

S1337 series

For UV to IR, precision photometry

These Si photodiodes have sensitivity in the UV to near IR range. They are suitable for low-light-level detection in analysis and the like.

Features

- High UV sensitivity: QE 75% ($\lambda=200$ nm)
- Low capacitance

Applications

- Analytical equipment
- Optical measurement equipment

Structure / Absolute maximum ratings

Type no.	Window material	Package (mm)	Photosensitive area size (mm)	Effective photosensitive area (mm ²)	Absolute maximum ratings		
					Reverse voltage VR max (V)	Operating temperature Topr (°C)	Storage temperature Tstg (°C)
S1337-16BQ*	Quartz	2.7 × 15	1.1 × 5.9	5.9	5	-20 to +60	-20 to +80
S1337-16BR	Resin potting						
S1337-33BQ*	Quartz	6 × 7.6	2.4 × 2.4	5.7			
S1337-33BR	Resin potting						
S1337-66BQ*	Quartz	8.9 × 10.1	5.8 × 5.8	33			
S1337-66BR	Resin potting						
S1337-1010BQ*	Quartz	15 × 16.5	10 × 10	100			
S1337-1010BR	Resin potting						
S1337-21*	Unsealed	25.5 × 25.5	18 × 18	324			

* Refer to "Precautions against UV light exposure."

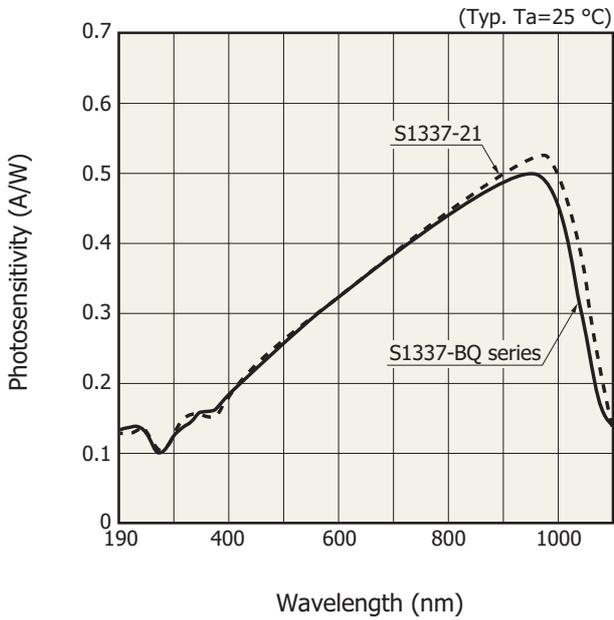
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

