NEW

PHOTODIODE

InGaAs PIN photodiode with preamp
G9128/G9129/G9130/G9131 series

MINI-DIL type, 1.3/1.55 µm, 156, 622 Mbps/1.25, 2.5 Gbps

Features

- Wide dynamic range
  G9128 series (156 Mbps) : -37 to -5 dBm Typ.
  G9129 series (622 Mbps) : -32 to -5 dBm Typ.
  G9130 series (1.25 Gbps) : -25 to -1 dBm Typ.
  G9131 series (2.5 Gbps) : -22 to +1 dBm Typ.
- Supply voltage
  G9128/G9129 series: 3.3 V
  G9130/G9131 series: 3.3 V, 5 V
- Small size
- Differential output
- Flame retardant optical fiber

Applications

- Optical fiber communications
- SDH/SONET

■ Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	G9128 series	G9129 series	G9130 series	G9131 series	Unit
Supply voltage	Vcc	-0.3, +3.8	-0.3, +3.8	-0.3, +5.5	-0.5, +6	V
Reverse voltage (photodiode)	Vpd	20	-	20	20	V
Operating temperature	Topr	-40 to +85				°C
Storage temperature	Tstg	-40 to +85				°C

■ Specifications (Typ. Ta=25 °C, Vpd=3.3 V, Vee=0 V, capacitive coupling, λ=1.31 µm, unless otherwise noted)

Parameter	Symbol	Condition	G9128 series Vcc=3.3 V RL=500 Ω *1	G9129 series Vcc=3.3 V RL=500 Ω *1	G9130 series Vcc=3.3/5 V RL=50 Ω	G9131 series Vcc=3.3/5 V RL=50 Ω	Unit
Photo sensitivity	S	*2, *3	27	17	2.8	1.1	V/mW
Supply current	Icc	dark state, RL=∞	25	30	35	35 (Vcc=3.3 V)	mA
Output bias voltage	Vo	dark state, RL=∞	1.5	1.65	Vcc - 1.7	Vcc - 0.25	V
Cut-off frequency	fc	*3 -3 dB	120 M	550 M	1 G	2 G	Hz
Low frequency cut-off	fc-L	*3 -3 dB	15	60	DC	30	kHz
Data rate	B		156 M	622 M	1.25 G	2.5 G	bps

*1: G9128/G9129 should be used with a load resistance larger than 500 Ω.
*2: Single ended (Vout+) measurement
*3: G9128/G9129 series: Pin= -30 dBm
G9130 series: Pin= -22 dBm
G9131 series: Pin= -17 dBm

■ Package lineup

Structure		G9128, G9129, G9130, G9131			
		-21	-22	-23	-24
Module	Mounting style	Board			
Fiber	Type	SM (9.5/125) ϕ0.9			
	Length	1 m +20 cm/-0 cm			
Connector	Type	SC	FC	MU	LC
	Dimensional outline	①	②	③	④

PRELIMINARY DATA
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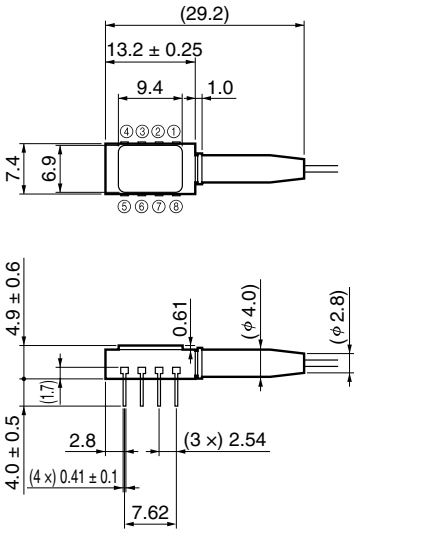
SOLID STATE DIVISION

■ Dimensional outlines (unit: mm, tolerance unless otherwise noted: ±0.2)

Package



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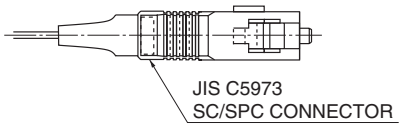
■ Pin connection

Pin No.	G9128 series	G9129 series	G9130 series	G9131 series
② ④ ⑤ ⑦	GND	GND	GND	GND
①	Vpd	Vcc	Vpd	Vpd
③	Vout-	Vout-	Vout+	Vout-
⑥	Vout+	Vout+	Vout-	Vout+
⑧	Vcc	MON *	Vcc	Vcc

* G9129 series has a MON function instead of Vpd. MON may be connected to Vcc across a resister to get the proportional voltage to the average photo-current.

Connector

① SC



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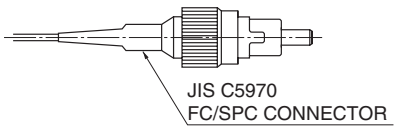
② FC



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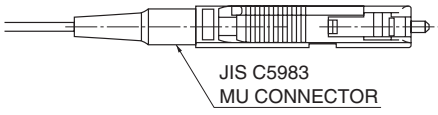
③ MU



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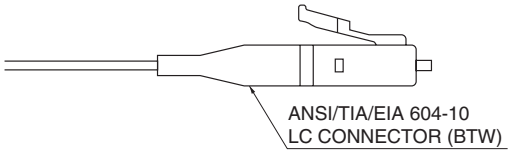
④ LC



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