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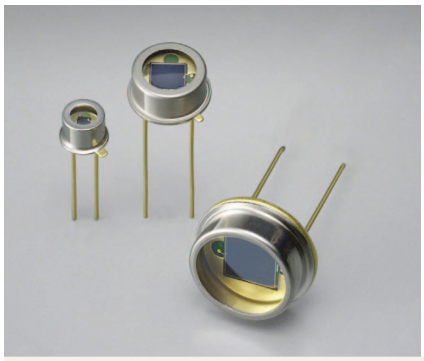
Si photodiodes



S1336 series

UV to near IR for 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 sensitivity in UV range**
- **Low capacitance**
- **High reliability**

Applications

- **Analytical instruments**
- **Optical measurement equipment**

Structure / Absolute maximum ratings

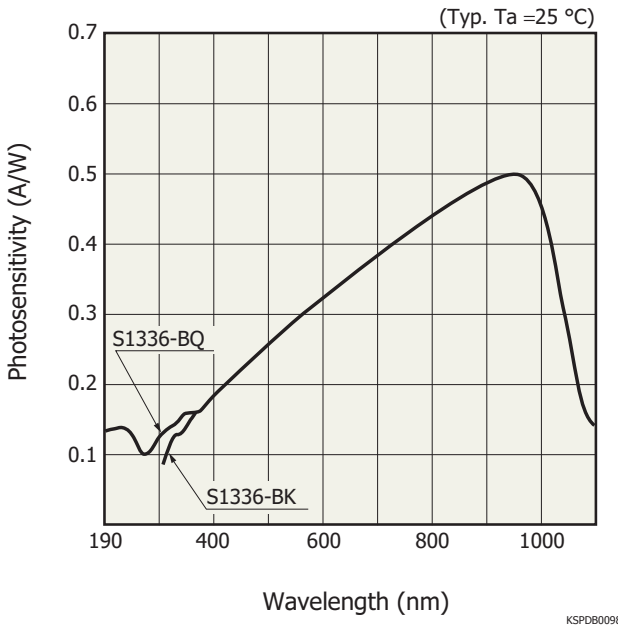
Type no.	Dimensional outline/ Window material*1	Package	Photosensitive area size (mm)	Absolute maximum ratings		
				Reverse voltage V_R max (V)	Operating temperature Topr (°C)	Storage temperature Tstg (°C)
S1336-18BQ*2	(1)/Q	TO-18	1.1 × 1.1	5	-20 to +60	-55 to +80
S1336-18BK	(2)/K				-40 to +100	-55 to +125
S1336-5BQ*2	(3)/Q	TO-5	2.4 × 2.4		-20 to +60	-55 to +80
S1336-5BK	(4)/K				-40 to +100	-55 to +125
S1336-44BQ*2	(5)/Q		3.6 × 3.6		-20 to +60	-55 to +80
S1336-44BK	(6)/K				-40 to +100	-55 to +125
S1336-8BQ*2	(7)/Q	TO-8	5.8 × 5.8		-20 to +60	-55 to +80
S1336-8BK	(8)/K				-40 to +100	-55 to +125

*1: Window material K=borosilicate glass, Q=quartz glass
*2: 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 λp (nm)	Photosensitivity S (A/W)				Short circuit current Isc 100 lx		Dark current I_D V_R=10 mV max. (pA)	Temp. coefficient of I_D T_{CID} (times/°C)	Rise time tr V_R=0 V R_L=1 kΩ (μs)	Terminal capacitance Ct V_R=0 V f=10 kHz (pF)	Shunt resistance Rsh V_R=10 mV		Noise equivalent power NEP (W/Hz$^{1/2}$)
			λp	200 nm		He-Ne laser 633 nm									
				Min.	Typ.		Min. (μA)	Typ. (μA)					Min. (GΩ)	Typ. (GΩ)	
S1336-18BQ	190 to 1100	960	0.5	0.10	0.12	0.33	1	1.2	20	1.15	0.1	20	0.5	2	5.7×10^{-15}
S1336-18BK	320 to 1100			-	-		0.9	1.0							
S1336-5BQ	190 to 1100			0.10	0.12		4	5	30		0.2	65	0.3	1	8.1×10^{-15}
S1336-5BK	320 to 1100			-	-										
S1336-44BQ	190 to 1100			0.10	0.12		8	10	50		0.5	150	0.2	0.6	1.0×10^{-14}
S1336-44BK	320 to 1100			-	-										
S1336-8BQ	190 to 1100			0.10	0.12		22	28	100		1	380	0.1	0.4	1.3×10^{-14}
S1336-8BK	320 to 1100			-	-										

