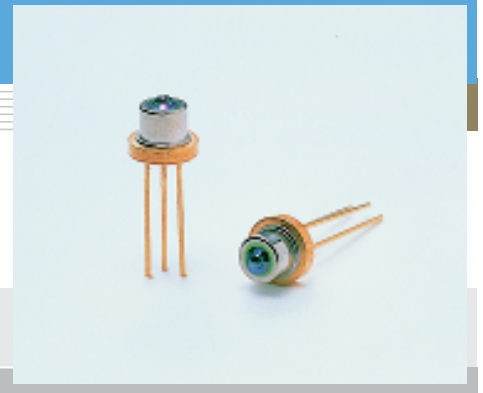


# InGaAs PIN photodiode

## 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

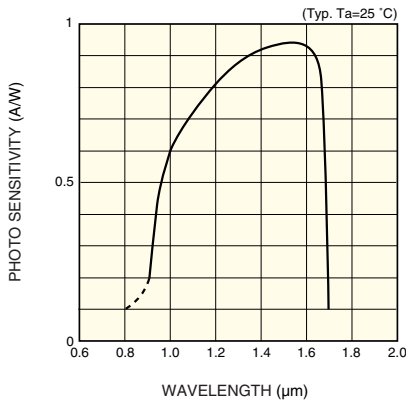
#### ■ Absolute maximum ratings (Ta=25 °C)

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)

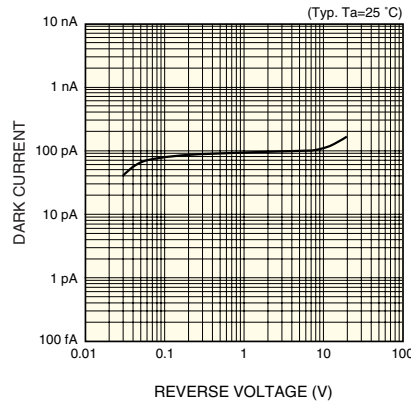
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	$\lambda$		-	0.9 to 1.7	-	$\mu\text{m}$
Peak sensitivity wavelength	$\lambda_p$		-	1.55	-	$\mu\text{m}$
Photo sensitivity	S	$\lambda=1.3 \mu\text{m}$	0.8	0.9	-	A/W
		$\lambda=1.55 \mu\text{m}$	0.85	0.95	-	A/W
Dark current	I <sub>D</sub>	V <sub>R</sub> =5 V	-	80	400	pA
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	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>

■ Spectral response



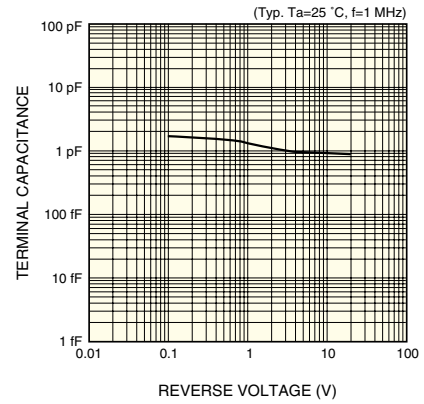
KIRDB0002EB

■ Dark current vs. reverse voltage



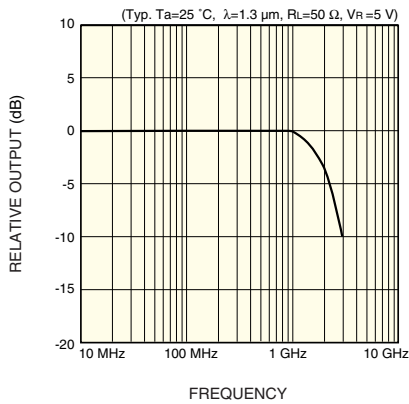
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■ Terminal capacitance vs. reverse voltage



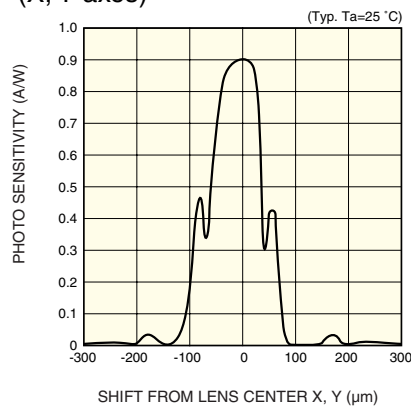
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■ Frequency response



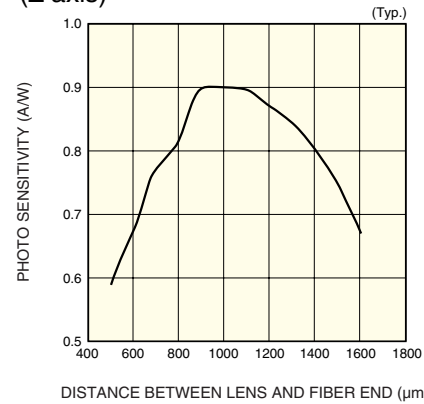
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■ Fiber coupling characteristic (X, Y axes)



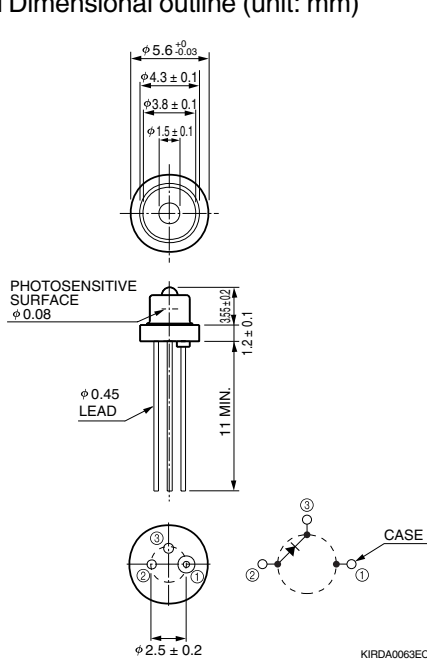
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■ Fiber coupling characteristic (Z axis)

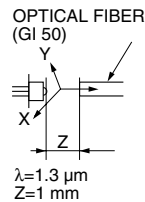


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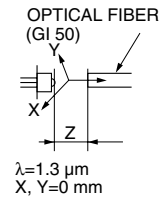
■ Dimensional outline (unit: mm)



KIRDA0063EC



KIRDC0042EA



KIRDC0043EA

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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 Twin 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