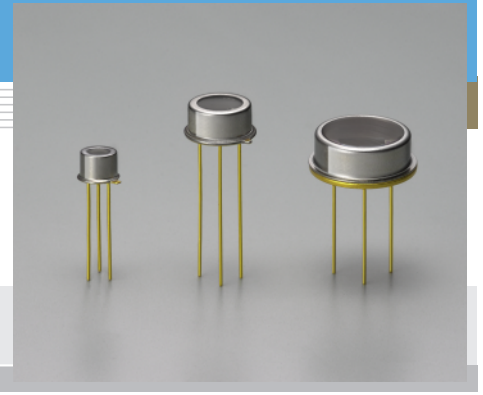


InGaAs PIN photodiode G8370 series

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 V_R Max. (V)	Operating temperature T_{opr} (°C)	Storage temperature T_{stg} (°C)
G8370-01	①/K	TO-18	$\phi 1$	10	-40 to +85	-55 to +125
G8370-02	②/K	TO-5	$\phi 2$	5		
G8370-03			$\phi 3$			
G8370-05	③/K	TO-8	$\phi 5$	2		

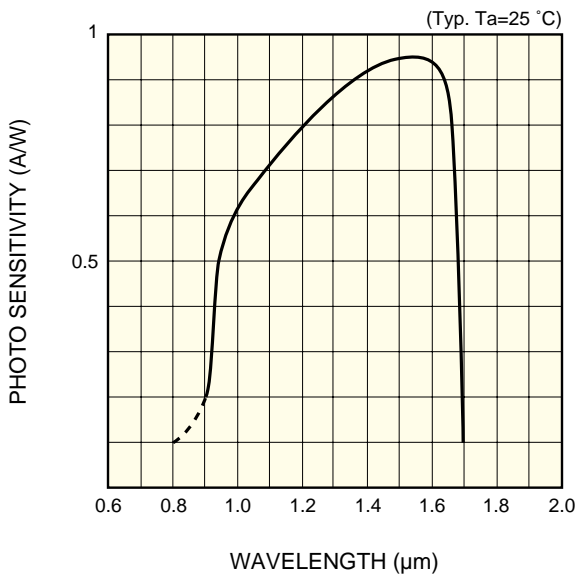
Electrical and optical characteristics (Typ. $T_a=25$ °C, unless otherwise noted)

Type No.	Spectral response range (μm)	Peak sensitivity wavelength λ_p (μm)	Photo sensitivity S		Dark current I_D $V_R=1$ V		Cut-off frequency f_c $V_R=1$ V $R_L=50$ Ω -3 dB (MHz)	Terminal capacitance C_t $V_R=1$ V $f=1$ MHz (pF)	Shunt resistance R_{sh} $V_R=10$ 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)

