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

Issued by: Renesas Electronics Corporation (http://www.renesas.com)

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RENESAS

PHOTO DIODE
NDL2208

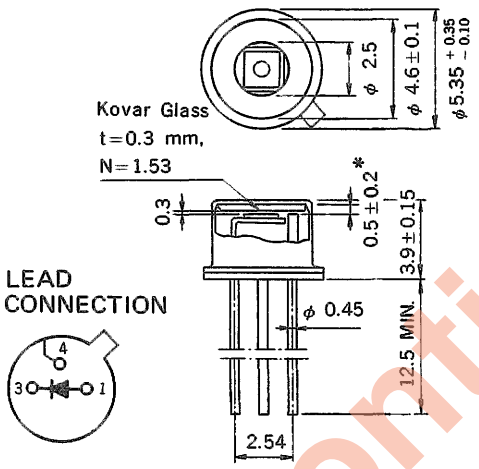
OPTICAL FIBER COMMUNICATION
SILICON PIN PHOTO DIODE

DESCRIPTION

NDL2208 is a PIN photodiode detectors with excellent quantum efficiency, switching speed, and spectral range. This photo-detector is designed for a detector of communications system and as general purpose detector for 600 to 1 100 nm spectral range.

It is hermetically sealed in a rugged TO-18 type package with a window and floating leads.

PACKAGE DIMENSIONS
in millimeters



1. Anode (Negative Bias)
3. Cathode (Positive Bias)
4. Case

* Optical length

FEATURES

- High quantum efficiency. η = 85 %, @850 nm
- Low operating voltage.
- Small dark current. I_D = 1.0 nA MAX.
- Short optical length 0.5 mm
- Large detecting area size. ϕ 880 μm

ABSOLUTE MAXIMUM RATINGS (T_a = 25 °C)

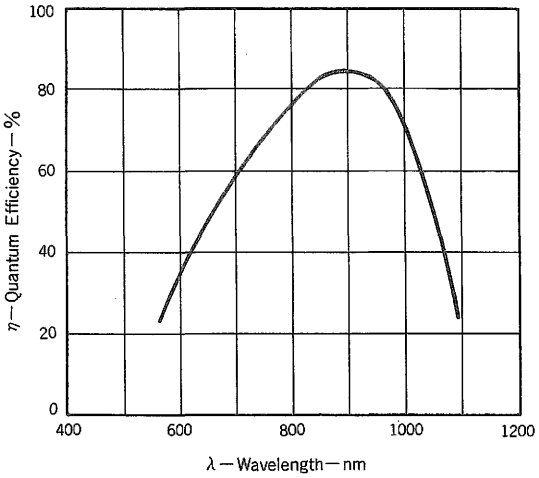
Reverse Voltage	V_R	50	V
Forward Current	I_F	100	mA
Power Dissipation	P_T	100	mW
Operating Temperature	T_{opt}	−65 to +150	°C
Storage Temperature	T_{stg}	−65 to +150	°C

ELECTRO-OPTICAL CHARACTERISTICS (T_a = 25 °C)

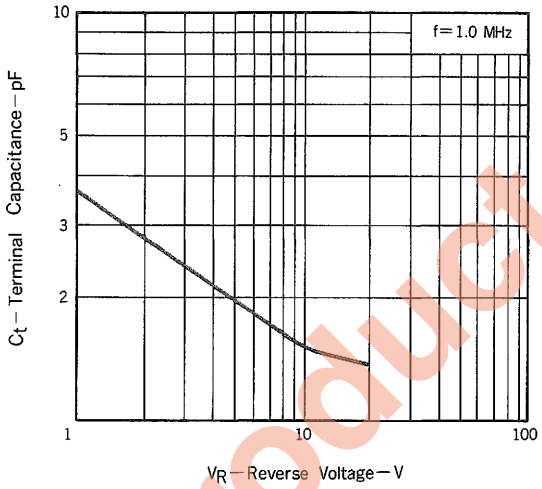
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Dark Current	I_D			1.0	nA	V_R = 10 V
Terminal Capacitance	C_t		1.5	3.0	pF	V_R = 10 V, f = 1.0 MHz
Quantum Efficiency	η	70	85		%	λ = 850 nm
Rise Time	t_r		10		ns	V_R=10 V, λ=850 nm, 10–90 %, R_L=50 Ω
Fall Time	t_f		10		ns	V_R=10 V, λ=850 nm, 90–10 %, R_L=50 Ω

TYPICAL CHARACTERISTICS (T_a = 25 °C)

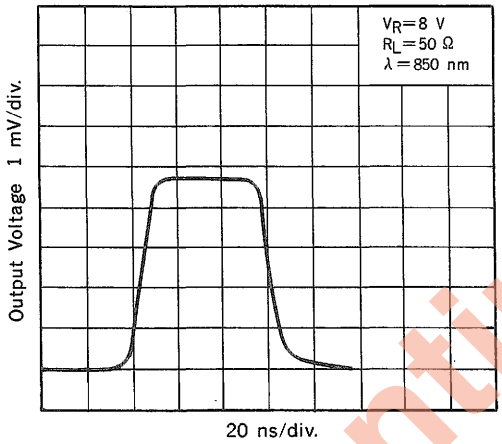
QUANTUM EFFICIENCY vs. WAVELENGTH



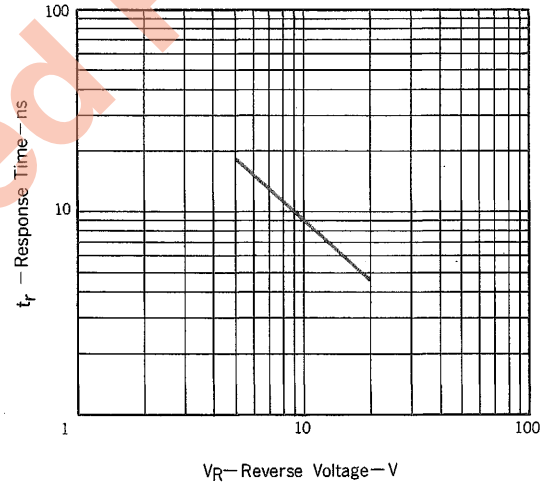
TERMINAL CAPACITANCE vs. REVERSE VOLTAGE



RESPONSE TIME CHARACTERISTIC



RESPONSE TIME vs. REVERSE VOLTAGE



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