Si PIN photodiode
S5821 series

High performance, high reliability Si PIN photodiodes

S5821 series is a high-speed Si PIN photodiode having high sensitivity over a wide spectral range from visible to near infrared light. S5821 series provides high performance and reliability at a low cost.

Features

- High-speed response
- Wide spectral response
- Low dark current
- Low terminal capacitance

Applications

- Optical switch
- Automobile optical sensor
- General photometry

■ General ratings / Absolute maximum ratings

Type No.	Dimensional outline/ Window material *	Package (mm)	Active area size (mm)	Effective active area (mm^2)	Absolute maximum ratings			
					Reverse voltage V_R Max. (V)	Power dissipation P (mW)	Operating temperature Topr (°C)	Storage temperature Tstg (°C)
S5821	①/K	TO-18	φ1.2	1.1	20	50	-40 to +100	-55 to +125
S5821-01	②/L							
S5821-02	③/K							
S5821-03	④/L							

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

Type No.	Spectral response range λ (nm)	Peak sensitivity wavelength λp (nm)	Photo sensitivity S (A/W)				Short circuit current Isc 100 lx (μA)	Dark current I_D V_R=10 V (nA)		Temp. coefficient of I_D T_{CID} (times/°C)	Cut-off frequency fc V_R=10 V (MHz)	Terminal capacitance Ct V_R=10 V f=1 MHz (pF)	NEP V_R=10 V (W/Hz$^{1/2}$)
			λp	660 nm	780 nm	830 nm		Typ.	Max.				
S5821	320 to 1100	960	0.6	0.45	0.52	0.55	1.1	0.05	2	1.15	25	3	6.7×10^{-15}
S5821-01							12						
S5821-02							1.1						
S5821-03							12						

* Window material K: borosilicate glass, L: lens type borosilicate glass

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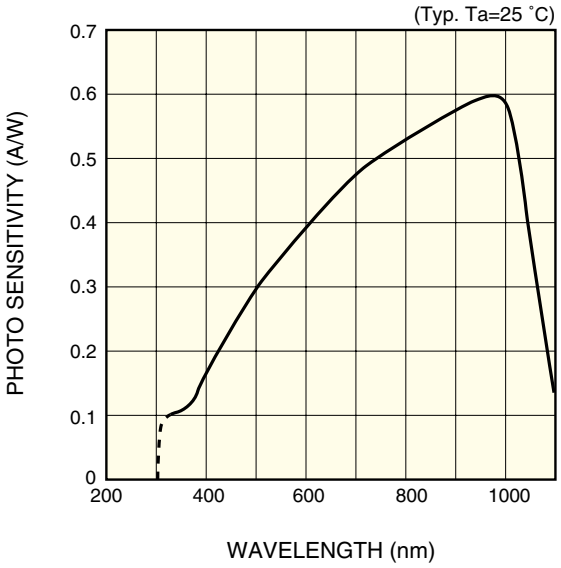
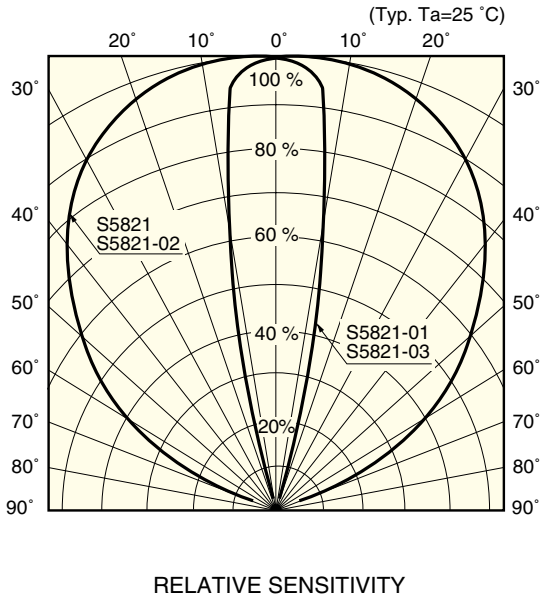
■ Spectral response



KPINB0151EA

■ Directivity



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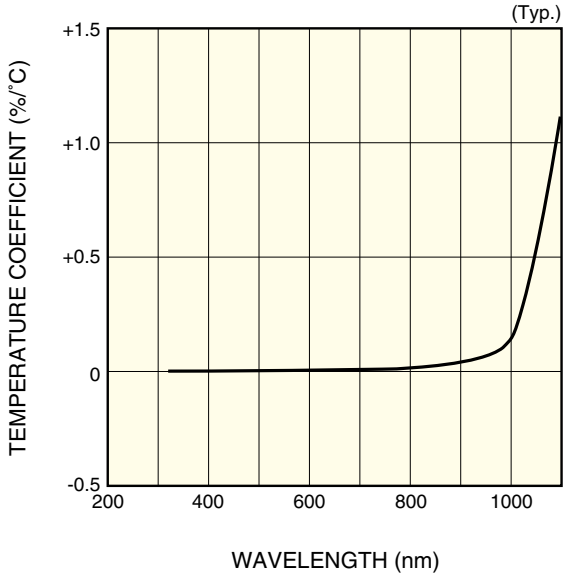
■ Photo sensitivity temperature characteristic



