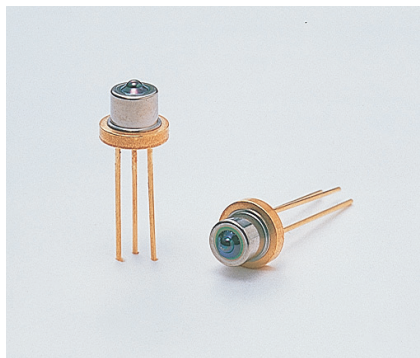


# InGaAs PIN photodiode



G6854-01

**Spherical lens window package for efficient fiber coupling**

## Features

- Easy optical axis alignment
- High fiber coupling efficiency
- CD package  
High degree of base positioning accuracy allows easy positioning.
- Package weldable by YAG laser
- Spherical lens window with AR coating minimizes return light input

## Applications

- Optical fiber communications

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

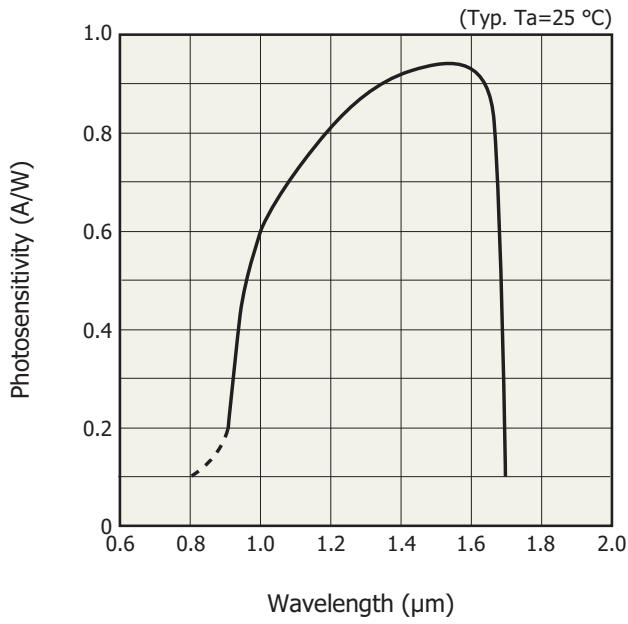
Parameter	Symbol	Value	Unit
Reverse voltage	V <sub>R</sub> Max.	20	V
Operating temperature	T <sub>opr</sub>	-40 to +85	°C
Storage temperature	T <sub>stg</sub>	-55 to +125	°C

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

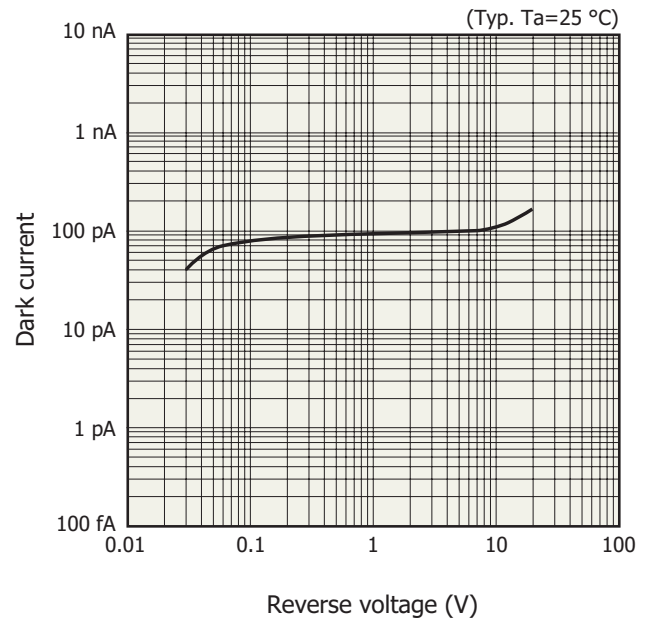
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	$\lambda$		-	0.9 to 1.7	-	$\mu\text{m}$
Peak sensitivity wavelength	$\lambda_p$		-	1.55	-	$\mu\text{m}$
Photo sensitivity	S	$\lambda=1.3 \mu\text{m}$	0.8	0.9	-	A/W
		$\lambda=1.55 \mu\text{m}$	0.85	0.95	-	A/W
Dark current	I <sub>D</sub>	V <sub>R</sub> =5 V	-	80	400	pA
Cutoff 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	1	2	-	GHz
Terminal capacitance	C <sub>t</sub>	V <sub>R</sub> =5 V, f=1 MHz	-	1	1.5	pF
Shunt resistance	R <sub>sh</sub>	V <sub>R</sub> =10 mV	-	8	-	G $\Omega$
Detectivity	D*	$\lambda=\lambda_p$	-	$5 \times 10^{12}$	-	cm · Hz <sup>1/2</sup> /W
Noise equivalent power	NEP	$\lambda=\lambda_p$	-	$2 \times 10^{-15}$	-	W/Hz <sup>1/2</sup>

G6854-01 may be damaged by Electro Static Discharge, etc. Be carefull when using G6854-01.

