To our customers,

Old Company Name in Catalogs and Other Documents

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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

DATA SHEET

Phase-out/Discontinued

RECEIVER

NR3314TU

InGaAs PIN-PD RECEIVER WITH INTERNAL PRE-AMPLIFIER FOR 10 Gb/s APPLICATIONS

DESCRIPTION

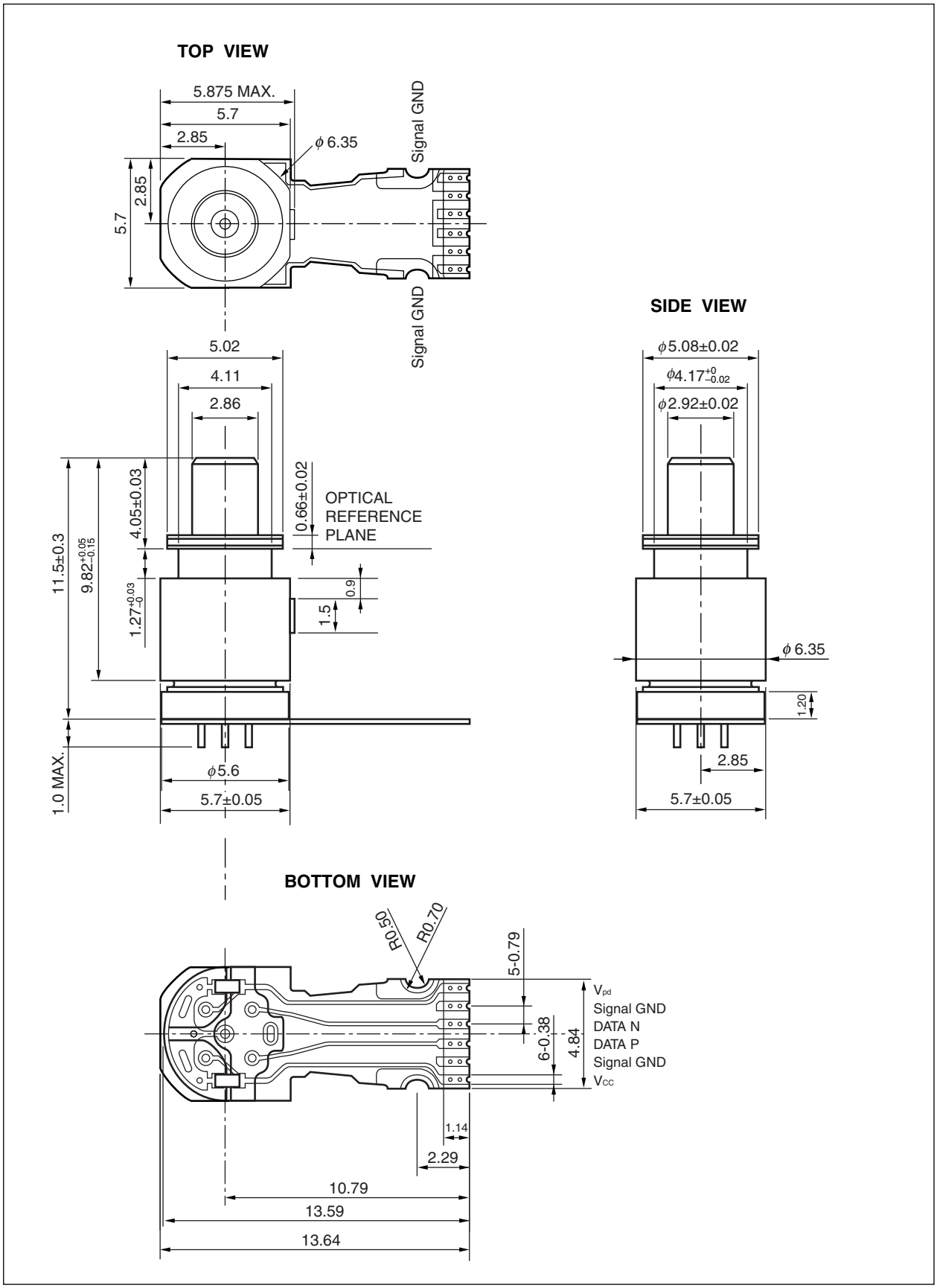
The NR3314TU products consist of InGaAs PIN ROSAs (Receiver Optical Sub-Assembly) with internal pre-amplifiers designed for 10 Gb/s optical transceivers such as the XFP/SFP+. These modules are ideal as receivers for IEEE 10G BASE LR.

