○	×	×	PLP♡:SOP14 Built-in crystal unit. Frequency Deviation : 0 ± 5ppm
R2051 ♡	QFN023023-16 SSOP16 TSSOP10G	0.4, at 3V	Typ. 0.75 to 5.50 Worst.1.0 to 5.5	2 Sets, W/H/M, H/M Register only, No INTR pin	0.5s to 1Month Register only, No INTR pin	CMOS output with level shifter	2.10 or 1.35	○	○	○	○ –	2.4V, 2.8V 2.4V, 2.8V, 4.0V PLP:TSSOP10G 2.4V
R2221 ♡	QFN018018-12 TSSOP10G	0.3 *3 at 3V	Typ. 0.6 to 5.5 Worst. 0.9 to 5.5	2 Sets, W/H/M, H/M	0.5s to 1Month	CMOS output with control pin	1.35	○	○	×	×	PLP♡:TSSOP10G ECO mode is set by ECO Pin.
R2223 ♡	QFN018018-12 TSSOP10G	0.3 *3 at 3V	Typ. 0.6 to 5.5 Worst. 0.9 to 5.5	2 Sets, W/H/M, H/M	0.5s to 1Month	CMOS output with control pin	1.35	○	○	×	×	PLP♡:TSSOP10G ECO Mode is set by a Register.
RS5C372A ♡	SSOP8	0.5, at 3V	1.3 to 6.0	2 Sets, W/H/M × 2	0.5s to 1Month	Nch open drain output (Controllable by command)	–	○	○	×	×	32768Hz/ 32000Hz Crystal is Selectable
RS5C372B						1.45 to 6.00						
RV5C386A	SSOP10G	0.35, at 3V	1.45 to 5.50	2 Sets, W/H/M, H/M	0.5s 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	0.5s to 1Month	Nch open drain output (Controllable by command)	2.1 or 1.6	○	○	×	×	

*1 For secondary battery or capacitor *2 For secondary battery or capacitor, built-in VR for charger *3 Time keeping current can be reduced in ECO mode.

Microprocessor Peripheral

Part No.	Auto-motive	Key Features	Operating Voltage [V] min./max.	Timekeeper voltager [V] min./max.	Output Port	Interface	Package Outline	Notes
NJU6350	–	Serial Interface RTC, Low Battery Detector Oscillation Circuit	2.4 to 3.6	2 to 3.6	3	Serial	MSOP8(VSP8)	

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Signal Conditioning Peripherals

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IO Port Expansion ICs(MPU)

Part No.	Auto-motive	Operating Voltage V_{DD} [V] min./max.	Output Current [mA]	Output Port	Interface	LED Drive	Package Outline	Key Features
NJU3711	–	4.5 to 5.5	25	8	Serial	Yes	DIP14, DMP14 SSOP14	
NJU3711A	–	2.4 to 5.5	25	8	Serial	Yes	SSOP14	
NJU3712	–	4.5 to 5.5	25	8	Serial	Yes	DIP16, DMP16	
NJU3712A	–	2.4 to 5.5	25	8	Serial	Yes	SSOP16	
NJU3715A	–	2.4 to 5.5	25	16	Serial	Yes	SSOP24-C2	
NJU3716A	–	2.4 to 5.5	25	16	Serial	Yes	SSOP24-C2	
NJU3719A	–	2.4 to 5.5	25	24	Serial	Yes	SSOP32	
NJU3730	–	4.5 to 5.5	–	3	I^2C	–	VSP8	
NJU3754	–	2.7 to 5.5	–	11-Input	Serial	–	SSOP16	
NJU6010	✓	2.4 to 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] min./max.	Package Outline	Notes
NJM2342	–	Quad Buffer for Reference Circuit	2 to 14	MSOP10(TVSP10)	Icc=1mA(typ.), Sink/Source Buffer
NJU6402B	–	–	4.5 to 5.5 4.5 to 12 -12 to -4.5	DIP16, DMP16	Receiver-3/ Driver-3