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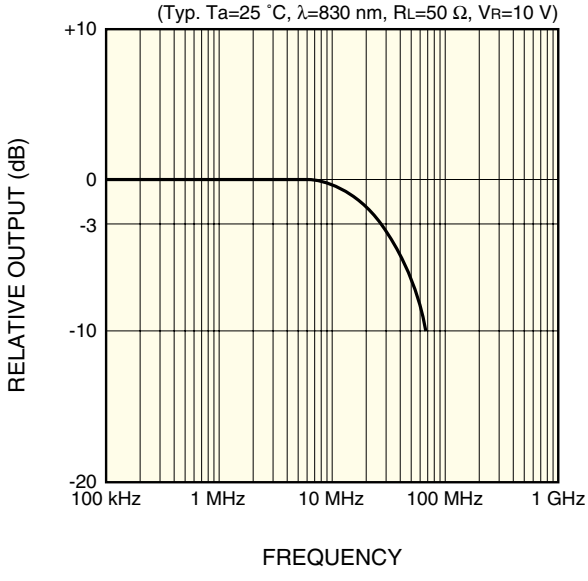
■ Frequency response



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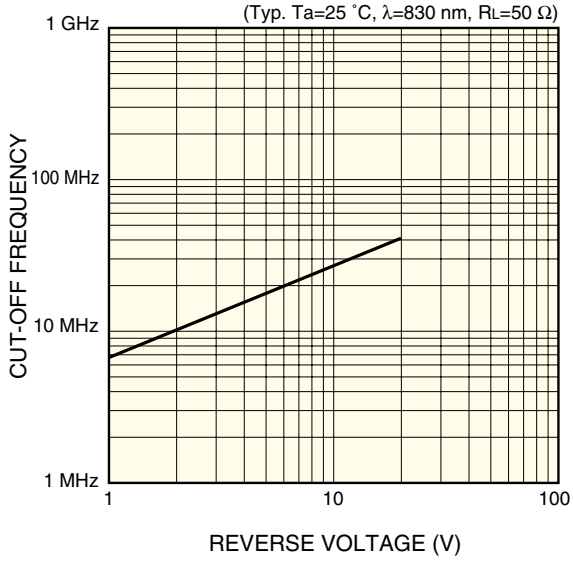
■ Cut-off frequency vs. reverse voltage



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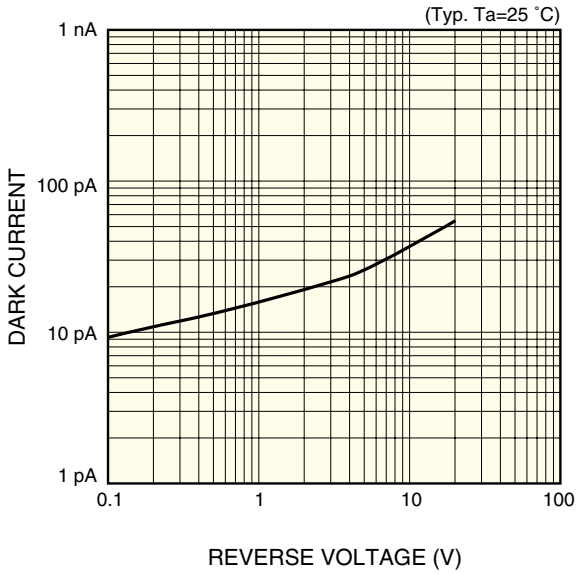
■ Dark current vs. reverse voltage



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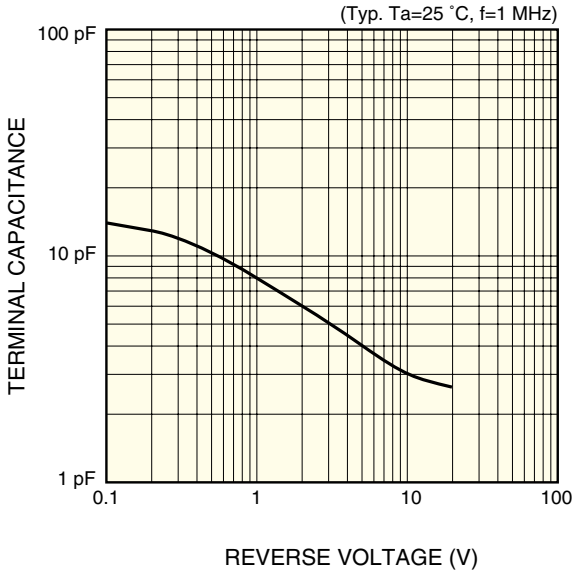
■ Terminal capacitance vs. reverse voltage