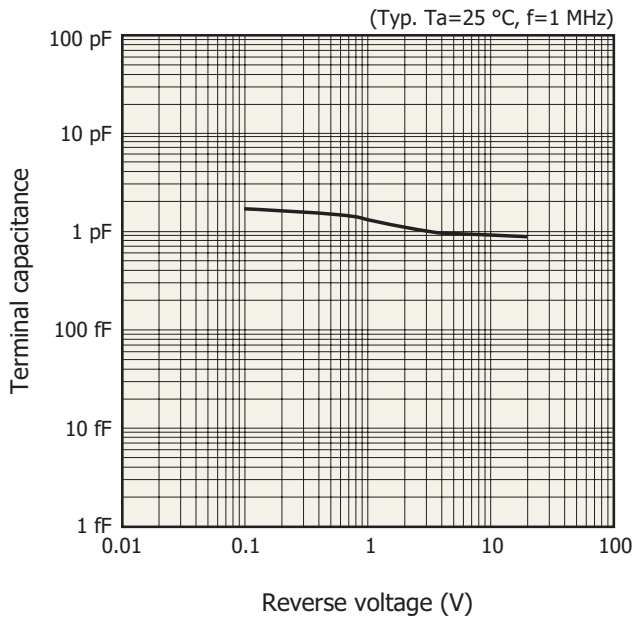
**Spectral response**



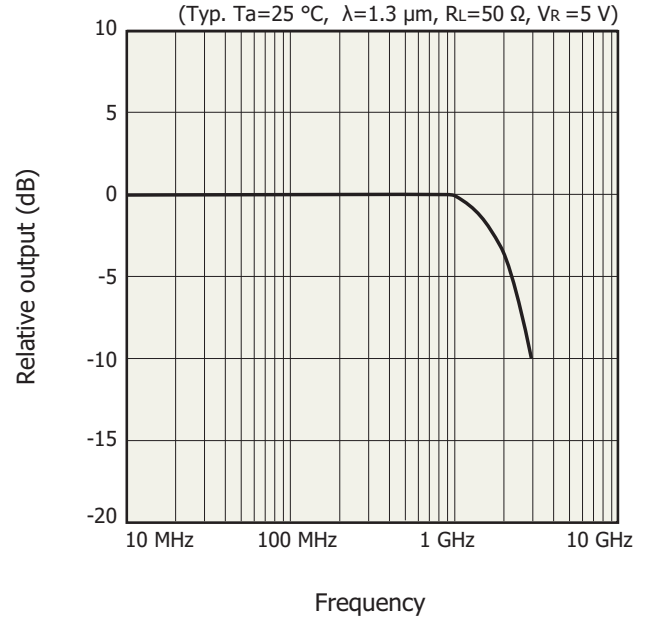
**Dark current vs. reverse voltage**



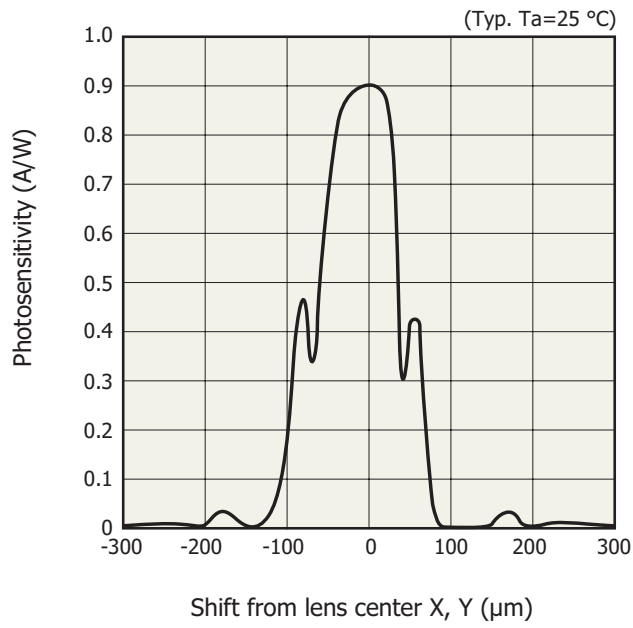
**Terminal capacitance vs. reverse voltage**