ATE ASSP

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

Data Converters

Part No.	Key Features	Operating Voltage [V] min./max.	A/D Conversion	Package Outline	Notes
NJM4151	Frequency Operation from 1Hz-100kHz	8 to 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)
NJU9101	Built-in Low Power OP-Amp(2 circuits) Precision Amplifier Programmable Gain Pre-Amplifier (1 to 8V/V)	2.4 to 3.6	16-Bit ΔΣ ADC	EQFN-24-LE	High RF noise tolerance Programmable Cell Bias Voltage System Calibration for offset & gain drift
NJU9252P	LCD Display, Sample/Hold Circuit	4.5 to 5.5	8bit Resolution Successive Approximation Method	DMP20	
NJW5210	R-2R System, 8bit 3channel D/A Converters	2.7 to 5.5	–	MSOP8 (TVSP8)	
NJW5211	R-2R System, 8bit 8channel D/A Converters	2.7 to 5.5	–	SSOP14	

Analog Switches

Part No.	Supply Voltage	Quiescent Current	On-state Resitance [ohm]	Package Outline	Notes
NJU201A	44	1.2mA typ.(V+/V-= ± 15V)	50	DIP16, DMP16	Turn-on Time 480ns typ. Turn-off Time 370ns typ.
NJU211	40	1.15mA typ.(V+/V-= ± 15V)	115	DIP16, DMP16	Turn-on Time 460ns typ. Turn-off Time 360ns typ.
NJU4051B	20	5uA max.(VDD=5V)	220	DIP16, DMP16, SSOP16	
NJU4052B	20	5uA max.(VDD=5V)	220	DIP16, DMP16, SSOP16	
NJU4053B	20	5uA max.(VDD=5V)	220	DIP16, DMP16, SSOP16	
NJU4066B	20	0.25uA max.(VDD=5V)	300	DIP14, DMP14, SSOP14	
NJU7301	44	1.2mA typ.(V+/V-= ± 15V)	115	DIP16, DMP16	Turn-on Time 480ns typ. Turn-off Time 370ns typ.

USB Power Delivery Controller IC (USB 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 [°C]	Package Outline	Notes
RN5U700	2.8 (Deep-Sleep)	DRP Source Sink	DRD DFP UFP	VBUS OVP/OCP CC Pin OVP OTP	4.5 to 24	up to 24	Nch.FET	-20 to 70	QFN0404-24-P12	Supports Dead Battery operation, I^2C Interface: Up to 1MHz (FM+)
							Pch.FET Switch IC	-20 to 85		

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Signal Conditioning Peripherals

SAW Filter

For GPS

Part No.	Application	Center Frequency f0 [MHz]	Passband Width [MHz]	Package Size [mm]	Notes
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
NSVS999	GPS-L5	1176.45	20	3.0 × 3.0 × 1.15	
NSVS1246	GPS-L1	1575.42	2	2.0 × 1.6 × 0.65	Ultra 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
NSNJ9200A	GNSS GPS GLONASS Beidou	1582.471	4.092 2 8.34	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
NSVS1102	Keyless Entry Systems	312.15	1	3.0 × 3.0 × 1.15	
NSVS1153	Keyless Entry Systems	314	1	3.0 × 3.0 × 1.15	
NSVS9012	Keyless Entry Systems	314.85	0.6	3.0 × 3.0 × 1.15	
NSVS9016	Keyless Entry Systems	315	0.6	3.0 × 3.0 × 1.15	
NSVS1154	Keyless Entry Systems	315	1	3.0 × 3.0 × 1.15	
NSTS9118	Keyless Entry Systems	433.92	0.4	3.0 × 3.0 × 1.15	
NSVS1104	Keyless Entry Systems	433.92	1	3.0 × 3.0 × 1.15	
NSVS1231	Keyless Entry Systems	868	4	3.0 × 3.0 × 1.15	
NSTS9119	ITS	760	9	3.0 × 3.0 × 1.15	High ATT Type

For Low Power Transceiver

Part No.	Application	Center Frequency f0 [MHz]	Passband Width [MHz]	Package Size [mm]	Notes
NSVS1237	US AMR	909	14	3.0 × 3.0 × 1.15	Lower-Half
NSVS1127	US AMR	915	26	3.0 × 3.0 × 1.15	
NSVS1240	US AMR	915	26	3.0 × 3.0 × 1.15	
NSVS1245	US AMR	921	14	3.0 × 3.0 × 1.15	Upper-Half
NSVS1231	EU AMR	868	4	3.0 × 3.0 × 1.15	
NSTS1444	JAP AMR	924	8	3.0 × 3.0 × 1.15	
NSTS1449	JAP AMR	924	8	3.0 × 3.0 × 1.15	
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	

