

InGaAs PIN photodiode with preamp G8340/G8343/G8211/G8797 series

Pigtail type, 1.3/1.55 μm , 156, 622 Mbps/1.25, 2.5 Gbps



G8340/G8343/G8211/G8797 series are high-speed receivers specifically developed for 1.3/1.55 μm band optical fiber communications. These devices incorporate a high-speed, high-sensitivity InGaAs PIN photodiode and a high-speed preamp integrated in a pigtail module. Packages are available with various connectors and mounting styles.

Features

- Wide dynamic range
G8340 series (156 Mbps) : -37 to -5 dBm
G8343 series (622 Mbps) : -32 to -5 dBm
G8211 series (1.25 Gbps) : -25 to -1 dBm
G8797 series (2.5 Gbps) : -22 to +1 dBm
- Integrated with trans-impedance amplifier
- Supply voltage
G8340/G8343 series: 3.3 V
G8211/G8797 series: 3.3 V, 5 V
- Differential output

Applications

- Optical fiber communications
- Fiber channel
- Gigabit Ethernet
- HDTV
- SDH

■ Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	G8340 series	G8343 series	G8211 series	G8797 series	Unit
Supply voltage	Vcc	-0.3, +3.8	-0.3, +3.8	-0.3, +5.5	-0.5, +6	V
Operating temperature	Topr	-20 to +70				°C
Storage temperature	Tstg	-40 to +85				°C

■ Specifications (Typ. Ta=25 °C, Vee=0 V, capacitive coupling, $\lambda=1.31 \mu\text{m}$, unless otherwise noted)

Parameter	Symbol	Condition	G8340 series	G8343 series	G8211 series	G8797 series	Unit
			Vcc=3.3 V RL=500 Ω *1	Vcc=3.3 V RL=500 Ω *1	Vcc=3.3/5 V RL=50 Ω	Vcc=3.3/5 V RL=50 Ω	
Photo sensitivity	S	*2, *3	27	17	2.8	1.1	V/mW
Supply current	Icc	dark state, RL= ∞	25	30	35	35	mA
Output bias voltage	Vo	dark state, RL= ∞	1.5	1.65	Vcc - 1.7	Vcc - 0.25	V
Rise time	tr	*3 20 to 80 %	2000	500	250	150	ps
Data rate	B		156 M	622 M	1.25 G	2.5 G	bps

*1: G8340/G8343 series cannot be operated with RL=50 Ω , so they should be used with a load resistance larger than 500 Ω .

*2: Single ended (Vout+) measurement

*3: G8340/G8343 series: Pin= -30 dBm

G8211 series: Pin= -22 dBm

G8797 series: Pin= -17 dBm

■ Package lineup

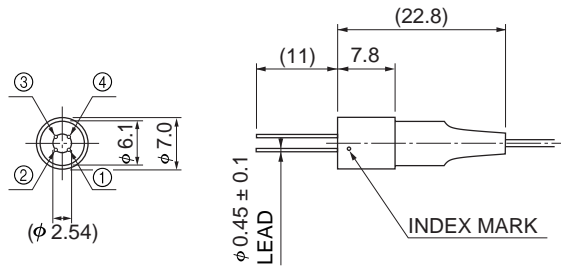
Structure		G8340, G8343, G8211, G8797					
		-11	-12	-21	-22	-31	-32
Module	Mounting style	Coaxial		Board		Panel	
	Dimensional outline	①		②		③	
Fiber	Type	SM (9.5/125) ϕ 0.9					
	Length	1 m +20 cm/-0 cm					
Connector	Type	SC	FC	SC	FC	SC	FC
	Dimensional outline	④	⑤	④	⑤	④	⑤

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

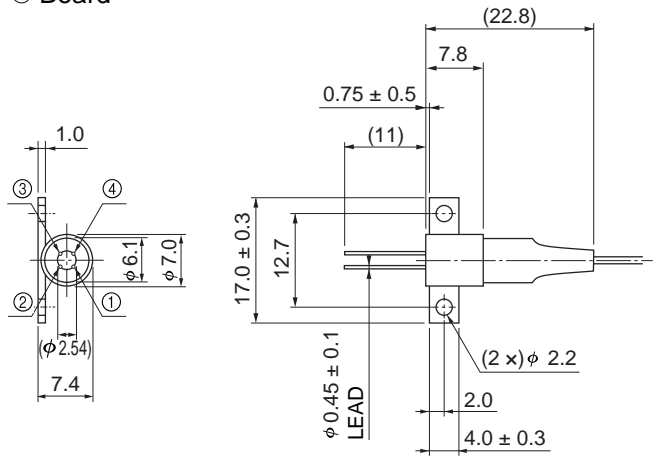
Mount type

① Coaxial



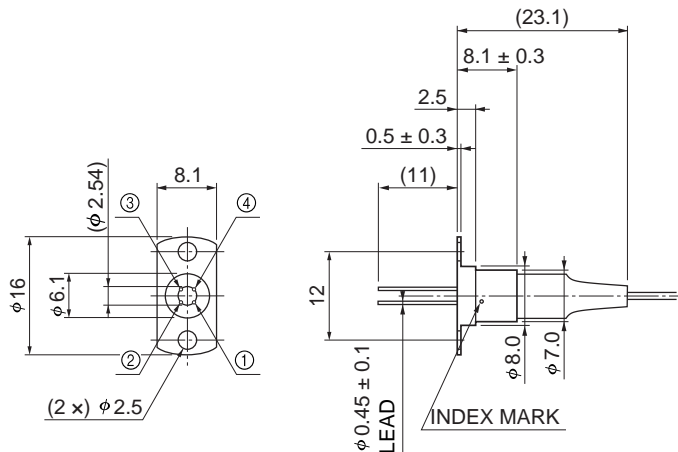
KIRDA0099EA

② Board



KIRDA0100EA

③ Panel



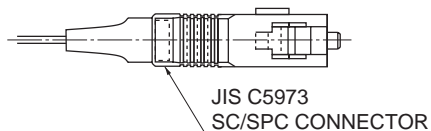
KIRDA0101EA

■ Pin connection

Pin No.	G8340/G8343/ G8797 series	G8211 series
①	Vcc	Vcc
②	Vout -	Vout +
③	Vee	Vee
④	Vout +	Vout -

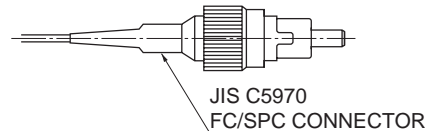
Connector

④ SC



KIRDA0102EA

⑤ FC



KIRDA0103EA

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