Spectral response



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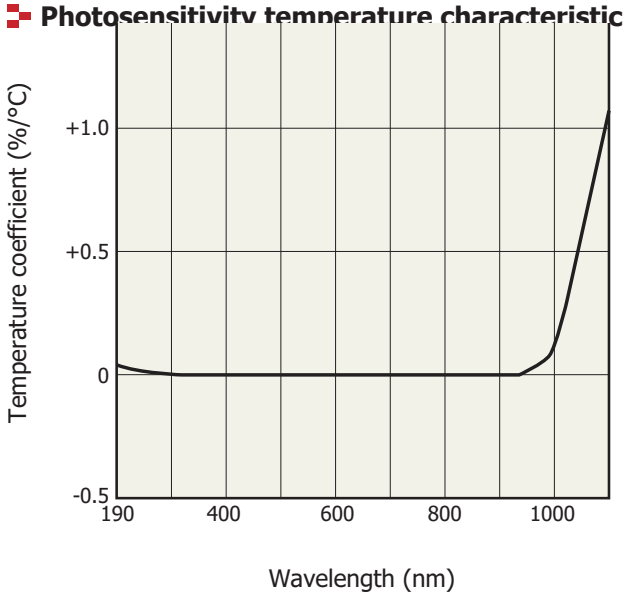
Photosensitivity temperature characteristic



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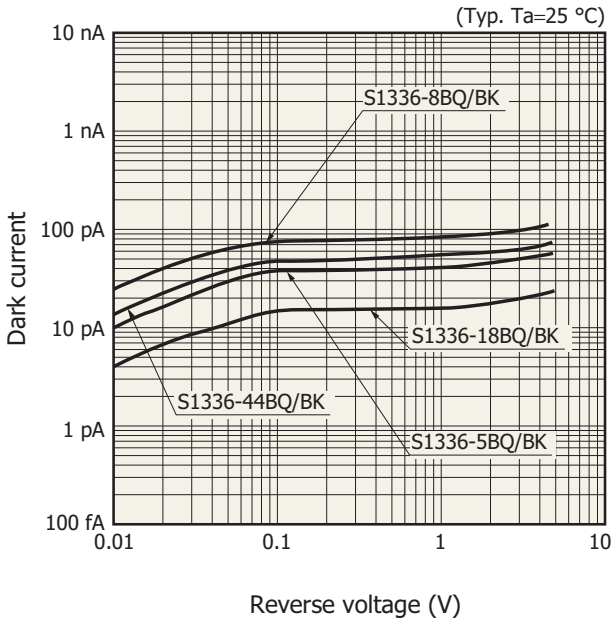
Dark current vs. reverse voltage



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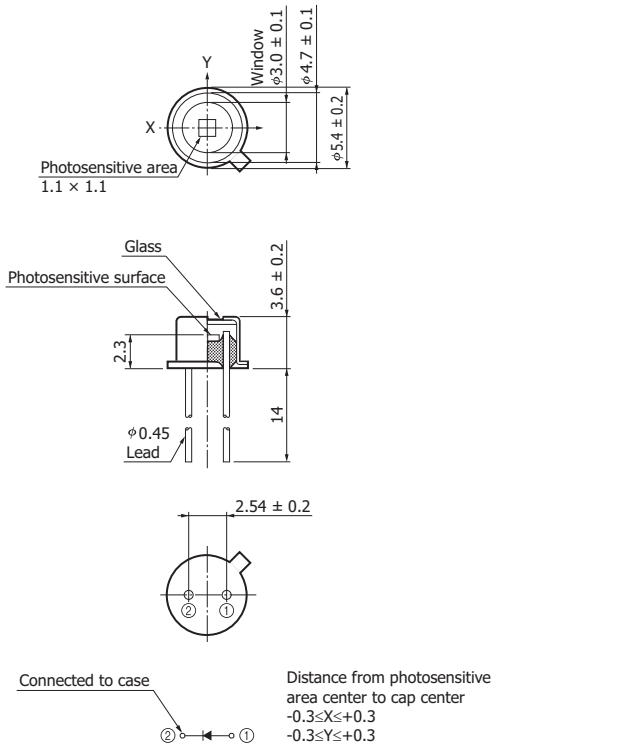
Dimensional outlines (unit: mm)

