To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

Renesas Electronics website: http://www.renesas.com

April 1st, 2010
Renesas Electronics Corporation

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(Note 2) “Renesas Electronics product(s)” means any product developed or manufactured by or for Renesas Electronics.

General-purpose operational amplifiers and comparators

Single-power supply operational amplifiers, comparators, and low-noise operational amplifiers, eight products in total, are now available as products in a small package.
Keeping the conventional functions, the mounting area is reduced by 40 to 50%* compared to standard SOP packages, by making the lead pitch to 0.65 mm, thus reducing the package width. The operating temperature range is widened to easily support various usage environments.

Features

- Reduction of mounting area on printed circuit board contributes set miniaturization.
- Even in a small package, thermal resistance is reduced approximately 10% from that of existing SOP packages thanks to adoption of copper lead materials.
- Addition of eight models to a product line at a time makes further set miniaturization if two or more models of the line are used.
- Operating temperature range is widened. (General product: -40 to 85°C, Temperature widened product: -40 to 125°C)

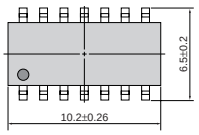
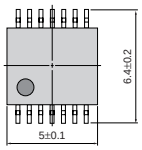
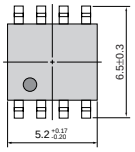
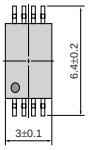
Application

General product: Analog signal processing for industry and consumer devices (such as sensor signal amplification and judgment, and filter circuit)

Temperature widened product: Application requiring rather wide operating temperature, such as industry and vehicle devices

*: Compared with conventional NECEL products

TSSOP-package deployment produces small and thin product.

Number of pins	Current SOP (Lead pitch1.27mm)	TSSOP (Lead pitch0.65mm)	Area ratio [Values in parentheses show reduction ratio.]
14pin			61% (49%)
8pin			59% (41%)

Product Specification Overview

Operational amplifier (general product)

Type	Product Name	Number of Circuits	Power Supply Voltage (V)	Operating Temperature (°C)	V_{IO} [max] (mV)	I_B [max] (nA)	I_{CC} [max] (mA)	SR[typ] (V/μs)	Number of Pins
Single-power supply	μPC358GR-9LG	2	32	-40 to +85	±7	250	1.2	0.25	8
	μPC324GR-9LG	4	32	-40 to +85	±7	250	2	0.25	14
High-speed single-power supply	μPC4742GR-9LG	2	36	-40 to +85	±4.5	500	5.5	8.5	8
	μPC4744GR-9LG	4	36	-40 to +85	±6	500	11	8.5	14
Low noise	μPC4570GR-9LG	2	36	-40 to +85	±5	400	8	7	8
	μPC4574GR-9LG	4	36	-40 to +85	±5	1000	12	6	14

Operational amplifier (temperature widened product)

Type	Product Name	Number of Circuits	Power Supply Voltage (V)	Operating Temperature (°C)	V_{IO} [max] (mV)	I_B [max] (nA)	I_{CC} [max] (mA)	SR[typ] (V/μs)	Number of Pins
Single-power supply	μPC1251GR-9LG	2	32	-40 to +125	±7	250	1.2	0.25	8
	μPC451GR-9LG	4	32	-40 to +125	±7	250	2	0.25	14
High-speed single-power supply	μPC842GR-9LG	2	36	-40 to +125	±4.5	500	5.5	8.5	8
	μPC844GR-9LG	4	36	-40 to +125	±6	500	11	8.5	14

Comparator (general product)

Type	Product Name	Number of Circuits	Power Supply Voltage (V)	Operating Temperature (°C)	V_{IO} [max] (mV)	I_B [max] (nA)	I_{CC} [max] (mA)	Response Time [typ] (μs)	Number of Pins
Single-power supply	μPC393GR-9LG	2	36	-40 to +85	±5	250	1	1.8	8
	μPC339GR-9LG	4	36	-40 to +85	±5	250	2	1.6	14

Comparator (temperature widened product)

Type	Product Name	Number of Circuits	Power Supply Voltage (V)	Operating Temperature (°C)	V_{IO} [max] (mV)	I_B [max] (nA)	I_{CC} [max] (mA)	Response Time [typ] (μs)	Number of Pins
Single-power supply	μPC277GR-9LG	2	36	-40 to +125	±5	250	1	1.8	8
	μPC177GR-9LG	4	36	-40 to +125	±5	250	2	1.6	14

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