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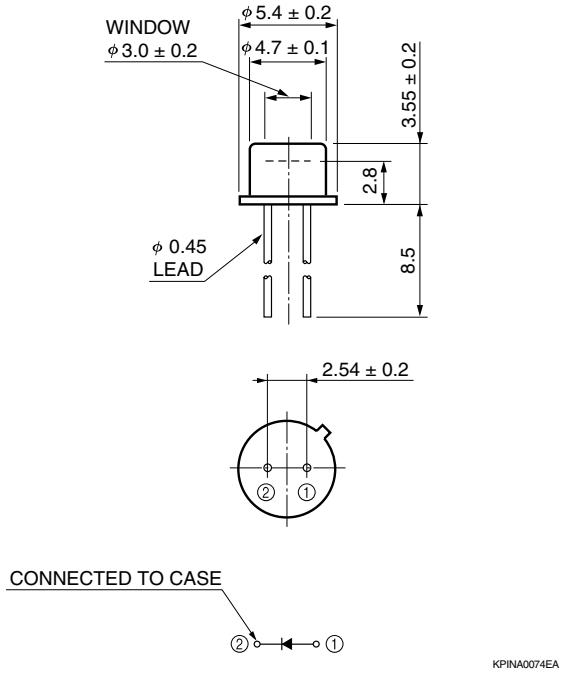
■ Dimensional outline (unit: mm)

① S5821



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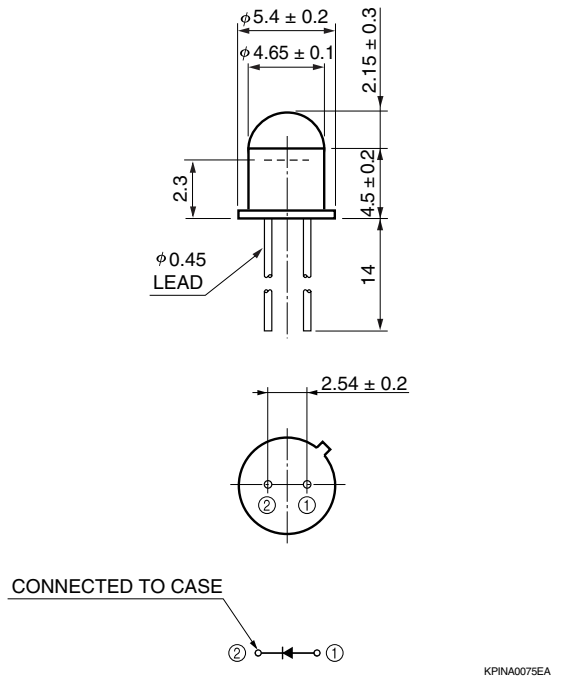
② S5821-01



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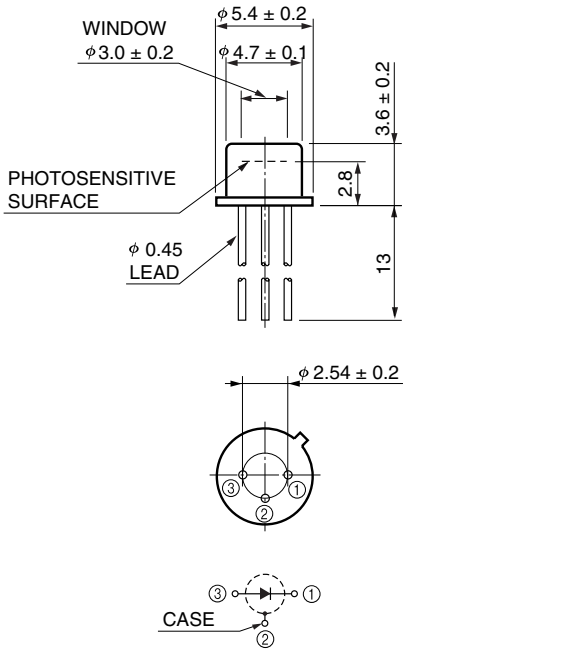
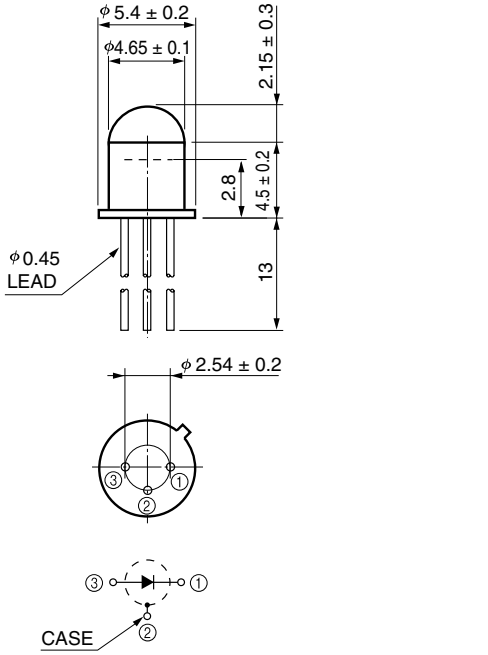
③ S5821-02



KPINA0022EB

④ S5821-03



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