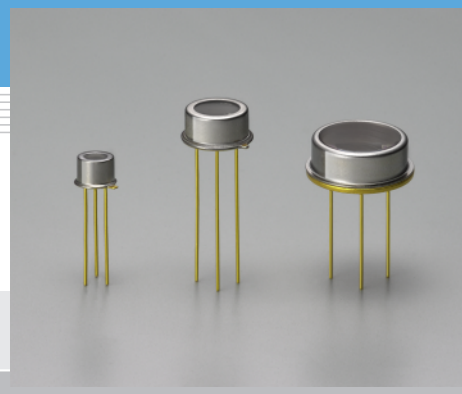


InGaAs PIN photodiode G8370 series

Large active areas from $\phi 1$ to $\phi 5$ mm



InGaAs PIN photodiodes have large shunt resistance and feature very low noise. Hamamatsu provides various types of InGaAs PIN photodiodes with active areas from $\phi 1$ to $\phi 5$ mm.

Features

- Low noise, low dark current
- Large active area
- Various active area sizes available

Applications

- Laser monitor
- Optical power meter
- Laser diode life test

Specifications / Absolute maximum ratings

Type No.	Dimensional outline/ Window material *1	Package	Active area (mm)	Absolute maximum ratings		
				Reverse voltage VR Max. (V)	Operating temperature Topr (°C)	Storage temperature Tstg (°C)
G8370-01	①/K	TO-18	φ1	10	-40 to +85	-55 to +125
G8370-02	②/K	TO-5	φ2	5		
G8370-03			φ3			
G8370-05	③/K	TO-8	φ5	2		

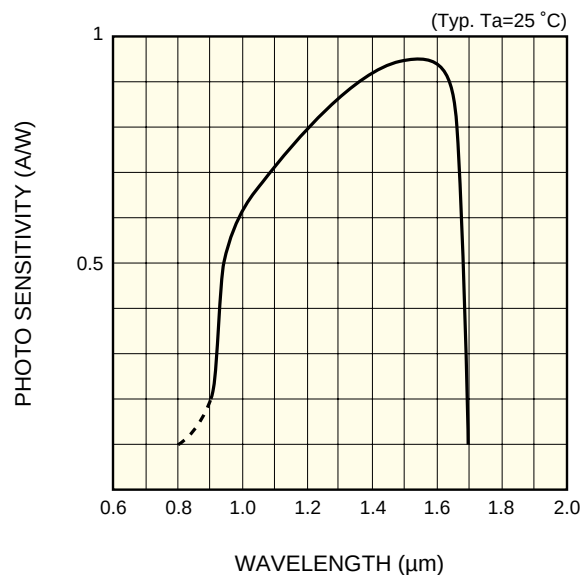
Electrical and optical characteristics (Typ. Ta=25 °C, unless otherwise noted)

Type No.	Spectral response range (μm)	Peak sensitivity wavelength λ_p (μm)	Photo sensitivity S		Dark current ID VR=1 V		Cut-off frequency fc VR=1 V RL=50 Ω -3 dB (MHz)	Terminal capacitance Ct VR=1 V f=1 MHz (pF)	Shunt resistance Rsh VR=10 mV (M Ω)	D* $\lambda=\lambda_p$ ($\text{cm} \cdot \text{Hz}^{1/2}/\text{W}$)	NEP $\lambda=\lambda_p$ ($\text{W}/\text{Hz}^{1/2}$)
			1.3 μm (A/W)	$\lambda=\lambda_p$ (A/W)	Typ. (nA)	Max. (nA)					
G8370-01	0.9 to 1.7	1.55	0.9	0.95	1 *2	5 *2	35 *2	90 *2	100	5×10^{12}	2×10^{-14}
G8370-02					5	25	4	550	25		4×10^{-14}
G8370-03					15	75	2	1000	10		6×10^{-14}
G8370-05					25	125	0.6	3500	3		1×10^{-13}