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Part No.	Application	Center Frequency f0 [MHz]	Passband Width [MHz]	Package Size [mm]	Notes
NSVS1105	Transceiver	422.2	1	3.0 × 3.0 × 1.15	
NSVS1145	Transceiver	426	1	3.0 × 3.0 × 1.15	
NSTS1431	Transceiver	426.42	1	3.0 × 3.0 × 1.15	
NSVS1093	Transceiver	429.42	1	3.0 × 3.0 × 1.15	
NSVS1126	Transceiver	429.42	1	3.0 × 3.0 × 1.15	
NSVS1106	Transceiver	440	1	3.0 × 3.0 × 1.15	
NSNJ2007	Transceiver	446.05	0.1	3.0 × 3.0 × 1.15	
NSNJ2006	Transceiver	465	6	3.0 × 3.0 × 1.15	
NSVS1271	Radio Microphones	322.25	1	3.0 × 3.0 × 1.15	

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

MEMS Microphone Elements

MEMS Transducer

Part No.	Function	Operating Voltage [V]	Static Capacitance [pF]	Package Outline	Chip Size	Notes
NJD3004	MEMS Transducer for Microphone	12.5	0.86	Wafer	1.1 × 1.1mm	
NJD3006	MEMS Transducer for Microphone	12.5	0.65	Wafer	0.8 × 0.8mm	
NJD3007	MEMS Transducer for Microphone	12.5	1.15	Wafer	1.3 × 1.3mm	

MEMS Microphone Amplifiers

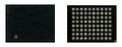
Part No.	Function	Operating Voltage [V]	Quiescent Current [μA]	SNR	Maximum Output Voltage	Package Outline	Notes
NJU72086	Pre-Amplifier for MEMS Microphone	+1.5 to +3.6	42	–	-11dBV@THD<5%	Wafer	Low Power High PSRR
NJU72087	Pre-Amplifier for MEMS Microphone	+1.5 to +3.6	115	–	-6dBV@THD<5%	Wafer	High AOP Tight Sensitivity Tolerance
NJU72088	Pre-Amplifier for MEMS Microphone	+1.5 to +3.6	50	–	-6dBV@THD<5%	Wafer	Low Power High PSRR Fast Start-up time
NJU72089	Pre-Amplifier for MEMS Microphone	+1.5 to +3.6	130	–	-6dBV@THD<5%	Wafer	High AOP Sensitivity Matching Fast Start-up time
NJU9555	Digital Pre-Amplifier for MEMS Microphone	+1.64 to +3.6	600	62.5dBFS	–	Wafer	PDM Output Tight Sensitivity Low Power
NJU9556	Digital Pre-Amplifier for MEMS Microphone	+1.64 to +3.6	750	67.0dBFS	–	Wafer	PDM Output Sensitivity Matching Low Power High AOP

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Package Information

Please refer to our website for additional details.

● CSP

Pin	Symbol	Package	Actual Size Photos	Dimensions (mm)				Quantity/ Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch	
80	C	CSP0608-80		8.0 × 6.0	8.0 × 6.0	1.2	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 Photos	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
5	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	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
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 Photos	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	0.4	0.5	3,000
6	KG1	DFN6-G1(ESON6-G1)		1.6 × 1.6	1.6 × 1.6	0.4	0.5	3,000
6	KH1	DFN6-H1(ESON6-H1)		2.0 × 2.0	2.0 × 2.0	0.4	0.5	3,000
8	KU1	DFN8-U1(ESON8-U1)		2.0 × 2.0	2.0 × 2.0	0.4	0.5	3,000
8	KV1	DFN8-V1(ESON8-V1)		2.3 × 2.3	2.3 × 2.3	0.4	0.5	3,000
8	KW1	DFN8-W1(ESON8-W1)		3.0 × 3.0	3.0 × 3.0	0.705	0.5	1,500
8	KW2	DFN8-W2(ESON8-W2)		3.0 × 3.0	3.0 × 3.0	0.705	0.65	1,500
8	KX7	DFN8-X7(ESON8-X7)		3.5 × 4.0	3.5 × 4.0	0.705	0.65	1,500

