

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 ($T_a=25 \text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Reverse voltage	V_R Max.	20	V
Operating temperature	T_{opr}	-20 to +70	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +85	$^\circ\text{C}$

■ Electrical and optical characteristics ($T_a=25 \text{ }^\circ\text{C}$)

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	I_D	$V_R=5 \text{ V}$	-	0.02	0.4	nA
Cut-off frequency	f_c	$V_R=5 \text{ V}$, $R_L=50 \Omega$ $\lambda=1.3 \mu\text{m}$, -3 dB	-	2	-	GHz
Terminal capacitance	C_t	$V_R=5 \text{ V}$, $f=1 \text{ MHz}$	-	1	1.5	pF

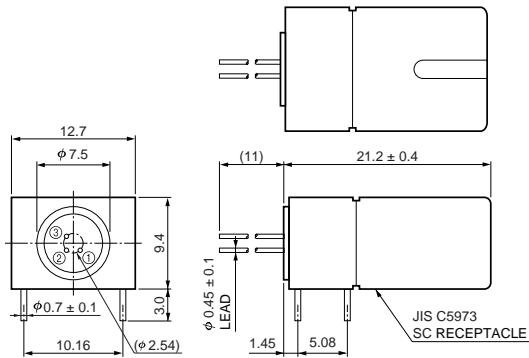
*1: Using a single mode optical fiber with a master plug.

■ 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

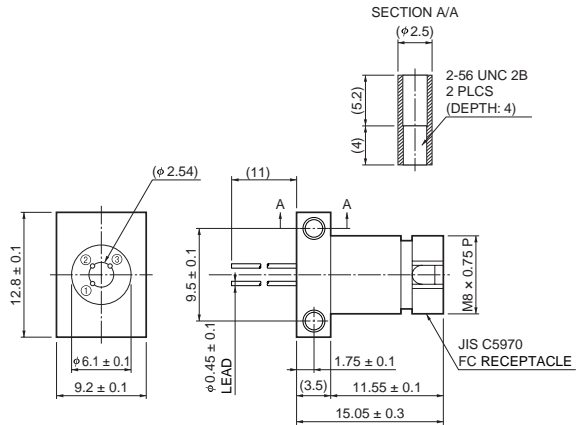
■ Dimensional outlines (unit: mm, tolerance unless otherwise noted: ± 0.2)

① G8194-21



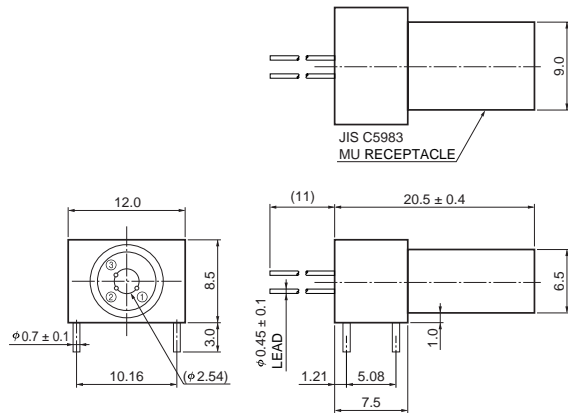
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② G8194-22



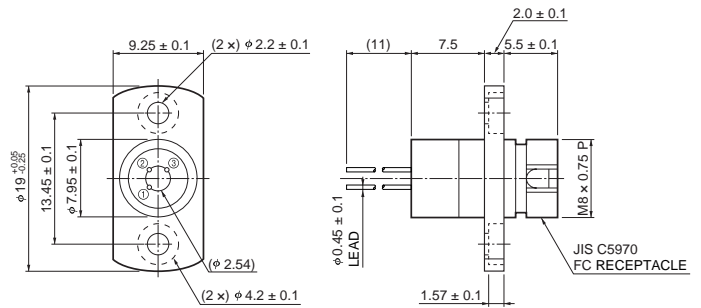
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③ G8194-23



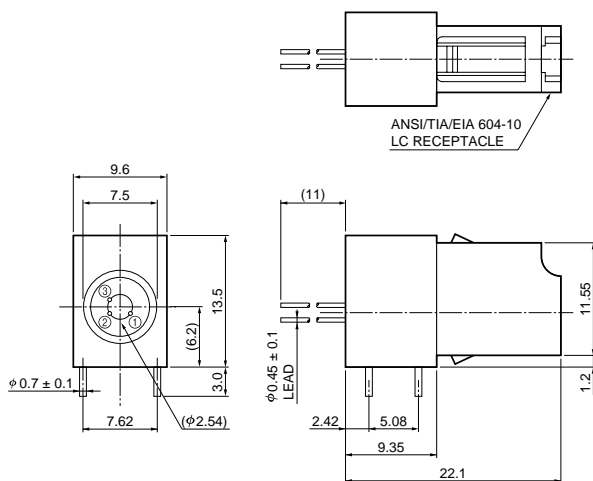
KIRDA0106EA

④ G8194-32



KIRDA0080EB

⑤ G8194-44



KIRDA0107EB

■ Pin connection

①	Anode
②	Cathode
③	Case

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