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

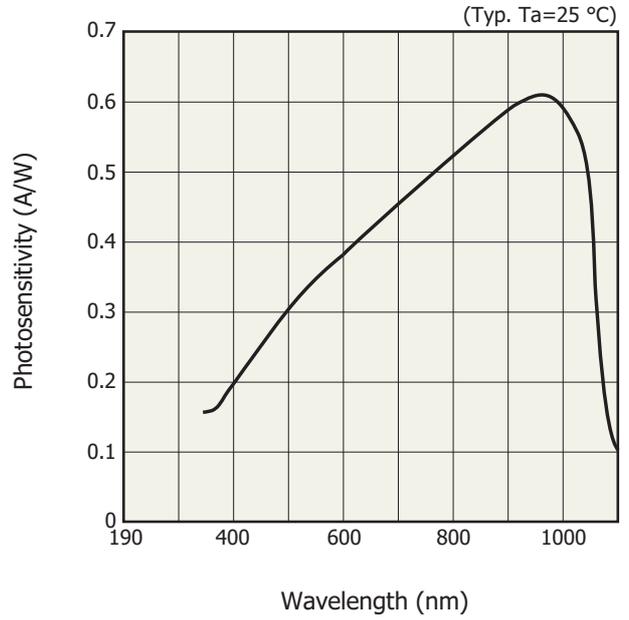
Type no.	Spectral response range λ (nm)	Peak sensitivity wavelength λ_p (nm)	Photosensitivity S (A/W)					Short circuit current Isc 100 lx		Dark current ID VR=10 mV Max. (pA)	Temp. coefficient of ID TCID (times/°C)	Rise time tr VR=0 V RL=1 k Ω (μ s)	Terminal capacitance Ct VR=0 V f=10 kHz (pF)	Shunt resistance Rsh VR=10 mV		Noise equivalent power NEP (W/Hz ^{1/2})
			λ_p	200 nm		He-Ne laser 633 nm	GaAs LED 930 nm	Min. (μ A)	Typ. (μ A)					Min. (G Ω)	Typ. (G Ω)	
				Min.	Typ.											
S1337-16BQ	190 to 1100	960	0.5	0.10	0.12	0.33	0.5	4.0	5.3	50	0.2	65	0.2	0.6	1.0 × 10 ⁻¹⁴	
S1337-16BR	340 to 1100		0.62	-	-	0.4	0.6	4.4	6.2						8.4 × 10 ⁻¹⁵	
S1337-33BQ	190 to 1100		0.5	0.10	0.12	0.33	0.5	4.0	5.0	30	0.2	65	0.3	1	8.1 × 10 ⁻¹⁵	
S1337-33BR	340 to 1100		0.62	-	-	0.4	0.6	4.4	6.2						6.5 × 10 ⁻¹⁵	
S1337-66BQ	190 to 1100		0.5	0.10	0.12	0.33	0.5	20	27	100	1	380	0.1	0.4	1.3 × 10 ⁻¹⁴	
S1337-66BR	340 to 1100		0.62	-	-	0.4	0.6	22	33						1.0 × 10 ⁻¹⁴	
S1337-1010BQ	190 to 1100		0.5	0.10	0.12	0.33	0.5	65	78	200	3	1100	0.05	0.2	1.8 × 10 ⁻¹⁴	
S1337-1010BR	340 to 1100		0.62	-	-	0.4	0.6	70	95						1.5 × 10 ⁻¹⁴	
S1337-21	190 to 1100		0.52	0.10	0.13	0.34	0.51	200	250	500	8	4000	0.02	0.1	2.5 × 10 ⁻¹⁴	

