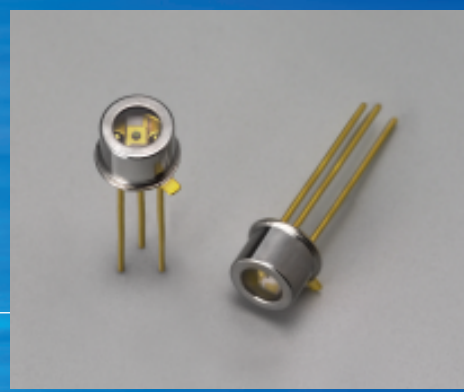


InGaAs PIN photodiode G8376 series

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

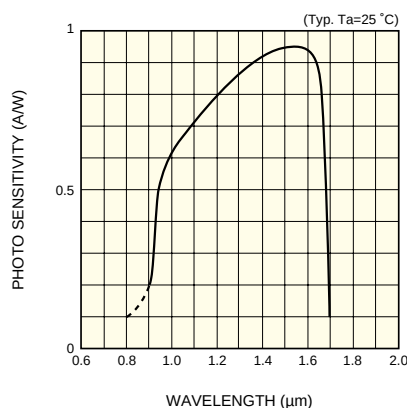
■ Specifications / Absolute maximum ratings

Type No.	Window material	Package	Active area (mm)	Absolute maximum ratings		
				Reverse voltage V_R (V)	Operating temperature T_{opr} (°C)	Storage temperature T_{stg} (°C)
G8376-01	Borosilicate glass with anti-reflective coating (optimized for 1.55 μm peak)	TO-18	$\phi 0.04$	20	-40 to +85	-55 to +125
G8376-02			$\phi 0.08$			
G8376-03			$\phi 0.3$			
G8376-05			$\phi 0.5$			

■ Electrical and optical characteristics (Typ. $T_a=25^\circ\text{C}$, unless otherwise noted)

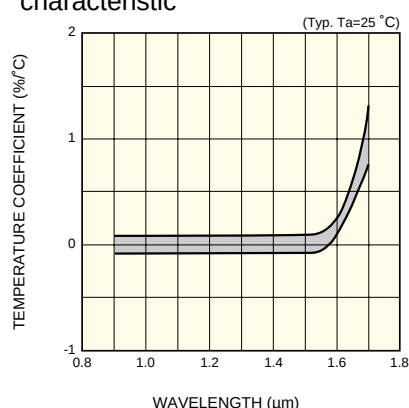
Type No.	Spectral response range (μm)	Peak sensitivity wavelength λ_p (μm)	Photo sensitivity S		Dark current I_D $V_R=5\text{ V}$		Cut-off frequency f_c $V_R=5\text{ V}$ $R_L=50\ \Omega$ -3 dB (MHz)	Terminal capacitance C_t $V_R=5\text{ V}$ $f=1\text{ MHz}$ (pF)	Shunt resistance R_{sh} $V_R=10\text{ mV}$ (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)					
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}

Spectral response



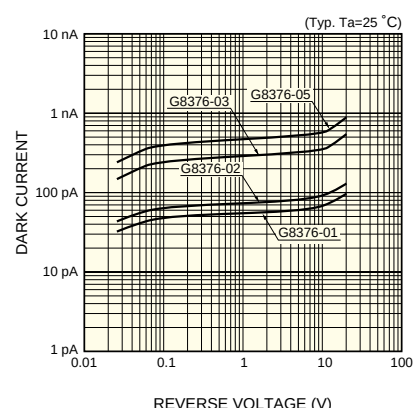
KIRD80002EB

Photo sensitivity temperature characteristic



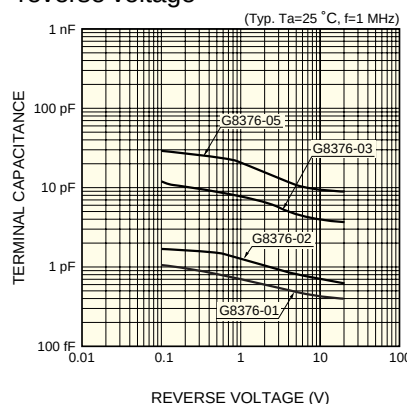
KIRD80042EA

Dark current vs. reverse voltage



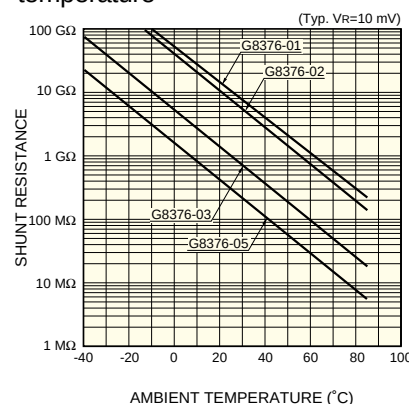
KIRD80249EA

Terminal capacitance vs. reverse voltage



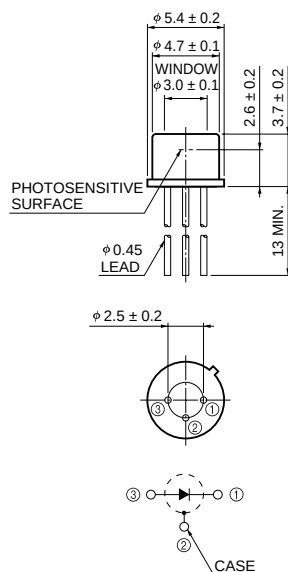
KIRD80250EA

Shunt resistance vs. ambient temperature



KIRD80251EA

Dimensional outline (unit: mm)



KIRD80150EB

HAMAMATSU

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