

Si PIN photodiode S1722-02, S1723-05

Large area, high-speed PIN photodiodes for UV to near IR photometry



S1722-02 and S1723-05 are high-speed Si PIN photodiodes having a large active area of $\phi 4.1$ mm (S1722-02) or 10×10 mm (S1723-05). Using quartz glass as the light input window, these photodiodes deliver high sensitivity extending to the far UV region and are suitable for optical power meters.

Features

- Quartz glass window
- High UV sensitivity
- Large active area
S1722-02: $\phi 4.1$ mm
S1723-05: 10×10 mm
- High-speed response
S1722-02: 60 MHz ($V_R=100$ V)
S1723-05: 15 MHz ($V_R=30$ V)

Applications

- Optical power meter
- Radiation detector

General ratings / Absolute maximum ratings

Type No.	Dimensional outline/ Window material *1	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 T_{opr} (°C)	Storage temperature T_{stg} (°C)
S1722-02	①/Q	TO-8	$\phi 4.1$	13.2	120	50	-20 to +60	-55 to +80
S1723-05	②/Q	Ceramic	10×10	100	50	100		-20 to +80

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

Type No.	Spectral response range λ (nm)	Peak sensitivity wavelength λ_p (nm)	Photo sensitivity S (A/W)		Dark current I_D		Temp. coefficient of I_D T_{CID} (times/°C)	Cut-off frequency f_c (MHz)	Terminal capacitance C_t (pF)	NEP $\lambda=\lambda_p$ (W/Hz ^{1/2})
			λ_p	He-Ne Laser 633 nm	Typ. (nA)	Max. (nA)				
S1722-02	190 to 1100	960	0.5	0.33	0.1 *2	30 *2	1.15	60 *2	10 *2	1.1×10^{-14} *2
S1723-05					0.4 *3	10 *3		15 *3	100 *3	2.3×10^{-14} *3

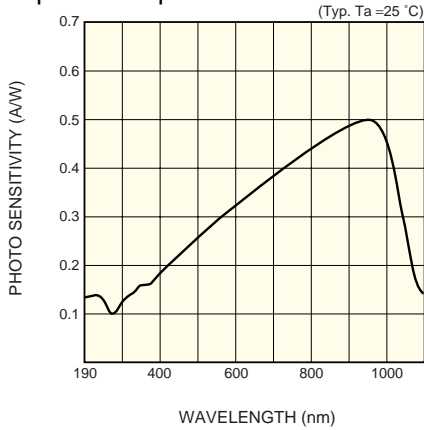
*1: Window material Q: Quartz glass

*2: $V_R=100$ V

*3: $V_R=30$ V

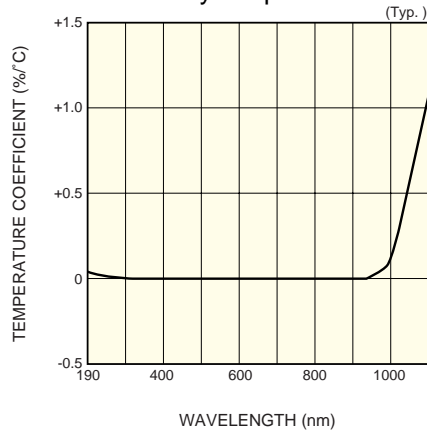
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Spectral response



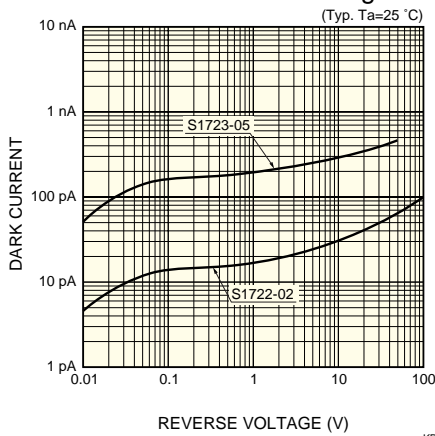
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Photo sensitivity temperature characteristic



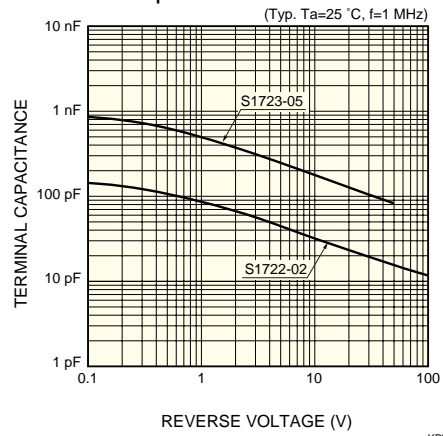
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Dark current vs. reverse voltage



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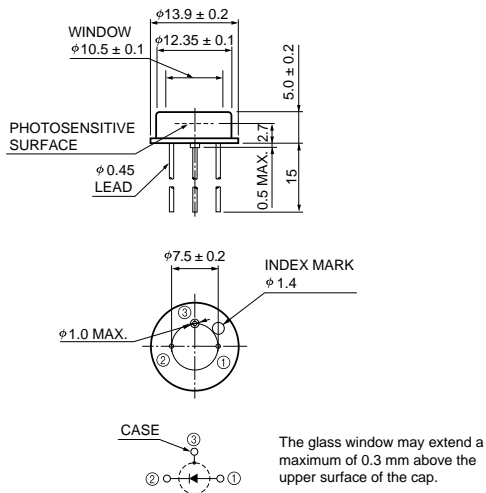
Terminal capacitance vs. reverse voltage



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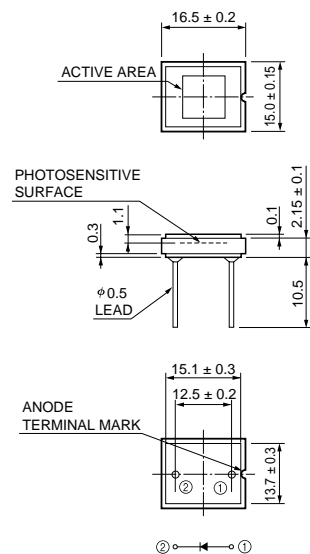
Dimensional outlines (unit: mm)

① S1722-02



KPINA0027EC

② S1723-05



KPINA0077EA

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Cat. No. KPIN1045E03
Aug. 2006 DN