*1 Maximum Value

● DFN（PLP）

Pin	Symbol	Package	Actual Size Photos	Dimensions (mm)				Quantity/ Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch	
4	K	DFN(PLP)0808-4		0.8 × 0.8	0.8 × 0.8	0.4	0.48	10,000
4	K	DFN(PLP)1010-4		1.0 × 1.0	1.0 × 1.0	0.6	0.65	10,000
4	K	DFN(PLP)1010-4B		1.0 × 1.0	1.0 × 1.0	0.6	0.65	10,000
4	K	DFN(PLP)1010-4F		1.0 × 1.0	1.0 × 1.0	0.4	0.5	10,000
4	K	DFN(PLP)1612-4		1.2 × 1.6	1.2 × 1.6	0.6	0.6	5,000
4	K	DFN(PLP)1612-4B		1.2 × 1.6	1.2 × 1.6	0.4	0.6	5,000
4	K	DFN(PLP)1612-4D		1.2 × 1.6	1.2 × 1.6	0.6	0.5	5,000
6	K	DFN(PLP)1212-6		1.2 × 1.2	1.2 × 1.2	0.4	0.4	5,000
6	K	DFN(PLP)1212-6F		1.2 × 1.2	1.2 × 1.2	0.4	0.4	5,000
6	K	DFN(PLP)1216-6F		1.6 × 1.2	1.6 × 1.2	0.4	0.5	5,000
6	K	DFN(PLP)1216-6G		1.6 × 1.2	1.6 × 1.2	0.4	0.6	5,000
6	K	DFN(PLP)1414-6		1.4 × 1.4	1.4 × 1.4	0.4	0.5	5,000
6	K	DFN(PLP)1616-6		1.6 × 1.6	1.6 × 1.6	0.6	0.5	5,000
6	K	DFN(PLP)1616-6B		1.6 × 1.6	1.6 × 1.6	0.6	0.5	5,000
6	K	DFN(PLP)1616-6D		1.6 × 1.6	1.6 × 1.6	0.6	0.5	5,000
6	K	DFN(PLP)1820-6		1.8 × 2.0	1.8 × 2.0	0.6	0.5	5,000
6	K	DFN(PLP)1820-6B		1.8 × 2.0	1.8 × 2.0	0.6	0.55	5,000
6	K	DFN(PLP)2514-6		1.4 × 2.5	1.4 × 2.5	0.6	0.5	5,000

*1 Maximum Value

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Package Information

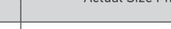
Please refer to our website for additional details.

● DFN (PLP)

Pin	Symbol	Package	Actual Size Photos	Dimensions (mm)				Quantity/ Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch	
8	K	DFN(PLP)2020-8		2.0 × 2.0	2.0 × 2.0	0.6	0.5	5,000
8	K	DFN(PLP)2020-8B		2.0 × 2.0	2.0 × 2.0	0.6	0.5	5,000
10	K	DFN(PLP)2527-10		2.7 × 2.5	2.7 × 2.5	0.6	0.5	5,000
12	K	DFN(PLP) 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 Photos	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 Photos	Dimensions (mm)				Quantity/ Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
8	D	DIP8		8.8 × 6.4	–	3.4	2.54	50/Stick
14	D	DIP14		19.0 × 6.4	–	3.4	2.54	25/Stick
16	D	DIP16		19.0 × 6.4	–	3.4	2.54	25/Stick
16	-	DIP16-D2		19.18 × 6.35	–	4.94	2.54	25/Stick
16	-	DIP16-D3		19.18 × 6.35	–	4.94	2.54	25/Stick
22	-	DIP22-D2		27.81 × 9.02	–	4.94	2.54	20/Stick

● DMP

Pin	Symbol	Package	Actual Size Photos	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

● EPCSP

Pin	Symbol	Package	Actual Size Photos	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

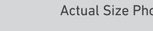
*1 Maximum Value

● EPFFP

Pin	Symbol	Package	Actual Size Photos	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 Photos	Dimensions (mm)				Quantity/ Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch	
12	ME2	EQFN12-E2		1.8 × 1.8	1.8 × 1.8	0.4	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	0.4	0.4	3,000
16	MG2	EQFN16-G2		2.3 × 2.3	2.3 × 2.3	0.4	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	0.4	0.4	3,000
24	MLE	EQFN24-LE		4.0 × 4.0	4.0 × 4.0	0.75	0.5	1,000
24	-	EQFN24-LK		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

*1 Maximum Value

● FLP

Pin	Symbol	Package	Actual Size Photos	Dimensions (mm)				Quantity/ Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch	
6	KA1	FLP6-A1		1.6 × 1.2	1.6 × 1.6	0.6	0.5	4,000
6	KB2	FLP6-B2		2.0 × 1.7	2.0 × 2.1	0.8	0.65	3,000

*1 Maximum Value

● HSOP

Pin	Symbol	Package	Actual Size Photos	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
8	S	HSOP-8E		5.2 × 4.4	5.2 × 6.2	1.45	1.27	1,000

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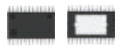
Package Information

Please refer to our website for additional details.

