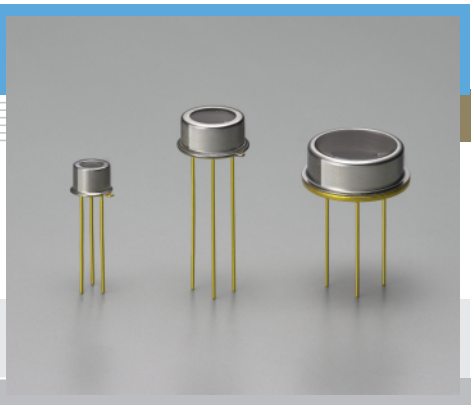
InGaAs PIN photodiode
G8370 series

Large active areas from ϕ1 to ϕ5 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 ϕ1 to ϕ5 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 λp (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 (MΩ)	D* λ=λp (cm·Hz$^{1/2}$/W)	NEP λ=λp (W/Hz$^{1/2}$)
			1.3 μm (A/W)	λ=λp (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

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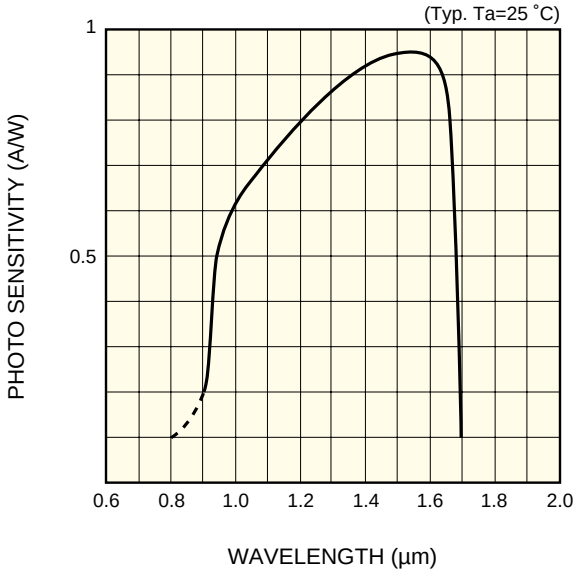
■ Spectral response



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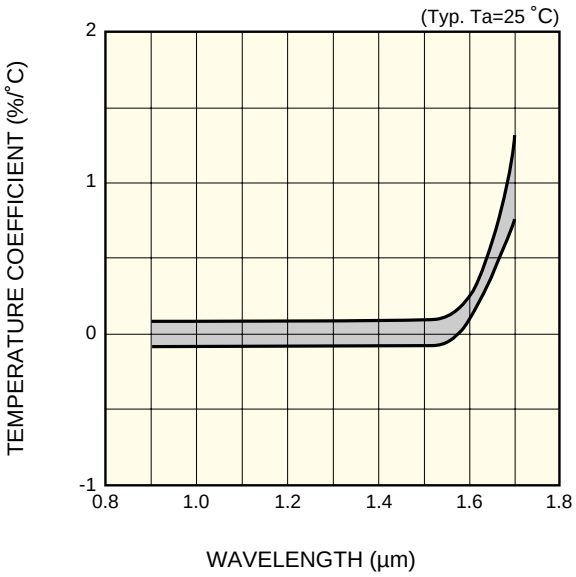
■ Photo sensitivity temperature characteristic



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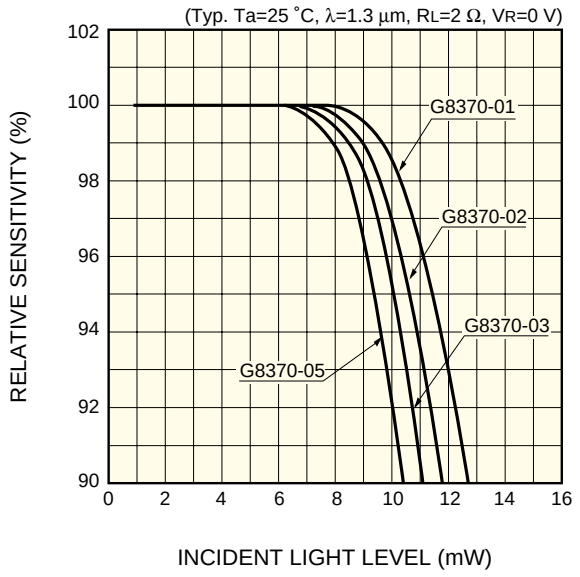
■ Photo sensitivity linearity



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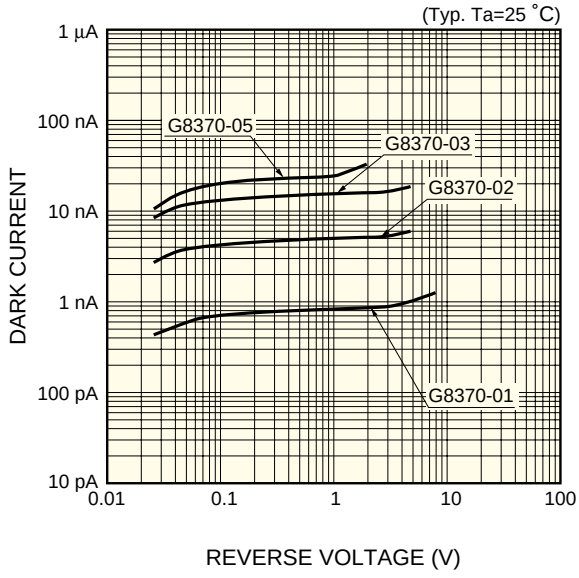
■ Dark current vs. reverse voltage