Spectral response

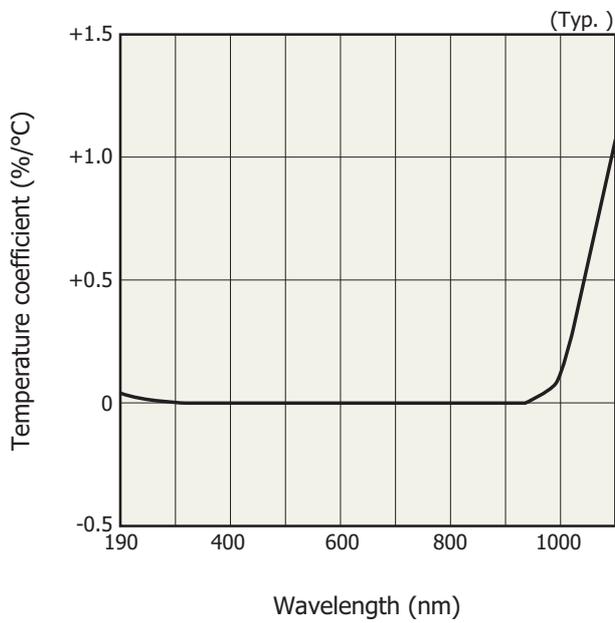
S1337BQ series, S1337-21



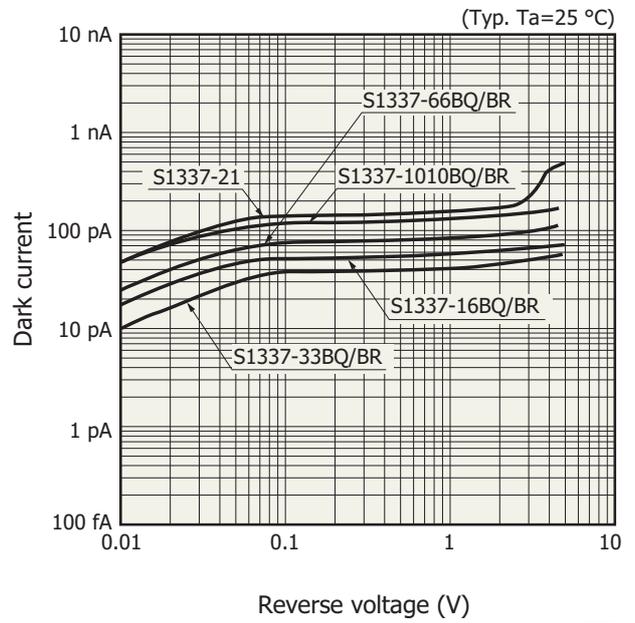
S1337-BR series



Photosensitivity temperature characteristics

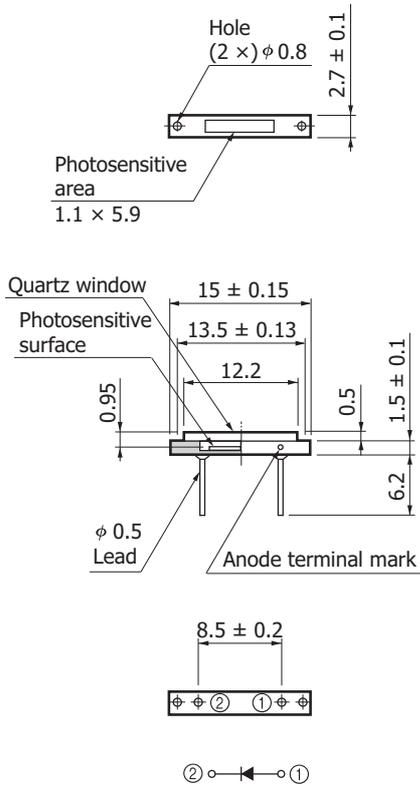


Dark current vs. reverse voltage



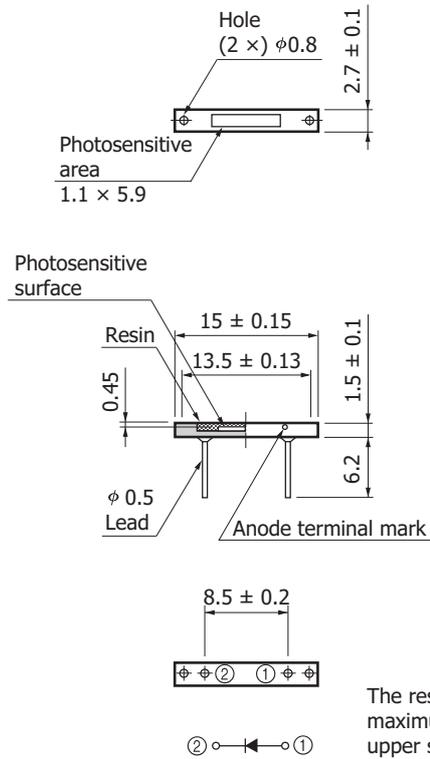
Dimensional outlines (unit: mm)

S1337-16BQ



KSPDA0105EB

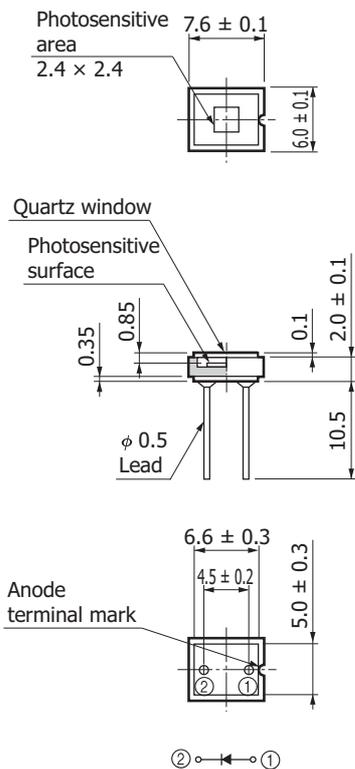
S1337-16BR



The resin potting may extend a maximum of 0.1 mm above the upper surface of the package.

