

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

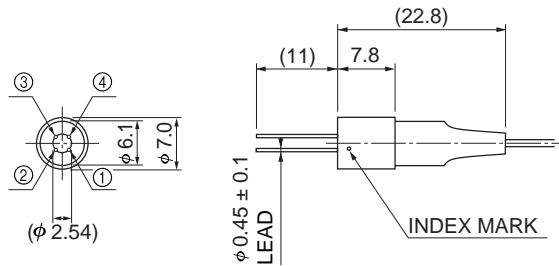
Structure		G8340, G8343, G8211, G8797					
		-11	-12	-21	-22	-31	-32
Module	Mounting style	Coaxial		Board		Panel	
	Dimensional outline	①		②		③	
Fiber	Type	SM (9.5/125) ϕ 0.9					
	Length	1 m +20 cm/-0 cm					
Connector	Type	SC	FC	SC	FC	SC	FC
	Dimensional outline	④	⑤	④	⑤	④	⑤

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

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

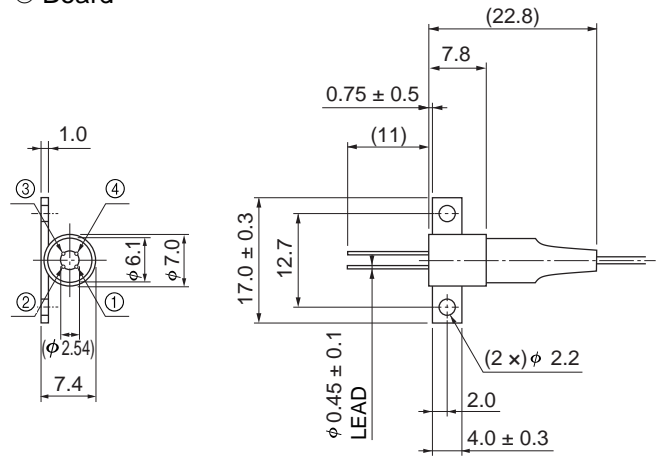
Mount type

① Coaxial



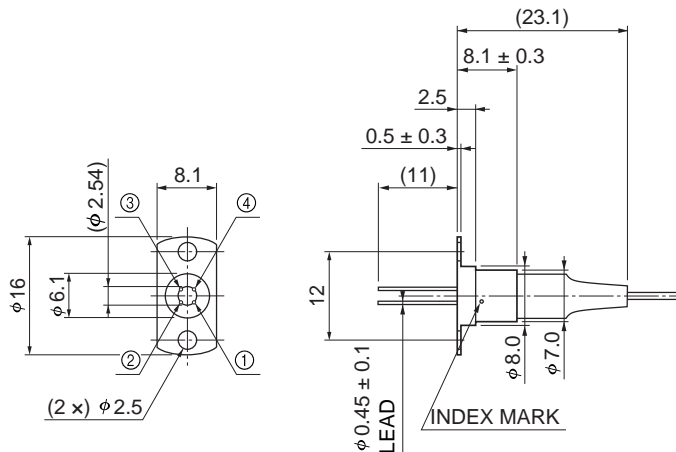
KIRDA0099EA

② Board



KIRDA0100EA

③ Panel



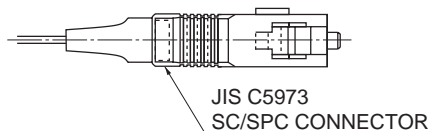
KIRDA0101EA

■ Pin connection

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

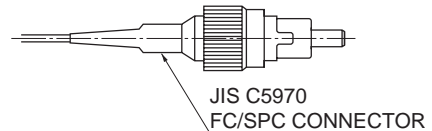
Connector

④ SC



KIRDA0102EA

⑤ FC



KIRDA0103EA

HAMAMATSU

Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications are subject to change without notice. No patent rights are granted to any of the circuits described herein. ©2001 Hamamatsu Photonics K.K.

HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Hamamatsu City, 435-8558 Japan, Telephone: (81) 053-434-3311, Fax: (81) 053-434-5184, <http://www.hamamatsu.com>

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, P.O.Box 6910, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1) 908-231-0960, Fax: (1) 908-231-1218

Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49) 08152-3750, Fax: (49) 08152-2658

France: Hamamatsu Photonics France S.A.R.L.: 8, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: 33-(1) 69 53 71 00, Fax: 33-(1) 69 53 71 10

United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, United Kingdom, Telephone: (44) 1707-294888, Fax: (44) 1707-325777

North Europe: Hamamatsu Photonics Norden AB: Smidesvägen 12, SE-171 41 Solna, Sweden, Telephone: (46) 8-509-031-00, Fax: (46) 8-509-031-01

Italy: Hamamatsu Photonics Italia S.R.L.: Strada della Moia, 1/E, 20020 Arese, (Milano), Italy, Telephone: (39) 02-935-81-733, Fax: (39) 02-935-81-741