

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)

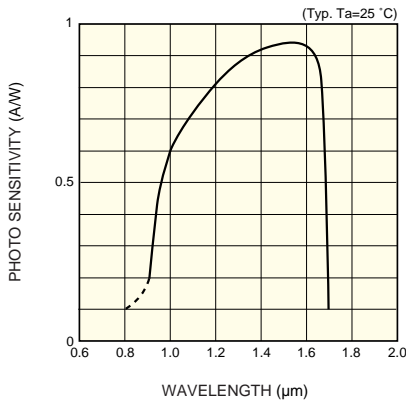
Parameter	Symbol	Value	Unit
Reverse voltage	V _R Max.	20	V
Operating temperature	T _{opr}	-40 to +85	°C
Storage temperature	T _{stg}	-55 to +125	°C

■ 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 =10 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}

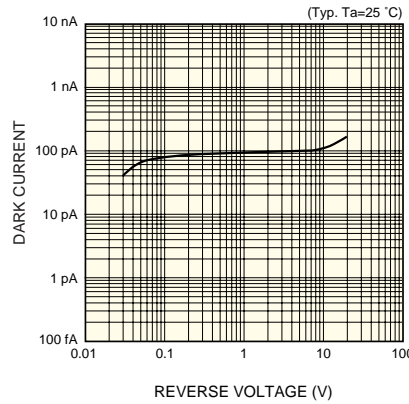
G6854-01 may be damaged by Electro Static Discharge, etc. Be carefull when using G6854-01.

■ Spectral response



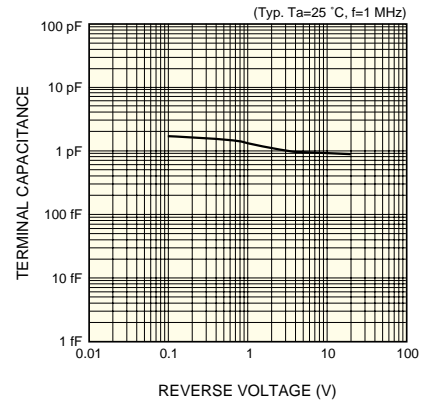
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■ Dark current vs. reverse voltage



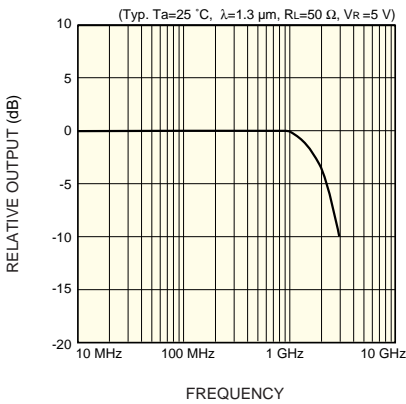
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■ Terminal capacitance vs. reverse voltage



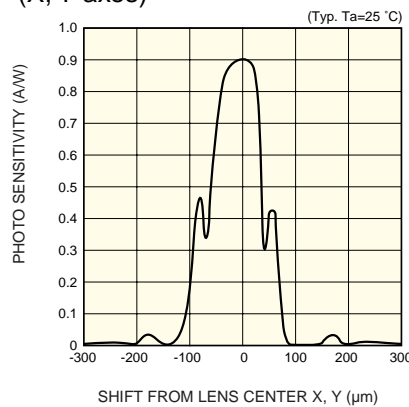
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■ Frequency response



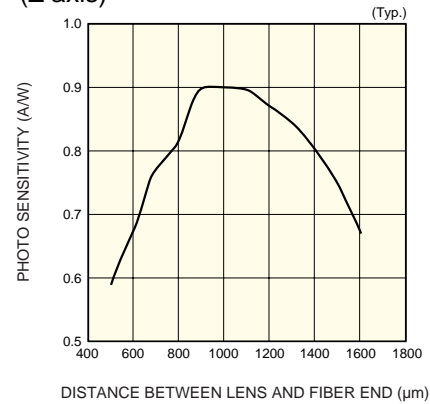
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■ Fiber coupling characteristic (X, Y axes)



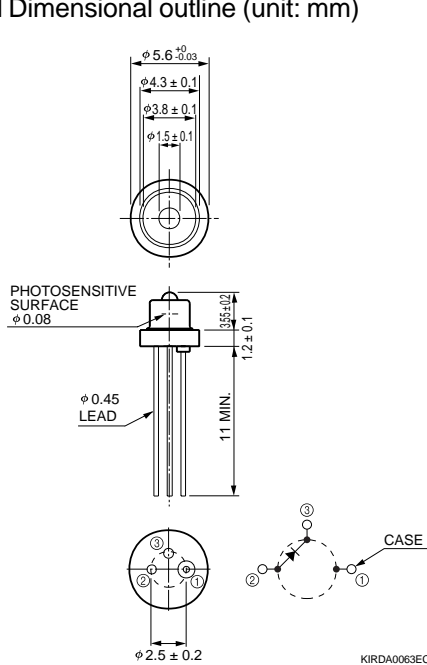
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■ Fiber coupling characteristic (Z axis)



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■ Dimensional outline (unit: mm)



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