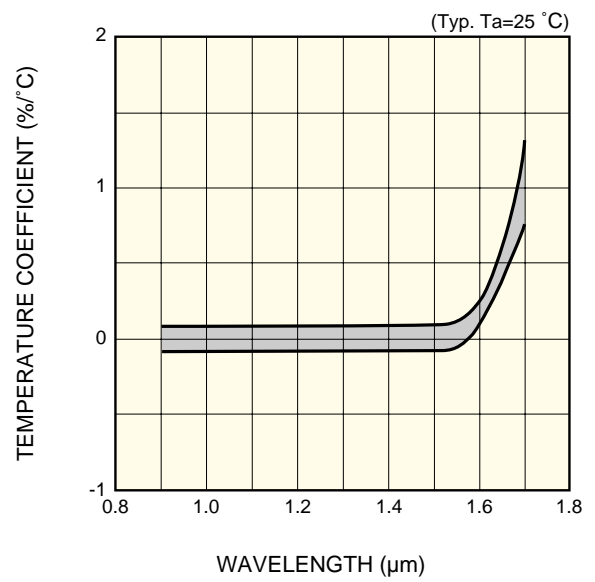
*2: $V_R=5$ V

■ Spectral response



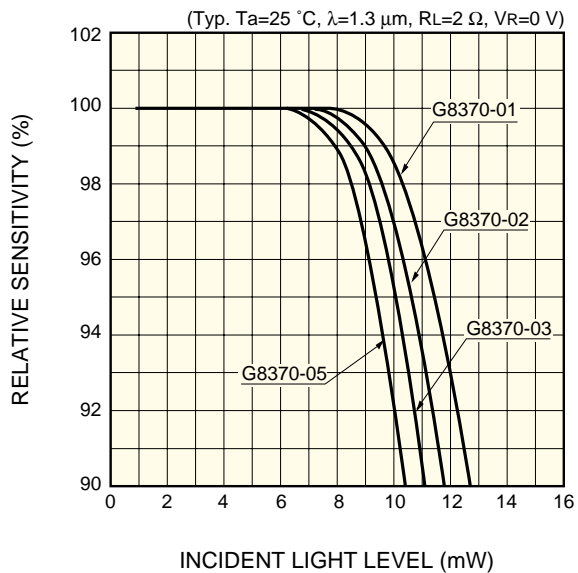
KIRDB0002EB

■ Photo sensitivity temperature characteristic



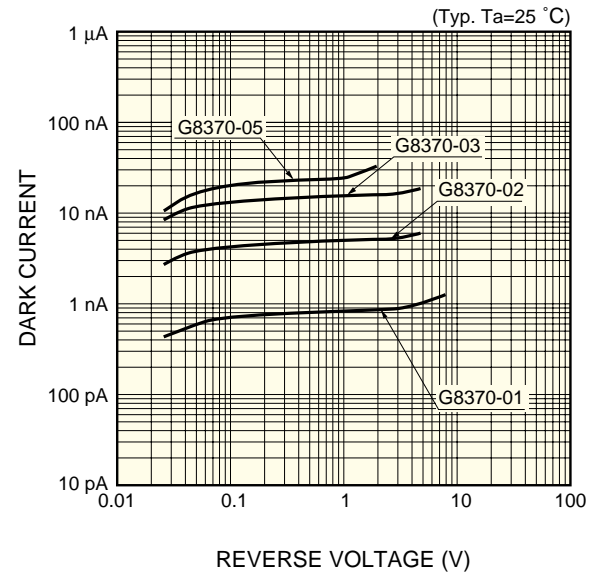
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■ Photo sensitivity linearity



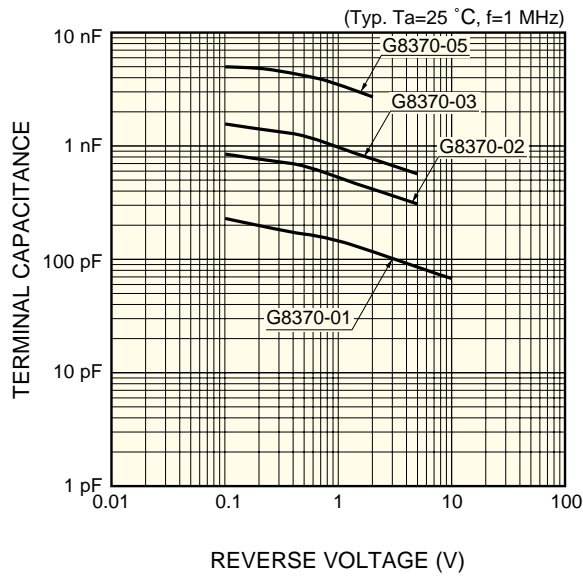
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■ Dark current vs. reverse voltage