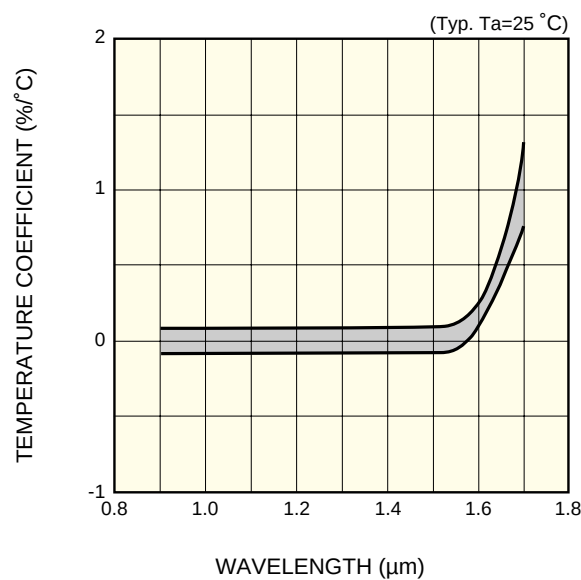
*1: Window material K: borosilicate glass with anti-reflective coating (optimized for 1.55 μm peak)

*2: VR=5 V

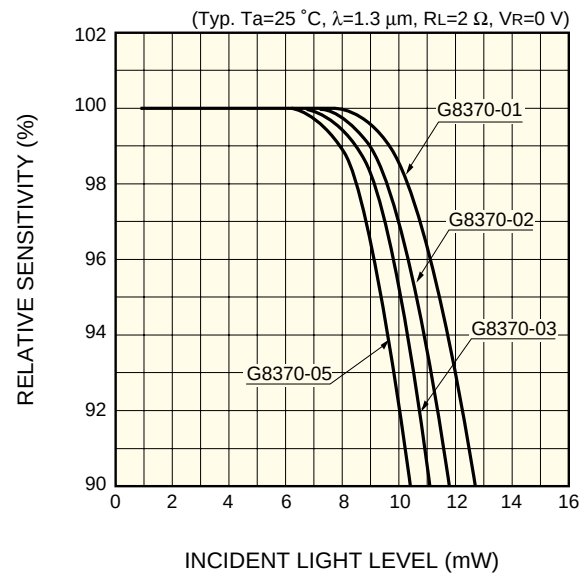
■ Spectral response



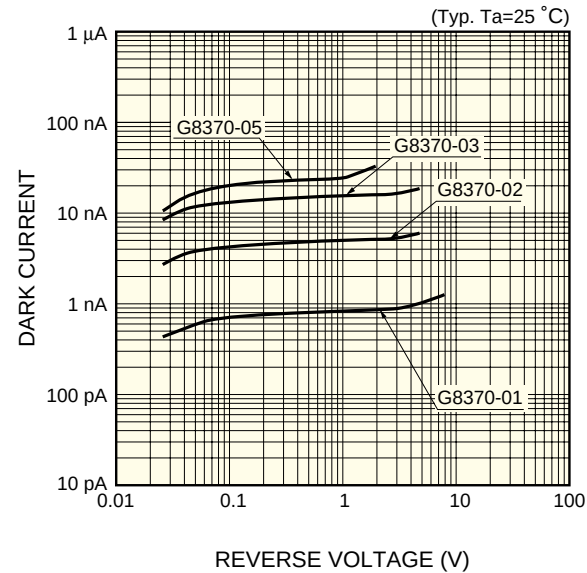
■ Photo sensitivity temperature characteristic