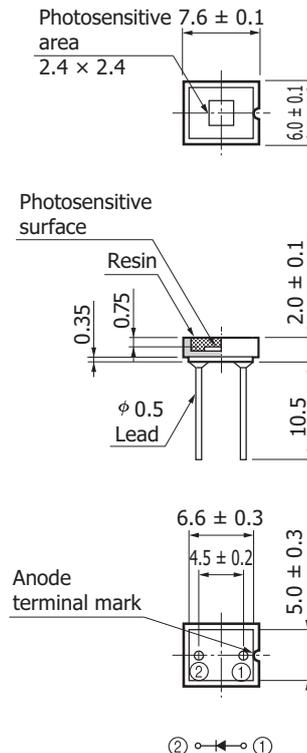
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S1337-33BQ



KSPDA0107EB

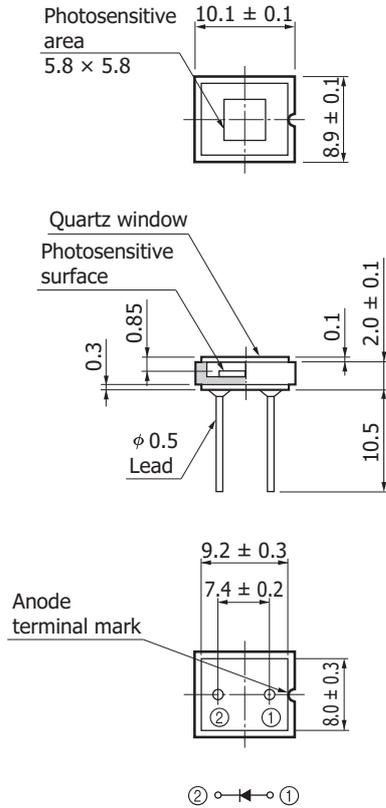
S1337-33BR



The resin potting may extend a maximum of 0.1 mm above the upper surface of the package.

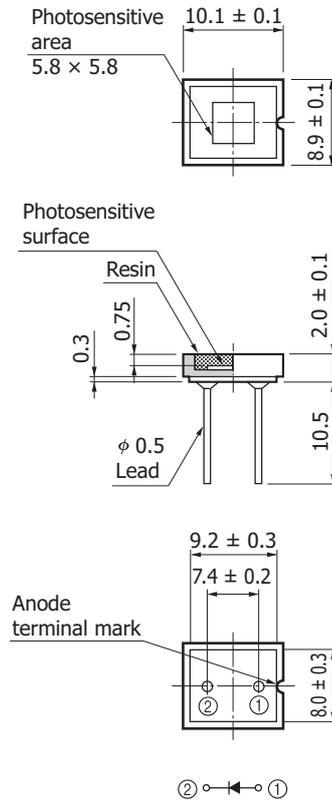
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S1337-66BQ



