

# InGaAs PIN photodiode G9801 series

Receptacle type, 1.3/1.55  $\mu\text{m}$ , 2 GHz



G9801 series are high-speed receivers specifically developed for 1.3/1.55  $\mu\text{m}$  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

### ■ Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Value	Unit
Reverse voltage	V <sub>R</sub> Max.	20	V
Operating temperature	T <sub>opr</sub>	-20 to +70	°C
Storage temperature	T <sub>stg</sub>	-40 to +85	°C

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

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	$\lambda$		-	0.9 to 1.7	-	$\mu\text{m}$
Peak sensitivity wavelength	$\lambda_p$		-	1.55	-	$\mu\text{m}$
Photo sensitivity	S *1	$\lambda=1.3 \mu\text{m}$	0.75	0.9	-	A/W
		$\lambda=1.55 \mu\text{m}$	0.8	0.95	-	A/W
Dark current	I <sub>D</sub>	V <sub>R</sub> =5 V	-	0.02	0.4	nA
Cut-off frequency	f <sub>c</sub>	V <sub>R</sub> =5 V, R <sub>L</sub> =50 $\Omega$ $\lambda=1.3 \mu\text{m}$ , -3 dB	-	2	-	GHz
Terminal capacitance	C <sub>t</sub>	V <sub>R</sub> =5 V, f=1 MHz	-	1	1.5	pF
Noise equivalent power	NEP	V <sub>R</sub> =5 V, $\lambda=1.55 \mu\text{m}$	-	$3 \times 10^{-15}$		W/Hz <sup>1/2</sup>

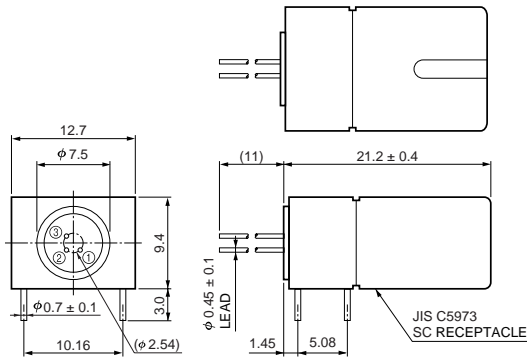
\*1: Using a single mode optical fiber with a master plug.

### ■ Package lineup

Parameter	G9801		
	-21	-22	-32
Mounting style	Board		Panel
Connector	SC	FC	FC
Dimensional outline	①	②	③

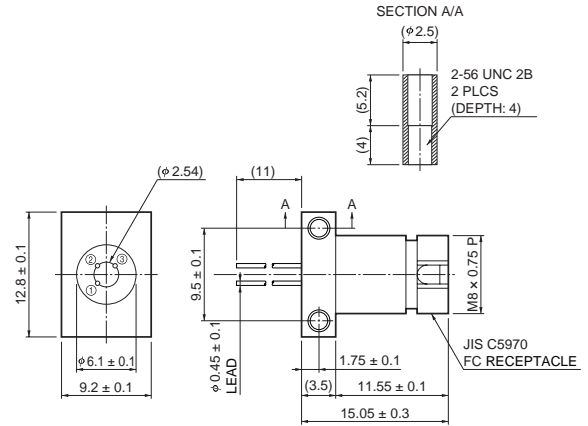
■ Dimensional outlines (unit: mm, tolerance unless otherwise noted:  $\pm 0.2$ )

① G9801-21



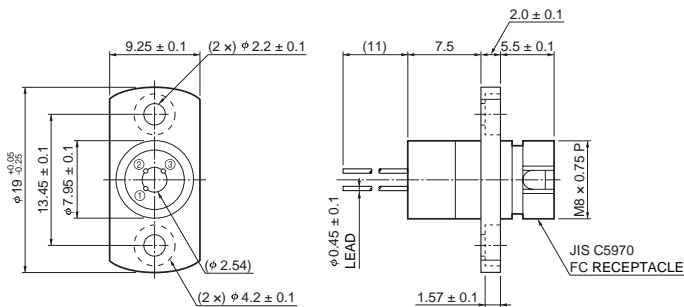
KIRDA0078EB

② G9801-22



KIRDA0079EB

③ G9801-32



KIRDA0080EB

■ Pin connection

①	Anode
②	Cathode
③	Case

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