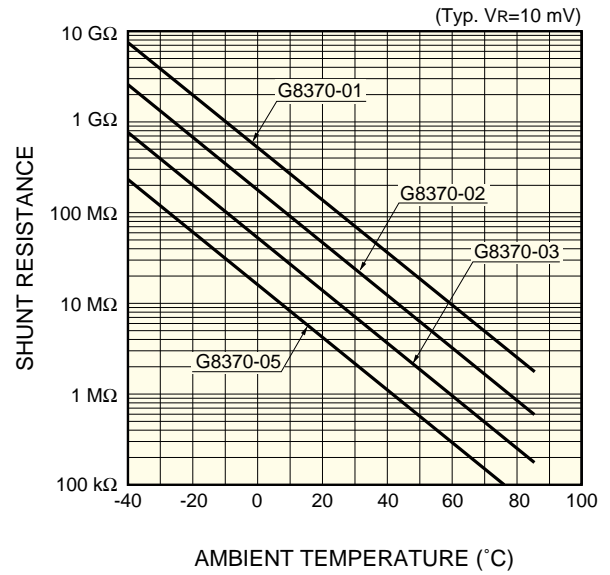
KIRDB0246EA

Terminal capacitance vs. reverse voltage



KIRDB0247EA

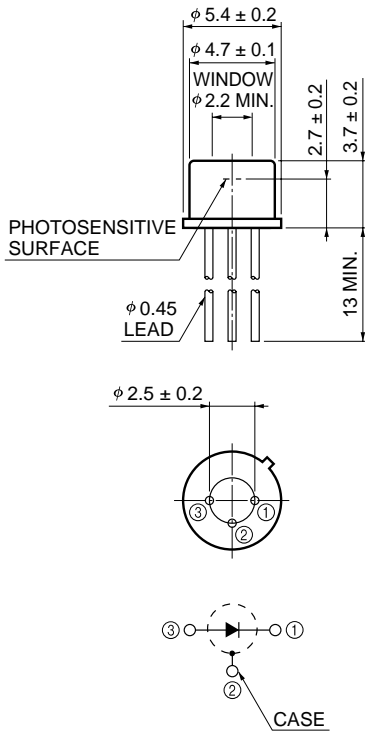
Shunt resistance vs. ambient temperature



KIRDB0248EA

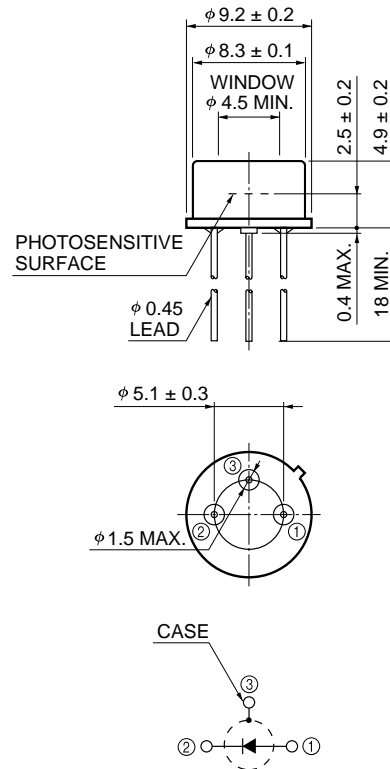
Dimensional outlines (unit: mm)

① G8370-01



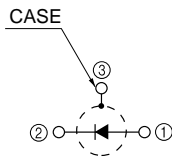
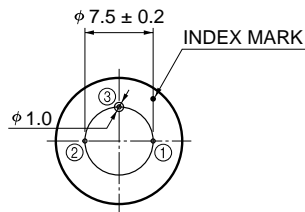
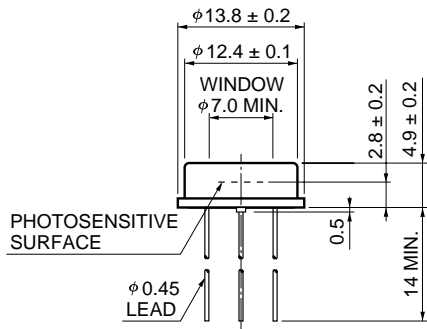
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② G8370-02/-03



KIRDA0155EB

③ G8370-05



KIRDA0052EC

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