HAMAMATSU
PHOTON IS OUR BUSINESS

InGaAs PIN photodiodes

G9801 series



Receptacle type, 1.3/1.55 µm, 2 GHz

The G9801 series are high-speed receivers specifically developed for 1.3/1.55 µm band power monitor in 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 mount types.

Features

- **High-speed response: 2 GHz typ.**
- **Low dark current: 20 pA typ.**
- **High sensitivity: 0.9 A/W typ. (λ=1.31 µm)**
- **Low terminal capacitance: 1 pF typ.**

Applications

- **Power monitor in optical fiber communications**

Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Condition	Value	Unit
Reverse voltage	V_R max		20	V
Operating temperature	Topr	No dew condensation*1	-20 to +70	°C
Storage temperature	Tstg	No dew condensation*1	-40 to +85	°C

*1: When there is a temperature difference between a product and the surrounding area in high humidity environment, dew condensation may occur on the product surface. Dew condensation on the product may cause deterioration in characteristics and reliability.

Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

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	λp		-	1.55	-	µm
Photo sensitivity	S*2	λ=1.3 µm	0.75	0.9	-	A/W
		λ=1.55 µm	0.8	0.95	-	A/W
Dark current	I_D	V_R=5 V	-	0.02	0.4	nA
Cut-off frequency	fc	V_R=5 V, R_L=50 Ω λ=1.3 µm, -3 dB	-	2	-	GHz
Terminal capacitance	Ct	V_R=5 V, f=1 MHz	-	1	1.5	pF
Noise equivalent power	NEP	V_R=5 V, λ=1.55 µm	-	3×10^{-15}	-	$W/Hz^{1/2}$

*2: Using a single mode optical fiber with a master plug

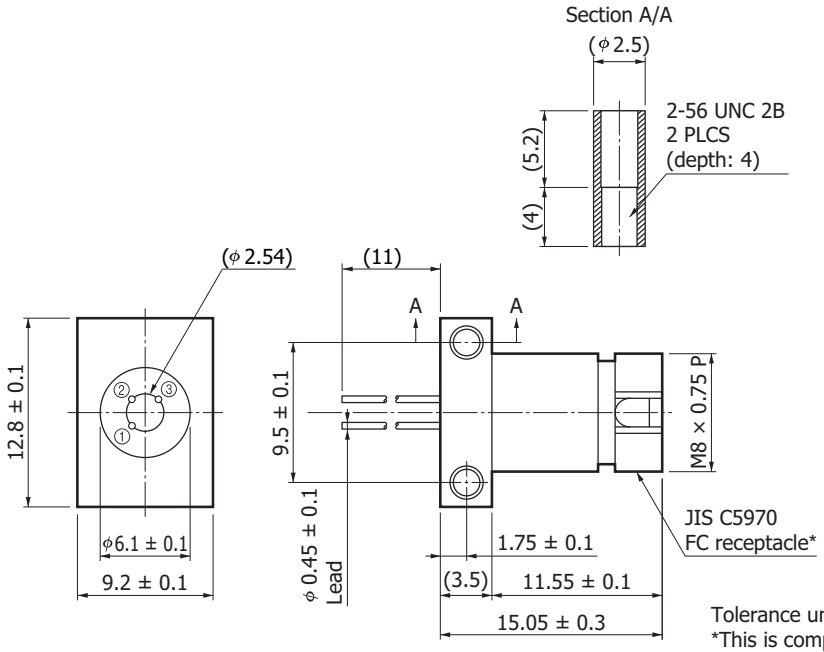
Package lineup

Parameter	G9801-22	G9801-32
Mount type	Board	Panel
Connector	FC	FC
Dimensional outline	(1)	(2)

The G9801 series may be damaged by electrostatic discharge, etc. Be careful when using the G9801 series.

Dimensional outlines (unit: mm)

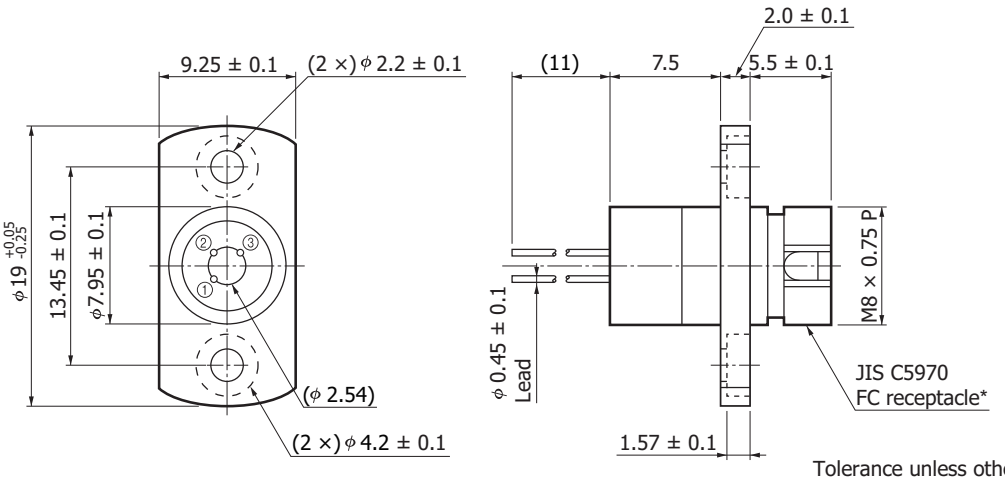
(1) G9801-22



Tolerance unless otherwise noted: ±0.2
*This is compatible with FC/PC, FC/SPC, and FC/UPC optical plugs.
It is not compatible with FC/Angled PC plugs.

KIRDA0079EC

(2) G9801-32



Tolerance unless otherwise noted: ±0.2
*This is compatible with FC/PC, FC/SPC, and FC/UPC optical plugs.
It is not compatible with FC/Angled PC plugs.

KIRDA0080EC

Pin connections

①	Anode
②	Cathode
③	Case

Related information

www.hamamatsu.com/sp/ssd/doc_en.html

■ Precautions
- Disclaimer
- Metal, ceramic, plastic products

■ Technical information
- Infrared detectors

Information described in this material is current as of August, 2015.
Product specifications are subject to change without prior notice due to improvements or other reasons. This document has been carefully prepared and the information contained is believed to be accurate. In rare cases, however, there may be inaccuracies such as text errors. Before using these products, always contact us for the delivery specification sheet to check the latest specifications.
The product warranty is valid for one year after delivery and is limited to product repair or replacement for defects discovered and reported to us within that one year period. However, even if within the warranty period we accept absolutely no liability for any loss caused by natural disasters or improper product use.
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