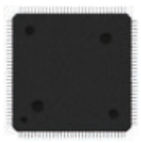
● HSOP

Pin	Symbol	Package	Actual Size Photos	Dimensions (mm)				Quantity/ Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
18	S	HSOP-18		5.2 × 4.4	5.2 × 6.2	1.45	0.5	1,000
8	GM1	HSOP8-M1		5.2 × 4.4	5.2 × 6.2	1.54	1.27	3,000

● HTSSOP

Pin	Symbol	Package	Actual Size Photos	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 Photos	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	–
144	-	LQFP144-L1		20 × 20	22 × 22	1.65	0.5	–

● MSOP

Pin	Symbol	Package	Actual Size Photos	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

● MSOP（TVSP）

Pin	Symbol	Package	Actual Size Photos	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	0.9	0.5	2,000

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

● MSOP（VSP）

Pin	Symbol	Package	Actual Size Photos	Dimensions (mm)				Quantity/ Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
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

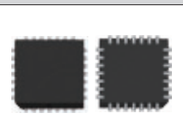
(Note) MSOP(VSP) : MEET JEDEC MO-187-DA

● PCSP

Pin	Symbol	Package	Actual Size Photos	Dimensions (mm)				Quantity/ Reel (pcs)
				Body	Mount Area	Thickness *1	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

● PLCC

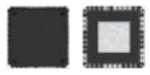
Pin	Symbol	Package	Actual Size Photos	Dimensions (mm)				Quantity/ Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
28	-	PLCC28-M2		11.51 × 11.51	12.45 × 12.45	4.4	1.27	750

● QFL

Pin	Symbol	Package	Actual Size Photos	Dimensions (mm)				Quantity/ Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch	
36	-	QFL36-B2		5.4 × 5.4	6.0 × 6.0	0.95	0.5	250

*1 Maximum Value

● QFN

Pin	Symbol	Package	Actual Size Photos	Dimensions (mm)				Quantity/ Reel (pcs)
				Body	Mount Area	Thickness *1	Pitch	
12	K11	QFN12-11		3.0 × 3.0	3.0 × 3.0	0.88	0.5	–
12	K51	QFN12-51		2.0 × 2.0	2.0 × 2.0	0.4	0.5	5,000
20	KM1	QFN20-M1		4.2 × 4.2	4.2 × 4.2	0.95	0.5	3,000
48	-	QFN48-Q1		7.2 × 7.2	7.2 × 7.2	1	0.5	–
64	-	QFN64-S4		8.2 × 8.2	8.2 × 8.2	0.95	0.4	–
84	KD4	QFN84-D4		10.2 × 10.2	10.2 × 10.2	0.95	0.4	–

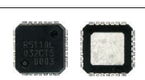
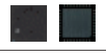
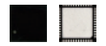
*1 Maximum Value

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Package Information

Please refer to our website for additional details.

● QFN

Pin	Symbol	Package	Actual Size Photos	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
16	L	QFN023023-16		2.3 × 2.3	2.3 × 2.3	0.43	0.4	3,000
18	L	QFN0202-18		2.0 × 2.0	2.0 × 2.0	0.43	0.4	3,000
20	L	QFN0303-20-P25		3.0 × 3.0	3.0 × 3.0	0.6	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	0.7	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
28	L	HQFN0808-28		8.0 × 8.0	8.8 × 8.8	0.95	0.8	2,000
31	L	QFN0505-31		5.0 × 5.0	5.0 × 5.0	0.85	0.5	1,000
32	K	QFN(PLP)0404-32		4.0 × 4.0	4.0 × 4.0	0.6	0.4	2,000
32	L	QFN0505-32C		5.0 × 5.0	5.0 × 5.0	0.8	0.5	5,000
32	L	QFN0505-32B		5.0 × 5.0	5.0 × 5.0	0.85	0.5	1,000
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	MA	QFN0910-65-MA		10.0 × 9.0	10.0 × 9.0	4.7	0.5	250

