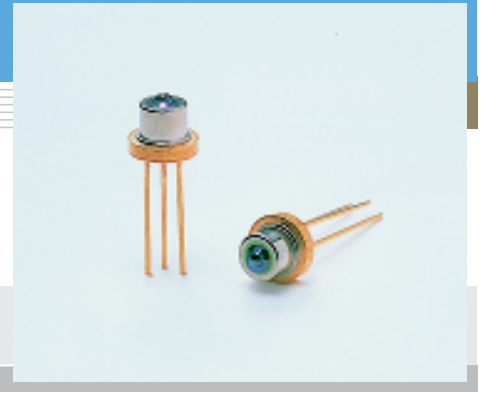


InGaAs PIN photodiode

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

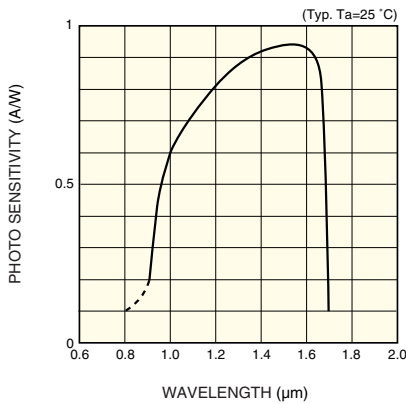
■ Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Value	Unit
Reverse voltage	V _R Max.	20	V
Operating temperature	T _{opr}	-40 to +85	°C
Storage temperature	T _{stg}	-55 to +125	°C

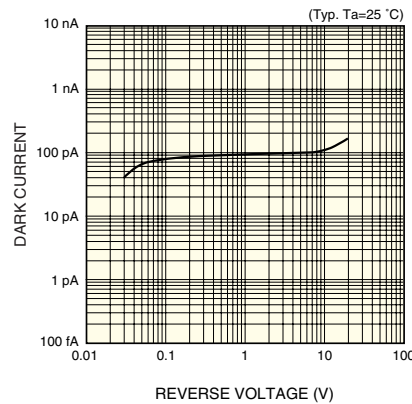
■ Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	0.9 to 1.7	-	μm
Peak sensitivity wavelength	λ_p		-	1.55	-	μm
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 _D	V _R =5 V	-	80	400	pA
Cut-off frequency	f _c	V _R =5 V, R _L =50 Ω $\lambda=1.3 \mu\text{m}$, -3 dB	1	2	-	GHz
Terminal capacitance	C _t	V _R =5 V, f=1 MHz	-	1	1.5	pF
Shunt resistance	R _{sh}	V _R =5 mV	-	8	-	G Ω
Detectivity	D*	$\lambda=\lambda_p$	-	5×10^{12}	-	cm · Hz ^{1/2} /W
Noise equivalent power	NEP	$\lambda=\lambda_p$	-	2×10^{-15}	-	W/Hz ^{1/2}

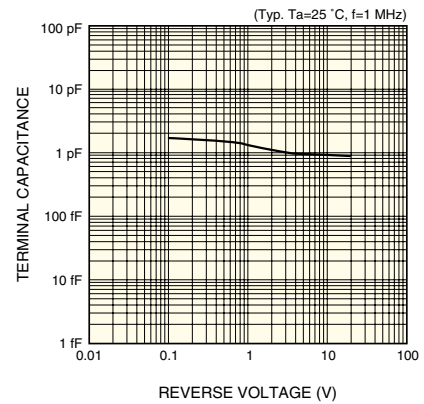
Spectral response



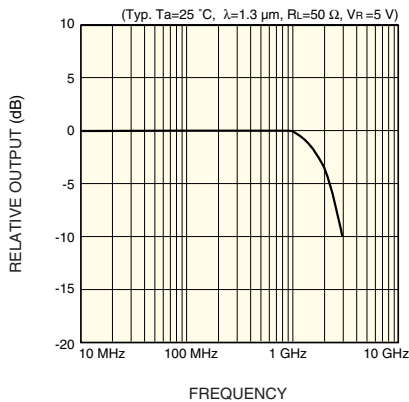
Dark current vs. reverse voltage



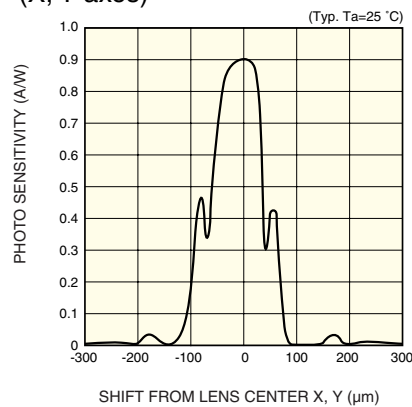
Terminal capacitance vs. reverse voltage



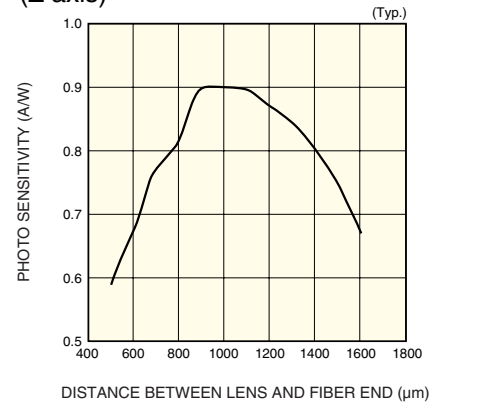
Frequency response



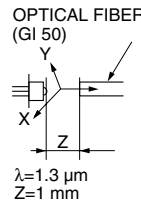
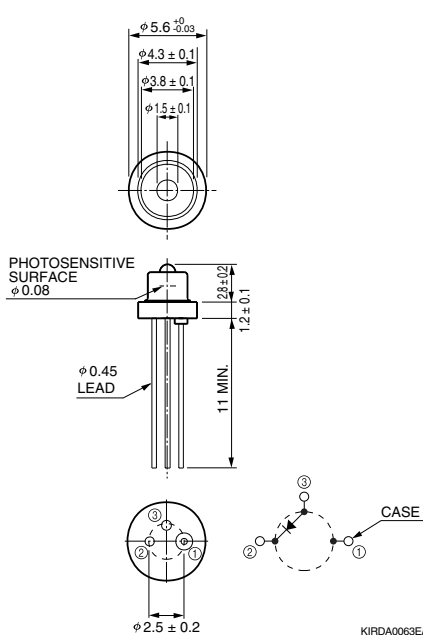
Fiber coupling characteristic (X, Y axes)



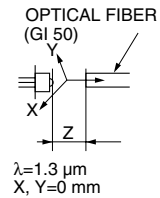
Fiber coupling characteristic (Z axis)



Dimensional outline (unit: mm)



KIRDC0042EA



KIRDC0043EA

HAMAMATSU

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 Tewin 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

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