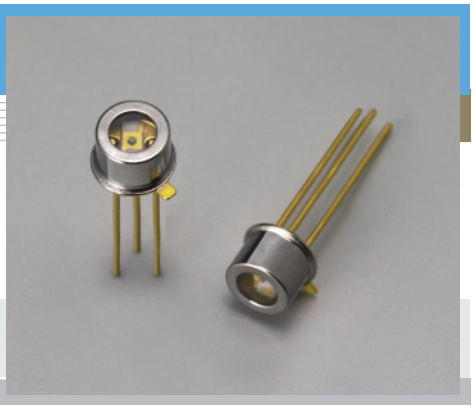
InGaAs PIN photodiode
G8376 series

Standard type



InGaAs PIN photodiodes are NIR (near infrared) detectors that feature high-speed response and low noise. Various active area sizes are provided to meet wide applications.

Features

- Low noise, low dark current
- Low terminal capacitance
- 3-pin TO-18 package

Applications

- NIR (near infrared) photometry
- Optical communication

■ Specifications / Absolute maximum ratings

Type No.	Window material	Package	Active area (mm)	Absolute maximum ratings		
				Reverse voltage V_R (V)	Operating temperature Topr (°C)	Storage temperature Tstg (°C)
G8376-01	Borosilicate glass with anti-reflective coating (optimized for 1.55 µm peak)	TO-18	φ0.04	20	-40 to +85	-55 to +125
G8376-02			φ0.08			
G8376-03			φ0.3			
G8376-05			φ0.5			

■ 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 I_D V_R=5 V		Cut-off frequency fc V_R=2 V R_L=50 Ω -3 dB (MHz)	Terminal capacitance Ct V_R=5 V f=1 MHz (pF)	Shunt resistance Rsh V_R=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)					
G8376-01	0.9 to 1.7	1.55	0.9	0.95	0.06	0.3	3000	0.5	10000	5×10^{12}	2×10^{-15}
G8376-02					0.08	0.4	2000	1	8000		2×10^{-15}
G8376-03					0.3	1.5	400 *	5	1000		4×10^{-15}
G8376-05					0.5	2.5	200 *	12	300		8×10^{-15}

* V_R=5 V

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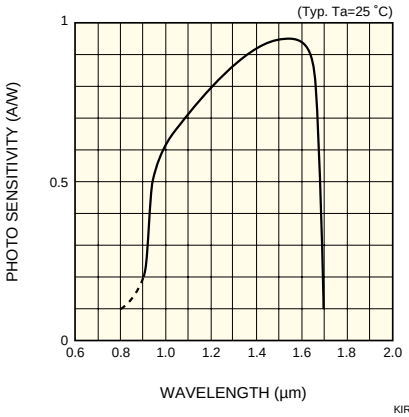
■ Spectral response



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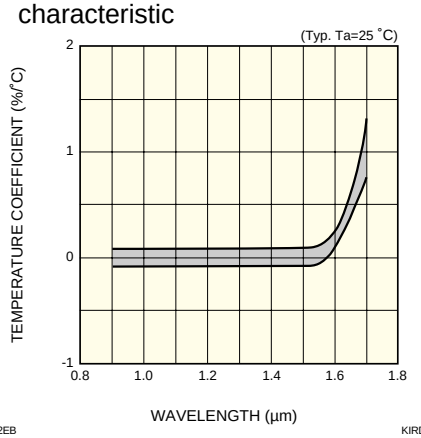
■ Photo sensitivity temperature characteristic



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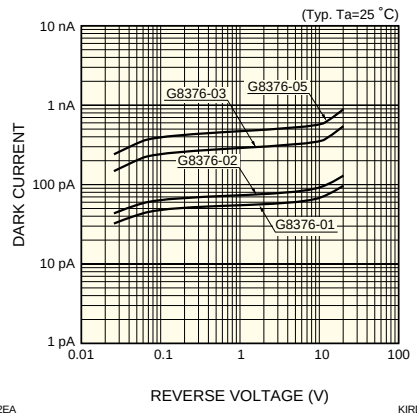
■ Dark current vs. reverse voltage



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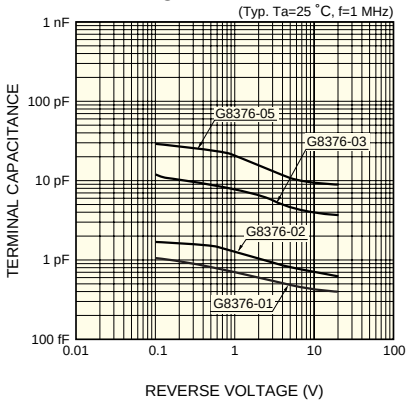
■ Terminal capacitance vs. reverse voltage



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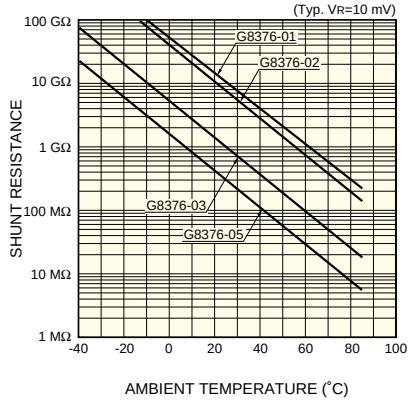
■ Shunt resistance vs. ambient temperature



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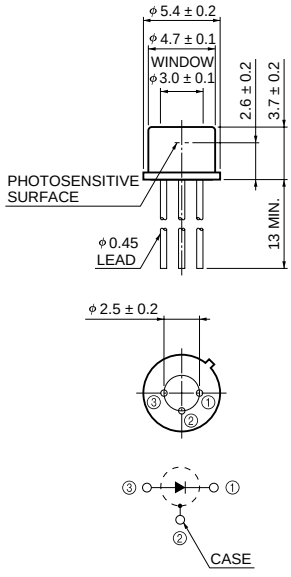
■ Dimensional outline (unit: mm)



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