FEATURES

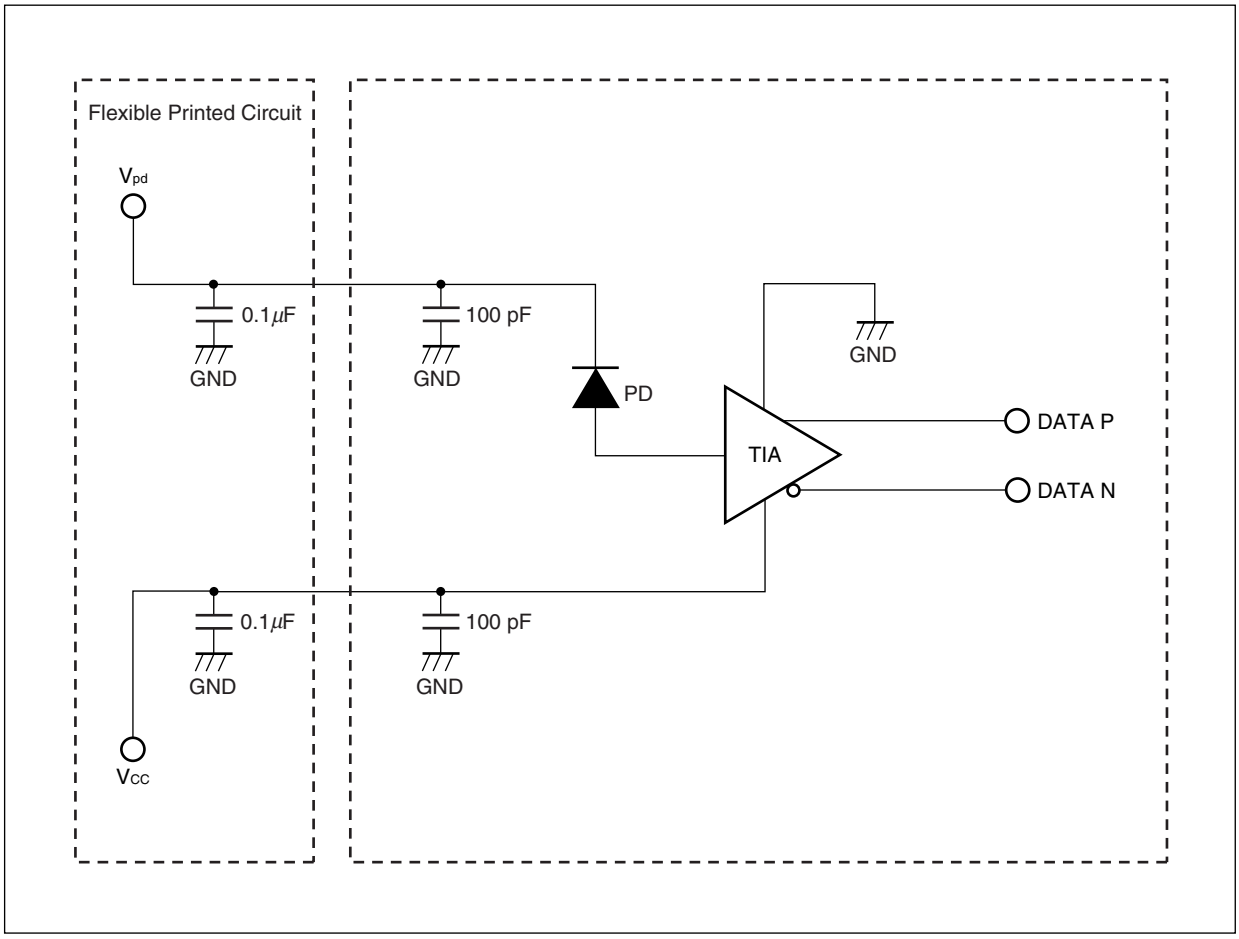
- ROSA with plastic receptacle
- 10 Gb/s high sensitivity InGaAs PIN-PD
- +3.3 V transimpedance pre-amplifier
- Minimum receiver sensitivity $P_{r\,(OMA)} = -17$ dBm OMA
- Operating case temperature $T_C = -20$ to +95°C
- With flexible printed circuit