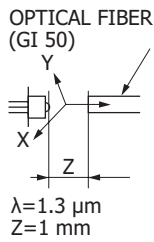
**Frequency response**



❑ Fiber coupling characteristic (X, Y axes)

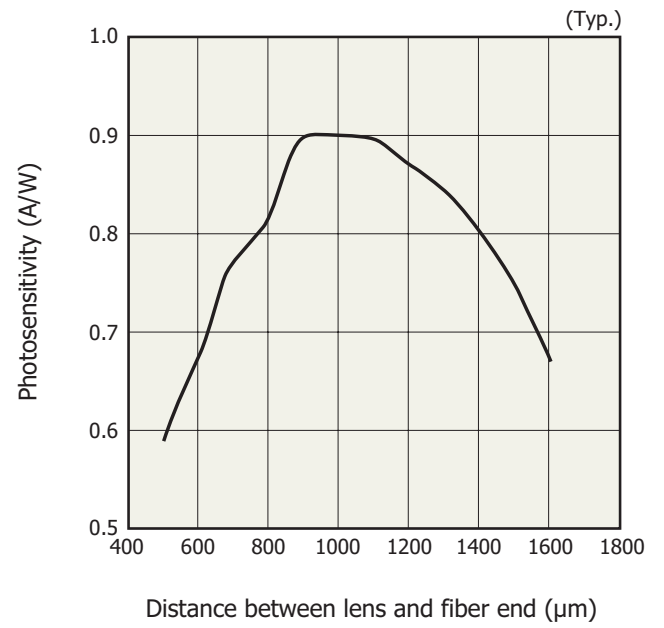


KIRDB0155EC

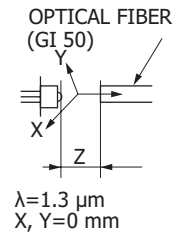


KIRDC0042EA

❑ Fiber coupling characteristic (Z axis)

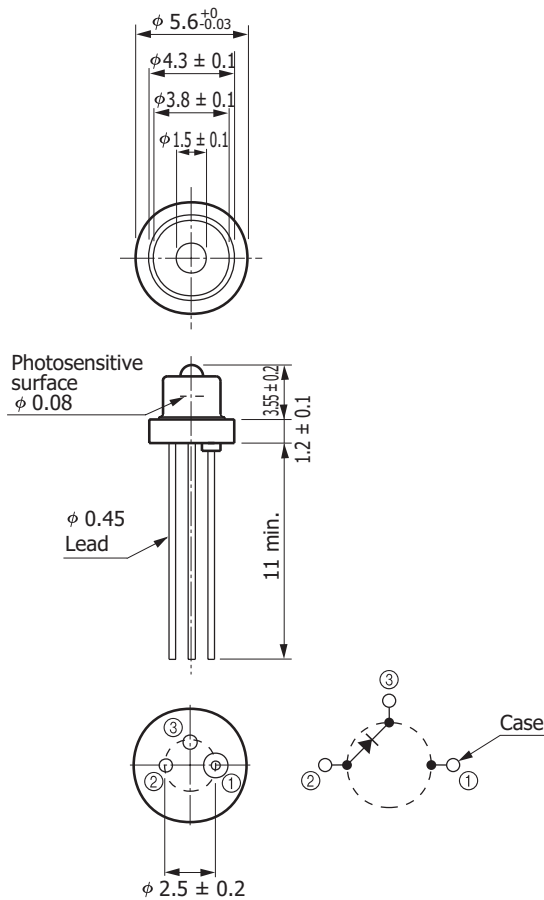


KIRDB0156EC



KIRDC0043EA

### Dimensional outline (unit: mm)



KIRDA0063ED

### Related information

[www.hamamatsu.com/sp/ssd/doc\\_en.html](http://www.hamamatsu.com/sp/ssd/doc_en.html)

#### ■ Precautions

- Disclaimer
- Metal, ceramic, plastic package products

#### ■ Technical information

- Infrared detectors

Information described in this material is current as of September 2017.

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