KSPDA0109EB

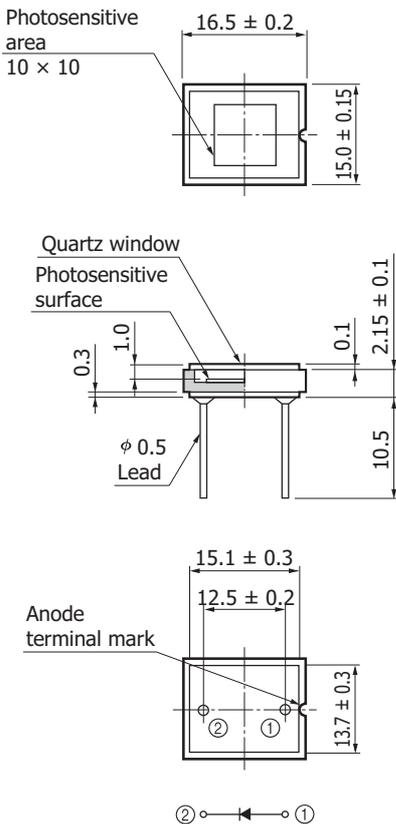
S1337-66BR



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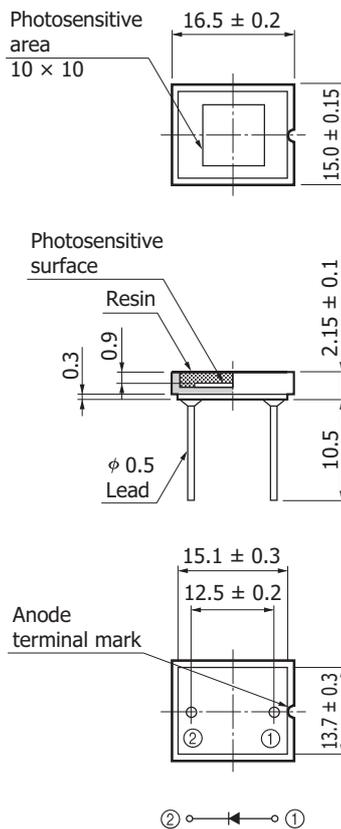
The resin potting may extend a maximum of 0.1 mm above the upper surface of the package.

S1337-1010BQ



KSPDA0111EB

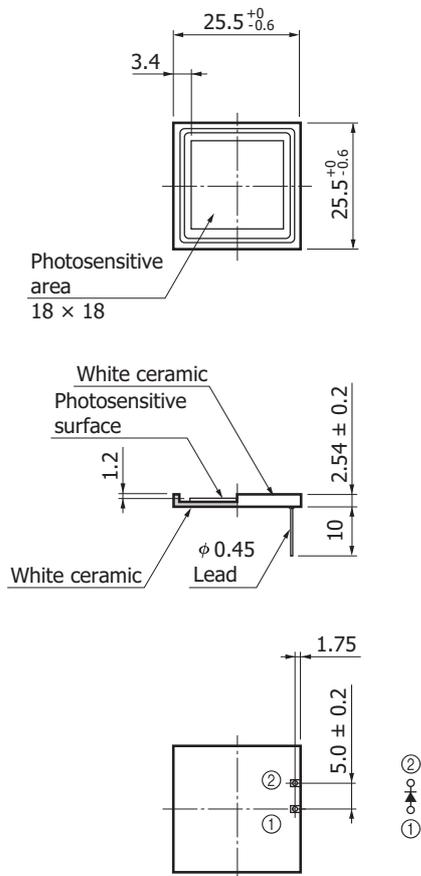
S1337-1010BR



KSPDA0112EB

The resin potting may extend a maximum of 0.1 mm above the upper surface of the package.

S1337-21



KSPDA0190EA

Precautions against UV light exposure

- When UV light irradiation is applied, the product characteristics may degrade. Such examples include degradation of the product's UV sensitivity and increase in dark current. This phenomenon varies depending on the irradiation level, irradiation intensity, usage time, and ambient environment and also varies depending on the product model. Before employing the product, we recommend that you check the tolerance under the ultraviolet light environment that the product will be used in.
- Exposure to UV light may cause the characteristics to degrade due to gas released from the resin bonding the product's component materials. As such, we recommend that you avoid applying UV light directly on the resin and apply it on only the inside of the photosensitive area by using an aperture or the like.

Related information

www.hamamatsu.com/sp/ssd/doc_en.html

■ Precautions

- Disclaimer
- Metal, ceramic, plastic package products

■ Technical information

- Si photodiode/Application circuit examples

Information described in this material is current as of October, 2015.

Product specifications are subject to change without prior notice due to improvements or other reasons. This document has been carefully prepared and the information contained is believed to be accurate. In rare cases, however, there may be inaccuracies such as text errors. Before using these products, always contact us for the delivery specification sheet to check the latest specifications.

The product warranty is valid for one year after delivery and is limited to product repair or replacement for defects discovered and reported to us within that one year period. However, even if within the warranty period we accept absolutely no liability for any loss caused by natural disasters or improper product use. Copying or reprinting the contents described in this material in whole or in part is prohibited without our prior permission.

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