Document No. PL10784EJ01V0DS (1st edition)
Date Published February 2010 NS
Printed in Japan

PACKAGE DIMENSIONS (UNIT: mm)



BLOCK DIAGRAM



ORDERING INFORMATION

Part Number	Receptacle Type	Note
NR3314TU	LC plastic	Differential output with flexible PCB

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Ratings	Unit
PIN-PD Reverse Voltage	V_R	10	V
PIN-PD Reverse Current	I_R	10	mA
IC Supply Voltage	V_{CC}	−0.3 to +4.0	V
Operating Case Temperature	T_C	−20 to +95	°C
Storage Temperature	T_{stg}	−40 to +95	°C
Maximum Input	P_{in}	+5	dBm
Lead Soldering Temperature (Flexible Printed Circuit)	T_{sld}	260 (10 sec.)	°C

RECOMMENDED OPERATING CONDITION

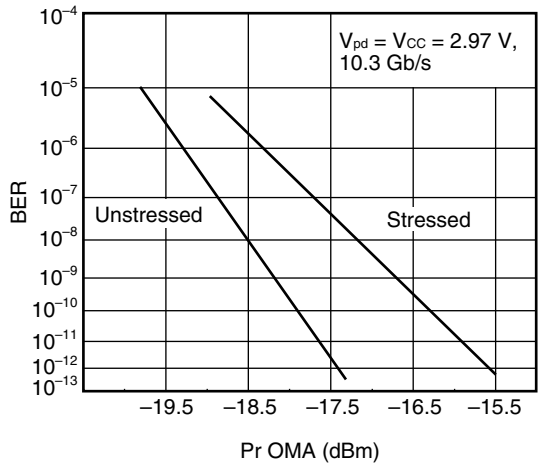
Parameter	Symbol	MIN.	TYP.	MAX.	Unit
PIN-PD Reverse Voltage	V_R	+2.97	+3.3	+3.5	V
IC Supply Voltage	V_{CC}	+2.97	+3.3	+3.5	V
Operating Case Temperature	T_C	−20	+25	+95	°C

ELECTRO-OPTICAL CHARACTERISTICS (λ = 1 310 nm, unless otherwise specified)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Sensitivity	S		0.75	0.85	1.1	A/W
Saturated Output Voltage Swing	V_{pp}	Single-ended	100		350	mV_{pp}
Cut-off Frequency	f_C	R_L = 50 Ω, P_{in} = −17 dBm, −3 dB from 1 GHz	6.5			GHz
Minimum Receiver Sensitivity	$P_{r\ (OMA)}$	NRZ, 10.3125 Gb/s, BER = 10^{-12}, PRBS = 2^{31}−1, ER = 6.5 dB,		−17	−14.9	dBm OMA
Overload	$P_{O\ (OMA)}$		+2.1	+3.1		dBm OMA
Electrical Return Loss	S_{22}	0.2 to 6 GHz, Single-ended			−5	dB
IC Supply Current	I_{CC}				50	mA
Optical Return Loss	ORL			−14	−12	dB

TYPICAL CHARACTERISTICS (T_C = 25°C, unless otherwise specified)

SENSITIVITY



Remark The graph indicates nominal characteristics.

REFERENCE

Document Name	Document No.
Opto-Electronics Devices Pamphlet	PX10160E

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M8E0904E

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Caution Optical Fiber	A glass-fiber is attached on the product. Handle with care. • When the fiber is broken or damaged, handle carefully to avoid injury from the damaged part or fragments.