*1 Maximum Value

● QFP

Pin	Symbol	Package	Actual Size Photos	Dimensions (mm)				Quantity/ Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
44	–	QFP44-A1		10.0 × 10.0	12.4 × 12.4	2	0.8	50
52	–	QFP52-A2		10.0 × 10.0	13.2 × 13.2	2	0.65	-
64	FH1	QFP64-H1		10.0 × 10.0	12.0 × 12.0	1.4	0.5	90
100	FU1	QFP100-U1		20.0 × 14.0	23.2 × 17.2	2	0.65	72

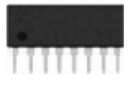
● SC

Pin	Symbol	Package	Actual Size Photos	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
5	F3	SC-88A		2.0 × 1.25	2.0 × 2.1	0.9	0.65	3,000
4	Q	SC-82AB		2.0 × 1.25	2.0 × 2.1	0.9	1.3	3,000
5	Q	SC-88A		2.0 × 1.25	2.0 × 2.1	0.9	0.65	3,000

● SDIP

Pin	Symbol	Package	Actual Size Photos	Dimensions (mm)				Quantity/ Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
44	–	SDIP22		19.0 × 6.4	–	3.4	1.778	25/Stick
52	–	SDIP24		23.0 × 6.5	–	3.4	1.778	20/Stick

● SIP

Pin	Symbol	Package	Actual Size Photos	Dimensions (mm)				Quantity/ Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
8	L	SIP8		19.0 × 6.4	19.0 × 11.3(8.3 *2)	3	2.54	25/Stick

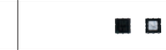
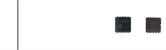
*2 Mounting height

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Package Information

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● SON

Pin	Symbol	Package	Actual Size Photos	Dimensions (mm)				Quantity/ Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
3	D	SON1408-3		1.4 × 0.8	1.4 × 1.2	0.45	0.45	9,000
6	D	HSON-6		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	1.3	0.5	1,000

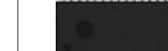
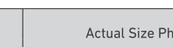
● SOP

Pin	Symbol	Package	Actual Size Photos	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
20	-	SOP20		12.7 × 5.4	12.7 × 7.8	1.8	1.27	–
40	-	SOP40		26.6 × 9.4	26.6 × 11.8	2.6	1.27	1,000

● SOP JEDEC（EMP）

Pin	Symbol	Package	Actual Size Photos	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 Photos	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
6	N	SOT-23-6		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	U3	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	DF	SOT-89-5-DF		4.5 × 2.5	4.5 × 4.5	1.5	1.5	1,000

● SSOP

Pin	Symbol	Package	Actual Size Photos	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
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	SSOP-10		3.1 × 4.4	3.1 × 6.4	1.15	0.5	3,000
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
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	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	VC2	SSOP24-C2		6.5 × 4.4	6.5 × 6.4	1.15	0.5	2,000

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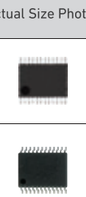
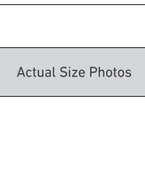
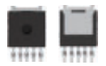
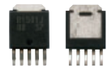
Package Information

Please refer to our website for additional details.

● SSOP

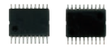
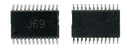
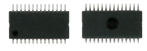
Pin	Symbol	Package	Actual Size Photos	Dimensions (mm)				Quantity/ Reel (pcs)
				Body	Mount Area	Thickness	Pitch	
24	-	SSOP24-E1		7.9 × 5.6	7.9 × 7.6	1.15	0.65	2,000
24	V	SSOP-24		7.9 × 5.6	7.9 × 7.6	1.15	0.65	3,000
32	V	SSOP32		11.0 × 5.6	11.0 × 7.6	1.15	0.65	2,000
44	V	SSOP44		11.0 × 5.6	11.0 × 7.6	1.15	0.5	2,000

