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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RENESAS

PHOTO IC
PH525

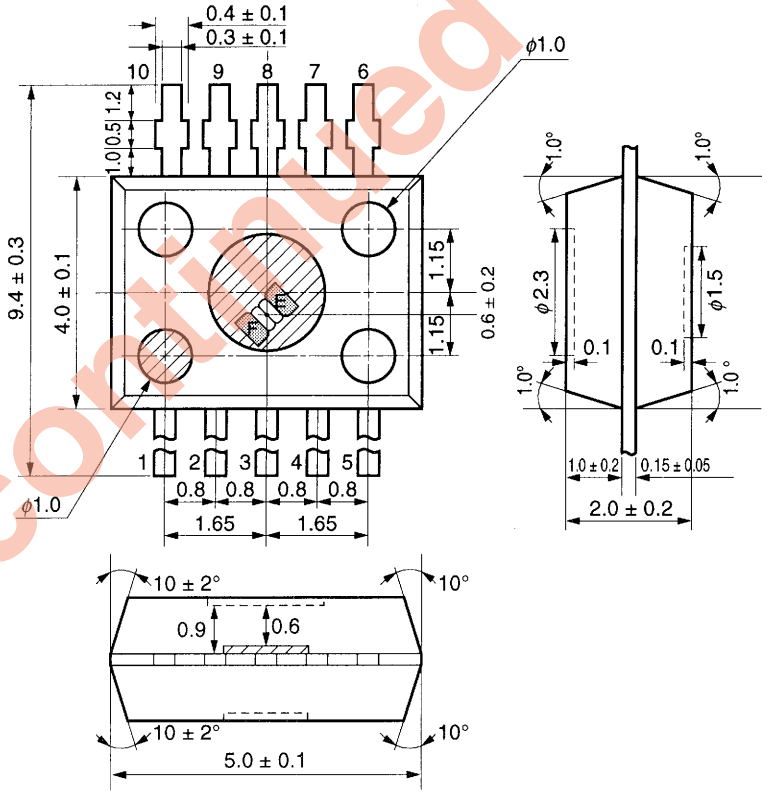
HIGH SPEED, HIGH SENSITIVITY PHOTO DIODE INTERNAL I/V AMPLIFIER DETECTOR FOR CD-ROM APPLICATION

PH525 is 6 elements photo diode built in I/V amplifiers. It is easy to adjust the center of beam spot by using the Focus and Tracking input terminal, and possible to obtain high speed and high sensitivity.

FEATURES

• High speed	Frequency Response	f = 8 MHz (typ.)
• High sensitivity	Output Voltage	V_{OF} = 340 mV, V_{OT} = 710 mV
• Wide Operating Temperature		Topt. = –20 to +70 °C
• Small Package		4.0 × 5.0 mm

PACKAGE DIMENSIONS (UNIT: mm)



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ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C)

CHARACTERISTICS	SYMBOL		UNIT
Supply Voltage	V_{CC}	11	V
Package Dissipation	P_O	100	mW
Operating Temperature	T_{OPT}	–20 to +70	°C
Storage Temperature	T_{stg}	–40 to +85	°C

RECOMMENDED OPERATING CONDITIONS (T_A = 25 °C)

CHARACTERISTICS	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply Voltage of Vc	Vc	1.3	2.5	V_{CC}–1.3	V
Supply Voltage	V_{CC}	2.8	5.0	10.0	V

ELECTRICAL CHARACTERISTICS (T_A = 25 °C, V_{CC} = 5 V, R_L = 10 kΩ)

CHARACTERISTICS	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Circuit Current	I_{CC}	Shield a light, V_{CC} = 5 V, A ~ F Open	–	1.3	1.8	mA
Focus Output Voltage	V_{OF}	Pi = 10 μW, λ = 780 nm, V_{CC} = 5 V, A ~ D	270	340	410	mV
Tracking Output Voltage	V_{OT}	Pi = 10 μW, λ = 780 nm, V_{CC} = 5 V, E, F	565	710	855	mV
Offset Voltage	V_{off}	Shield a light	–15	0	15	mV
Difference of Offset Voltage	Δ V_{off}	(A+B)–(C+D), Shield a light	–15	0	15	mV
Difference of Offset Voltage	Δ V_{off}	(A+D)–(B+C), Shield a light	–15	0	15	mV
Difference of Offset Voltage	Δ V_{off}	(A+C)–(B+D), Shield a light	–15	0	15	mV
Difference of Offset Voltage	Δ V_{off}	E-F, Shield a light	–10	0	10	mV
Frequency Response (A-D)	fc	λ = 780 nm, f = 100 kHz reference –3 dB, A-D	6	8	–	MHz
Frequency Response (E, F)	fc	λ = 780 nm, f = 100 kHz reference –3 dB, E, F	1	2	–	MHz
Maximum Output Voltage	V_{OM}	Pi = 100 μW, V_{CC} = 5 V	4.0	4.2	–	mV

CHIP PATTERN (Unit: μm)