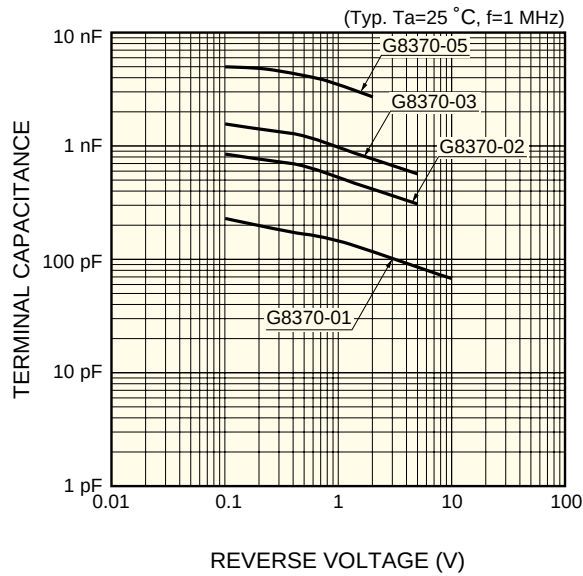
■ Photo sensitivity linearity



■ Dark current vs. reverse voltage

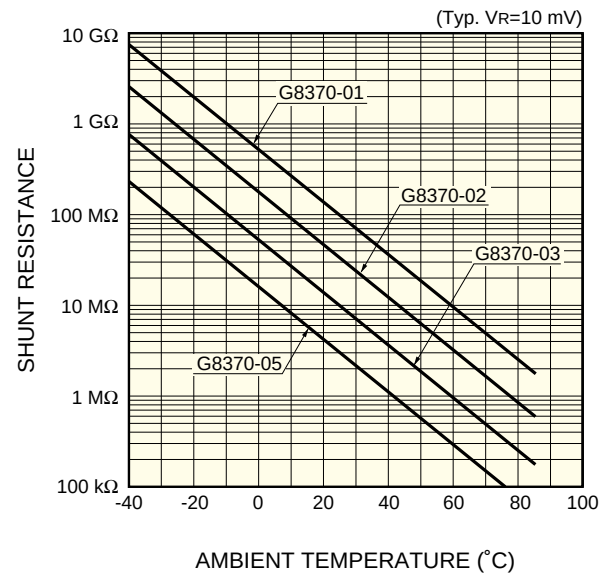


Terminal capacitance vs. reverse voltage



KIRDB0247EA

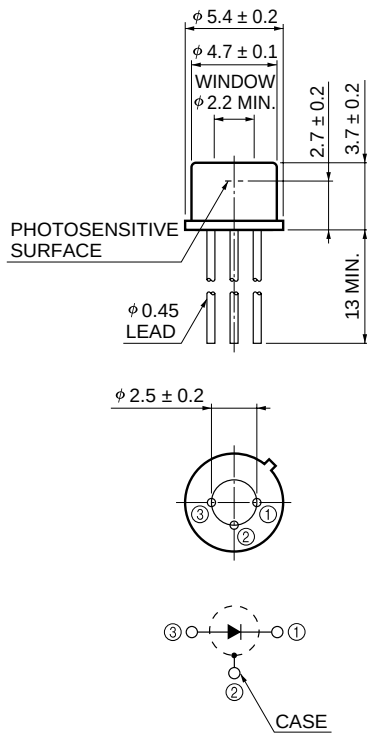
Shunt resistance vs. ambient temperature



KIRDB0248EA

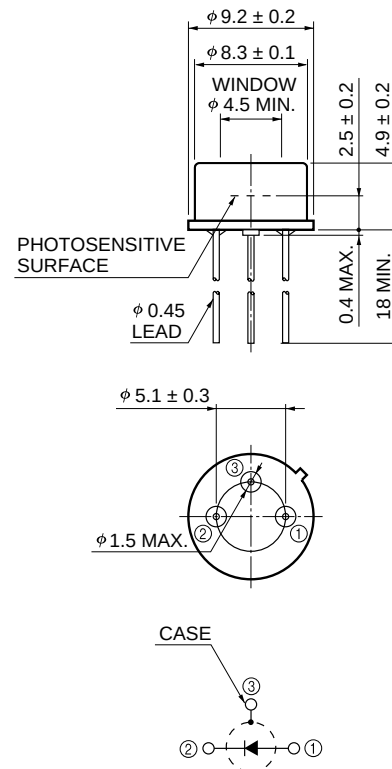
Dimensional outlines (unit: mm)

① G8370-01



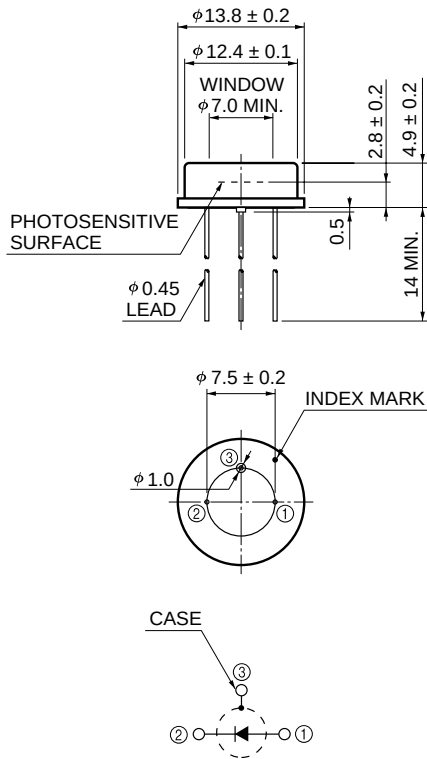
KIRDA0154EC

② G8370-02/-03



KIRDA0155EB

③ G8370-05



KIRDA0052EC

HAMAMATSU

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