● TO

Pin	Symbol	Package	Actual Size Photos	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
4	F	TO-220F-4		10.0 × 16.0	10.0 × 29.1 (18.4 *2)	4.5	2.54	50/Stick
4	-	TO-220F-4-L		10.0 × 16.0	10.0 × 27.8 (19.2 *2)	4.5	2.54	50/Stick
3	DL1	TO-252-3-L1		6.54 × 6.04	6.54 × 9.68	2.29	2.28	3,000/roll
5	DL3	TO-252-5-L3		6.54 × 6.04	6.54 × 9.68	2.29	1.27	3,000/roll
5	DL5	TO-252-5-L5		6.54x6.04	6.54x9.68	2.29	1.14	3,000/roll
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 Photos	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 Photos	Dimensions (mm)				Quantity/ Reel (pcs)
				Body	Mount Area	Thickness *1	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

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Package Information

Please refer to our website for additional details.

● WLCSP

Pin	Symbol	Package	Actual Size Photos	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-P7		0.69 × 0.69	0.69 × 0.69	0.4	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-P4		1.10 × 0.83	1.10 × 0.83	0.52	X=0.4 Y=0.5	0.16	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-P9		1.21 × 0.83	1.21 × 0.83	0.4	X=0.4 Y=0.5	0.16	5,000
6	Z	WLCSP-6-P11		1.20 × 0.80	1.20 × 0.80	0.33	0.4	0.26	5,000
6	Z	WLCSP-6-P13		1.10 × 0.88	1.10 × 0.88	0.3	0.4	0.16	–
8	Z	WLCSP-8-P1		1.45 × 1.48	1.45 × 1.48	0.4	0.4	0.245	5,000
8	Z	WLCSP-8-P2		1.51 × 0.92	1.51 × 0.92	0.4	X=0.4 Y=0.58	0.16	5,000
8	Z	WLCSP-8-P4		1.50 × 1.08	1.50 × 1.08	0.4	X=0.40 Y=0.79	0.16	5,000
8	Z	WLCSP-8-P8		1.50 × 1.08	1.50 × 1.08	0.38	X=0.4 Y=0.79	0.16	5,000
8	Z	WLCSP-8-P9		1.55 × 0.92	1.55 × 0.92	0.4	X=0.4 Y=0.58	0.16	5,000
8	Z	WLCSP-8-P10		1.60 × 1.00	1.60 × 1.00	0.2	X=0.4 Y=0.6	0.16	5,000
8	Z	WLCSP-8-P11		1.62 × 0.98	1.62 × 0.98	0.4	0.4	0.245	–
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
11	Z	WLCSP-11-P2		2.37 × 1.47	2.37 × 1.47	0.83	0.5	0.16	4,000
12	Z	WLCSP-12-P1		1.97 × 1.47	1.97 × 1.47	0.86	0.4	0.26	4,000
12	Z	WLCSP-12-P2		1.288 × 1.828	1.288 × 1.828	0.69	0.4	0.27	5,000
12	Z	WLCSP-12-P3		1.68 × 1.28	1.68 × 1.28	0.7	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	Z	WLCSP-16-P1		1.95 × 1.95	1.95 × 1.95	0.69	0.4	0.26	5,000
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

*1 Maximum Value of thickness including balls

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Nisshinbo Micro Devices Website

Announcement of New Website and URL

Nisshinbo Micro Devices Inc. inaugurated
January 1, 2022

Nisshinbo Micro Devices Inc.

New URL: https://www.nisshinbo-microdevices.co.jp/en/

We would appreciate it if you bookmark the new one instead of the previous one. From now on, we will continue to improve our website and make it more valuable for our customers.

OFFICIAL SNS

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

Recommended Contents on Website

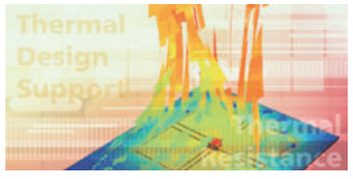
Nisshinbo Micro Devices provides a clue as to the technical solution for customer's needs.



Package List
Package Information incl. dimensions and recommended land pattern.



SPICE Model (Macromodel) Download
Supports your design and development. Free spice model provided.



Thermal Design Support
You can analyze thermal characteristics at concept design stage.

At a Glance Nisshinbo Micro Devices Inc.



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.

