

InGaAs PIN photodiode G8194 series

Receptacle type, 1.3/1.55 μm , 2 GHz



G8194 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 integrated in a receptacle module. Packages are available with various connectors and mounting styles.

Features

- High-speed response: 2 GHz Typ.
- Low dark current: 20 pA Typ.
- High sensitivity: 0.9 A/W Typ. ($\lambda=1.31 \mu\text{m}$)
- Low terminal capacitance: 1 pF Typ.

Applications

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

■ Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Value	Unit
Reverse voltage	VR Max.	20	V
Operating temperature	Topr	-20 to +70	°C
Storage temperature	Tstg	-40 to +85	°C

■ Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	0.9 to 1.7	-	μm
Peak sensitivity wavelength	λ_p		-	1.55	-	μm
Photo sensitivity	S *1	$\lambda=1.3 \mu\text{m}$	-	0.9	-	A/W
		$\lambda=1.55 \mu\text{m}$	-	0.95	-	A/W
Dark current	ID	VR=5 V	-	0.02	0.4	nA
Cut-off frequency	fc	VR=5 V, RL=50 Ω $\lambda=1.3 \mu\text{m}$, -3 dB	-	2	-	GHz
Terminal capacitance	Ct	VR=5 V, f=1 MHz	-	1	1.5	pF

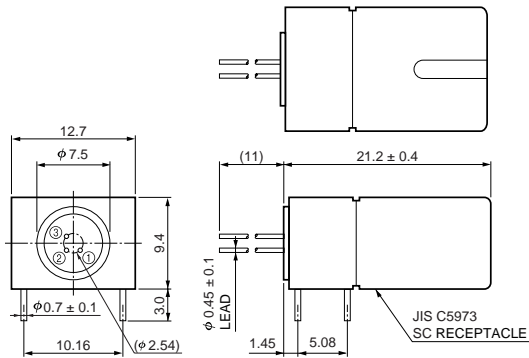
*1: Using a single mode optical fiber with a master plug.

■ Package lineup

Parameter	G8194				
	-21	-22	-23	-32	-44
Mounting style	Board			Panel	Board & panel
Connector	SC	FC	MU	FC	LC
Dimensional outline	①	②	③	④	⑤

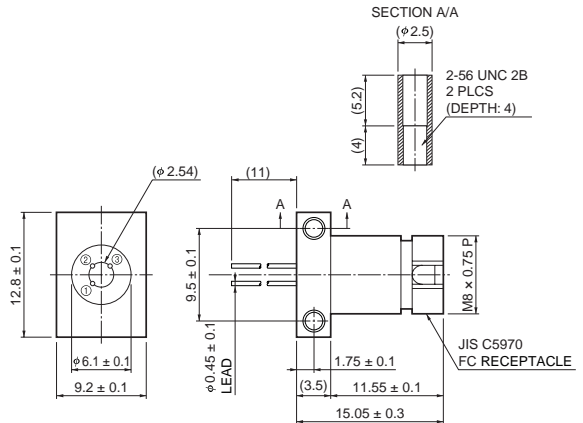
■ Dimensional outlines (unit: mm, tolerance unless otherwise noted: ± 0.2)

① G8194-21



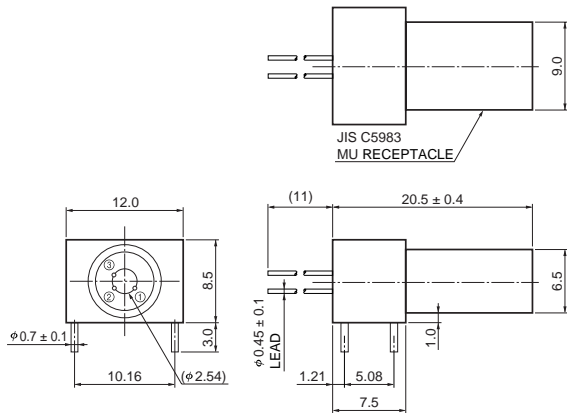
KIRDA0078EB

② G8194-22



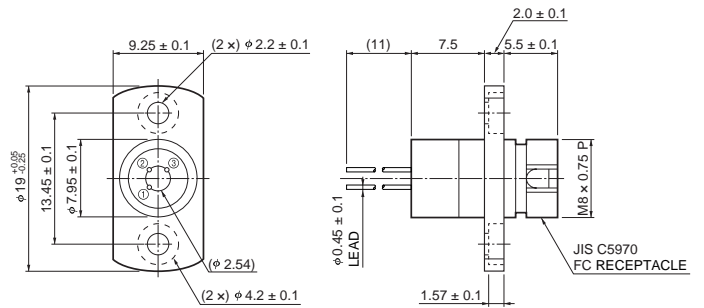
KIRDA0079EB

③ G8194-23



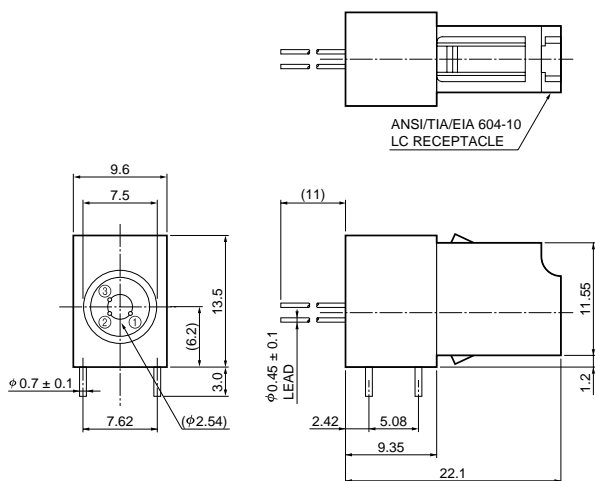
KIRDA0106EA

④ G8194-32



KIRDA0080EB

⑤ G8194-44



KIRDA0107EB

■ Pin connection

①	Anode
②	Cathode
③	Case

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. ©2002 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