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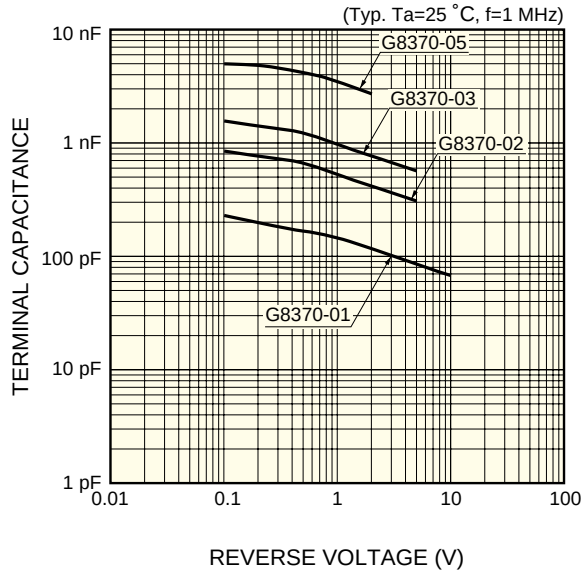
■ Terminal capacitance vs. reverse voltage



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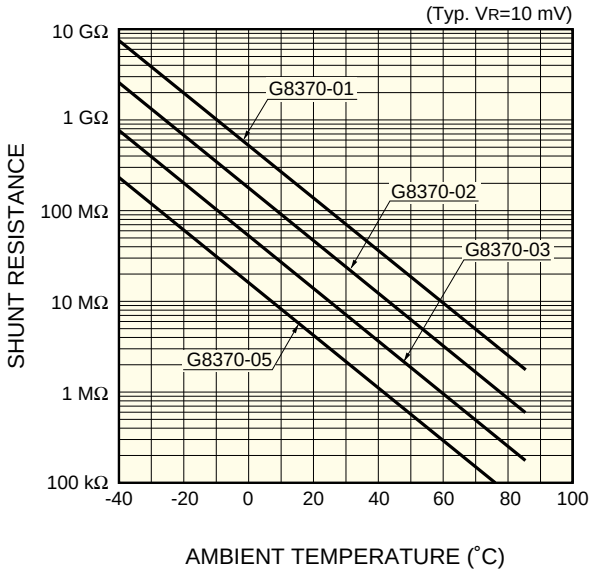
■ Shunt resistance vs. ambient temperature



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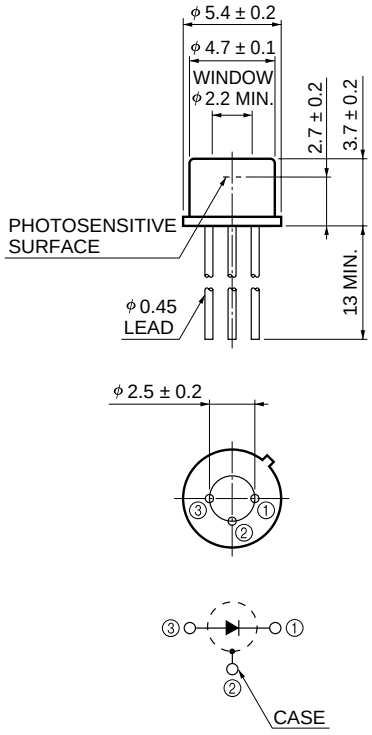
■ Dimensional outlines (unit: mm)

① G8370-01



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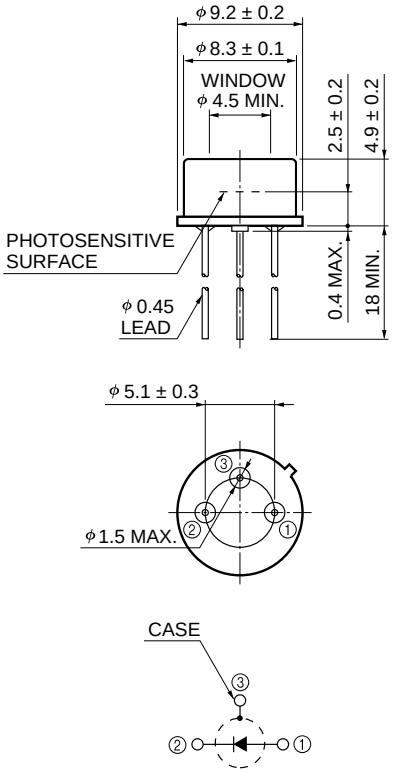
② G8370-02/-03



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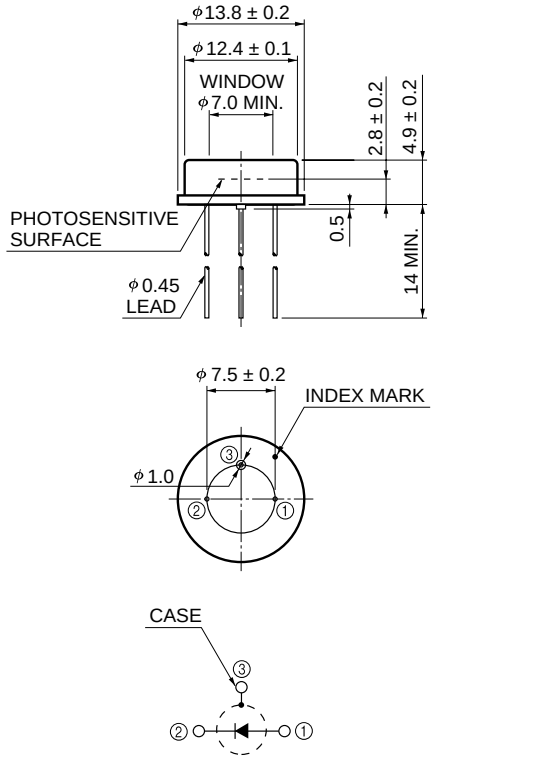
③ G8370-05



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