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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

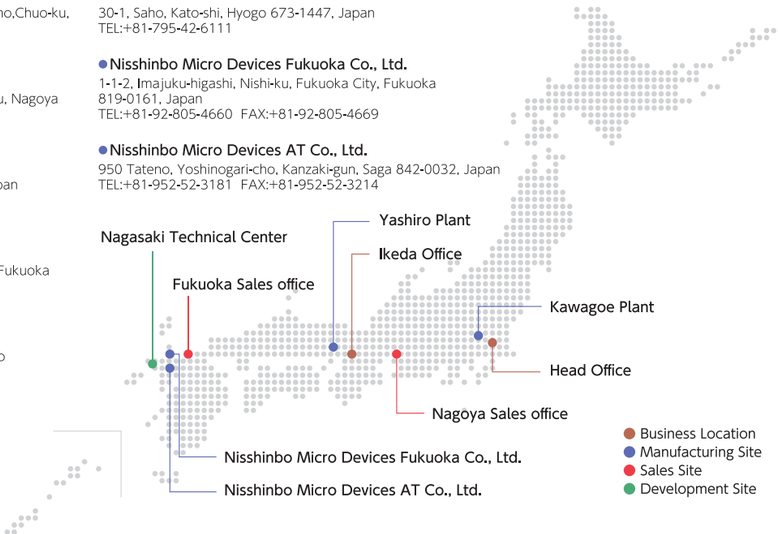
Nagasaki Technical Center
Miuracho Alpha bldg., NO.302,2-1,Miura-cho,Sasebo City,Nagasaki 857-0863, Japan
TEL:+81-956-23-0555 FAX:+81-956-23-0554

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-shi, 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.
#07-01 Automobile Megamart, 61 Ubi Avenue 2, 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

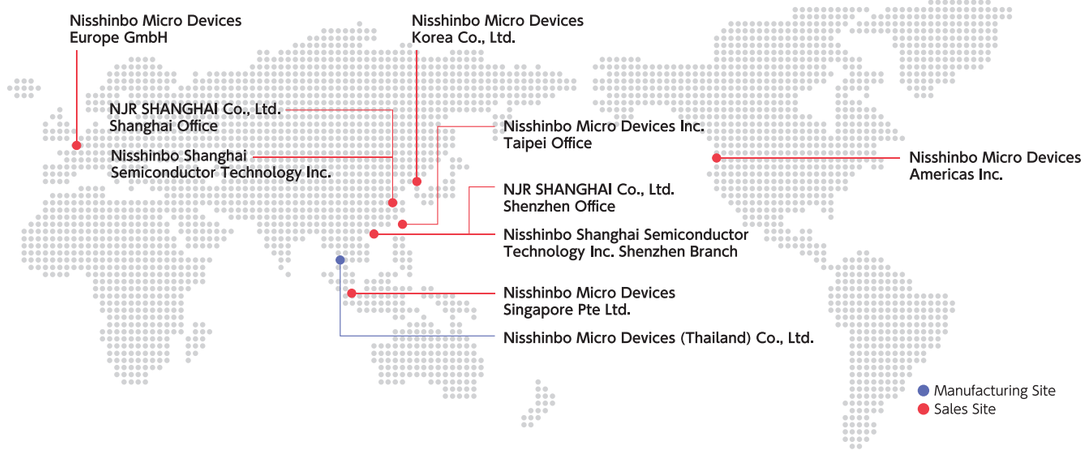
NJR SHANGHAI Co., Ltd. Shanghai Office
Room H, 23rd Floor, Huadu Bldg., No.838 Zhang Yang Road, Pu Dong New District, Shanghai, P.R. China
TEL:+86-21-5820-2567 FAX:+86-21-5831-0737

NJR SHANGHAI Co., Ltd. Shenzhen Office
Room 3016, Tower A Century Holiday Plaza, Ruisi Center, No.9030, Shennan Road, Nanshan District, Shenzhen, P.R. China
TEL:+86-755-8693-2209 FAX:+86-755-8693-2210

Nisshinbo Shanghai Semiconductor Technology Inc.
Room 403, No.2 Building, 690#Bi Bo Road. Zhangjiang Hi-Tech Park, Shanghai 201203, People's Republic of China
TEL:+86-21-5027-3200 FAX:+86-21-5027-3299

Nisshinbo Shanghai Semiconductor Technology Inc. Shenzhen Branch
33F Room06-07 Shunhing Square Diwang commercial center,5002 Shennan Dong Road, Shenzhen, PRC
TEL:+86-755-82336527

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



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