(1) S1336-18BQ



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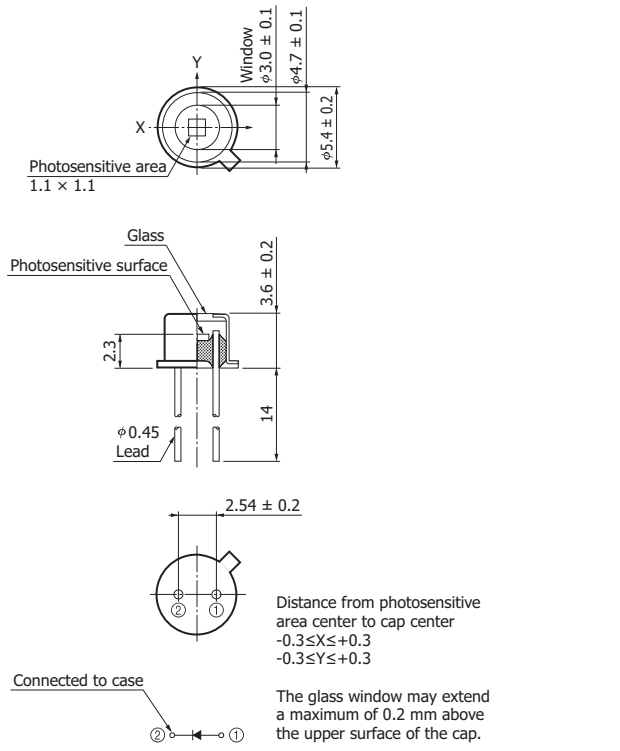
(2) S1336-18BK



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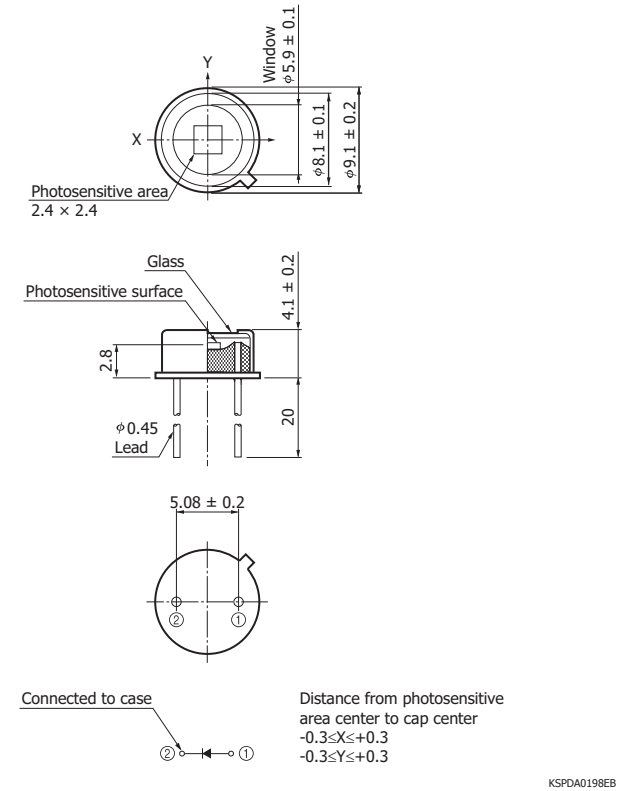
(3) S1336-5BQ



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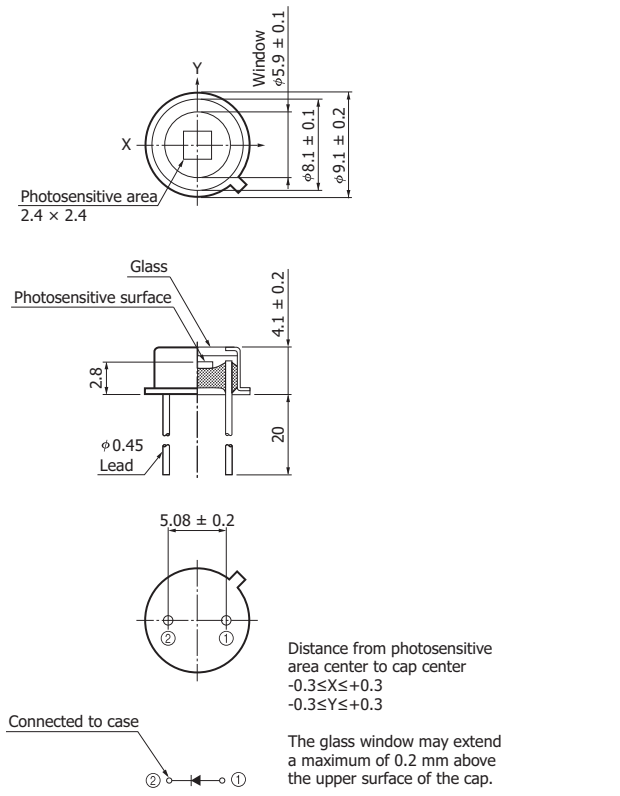
(4) S1336-5BK



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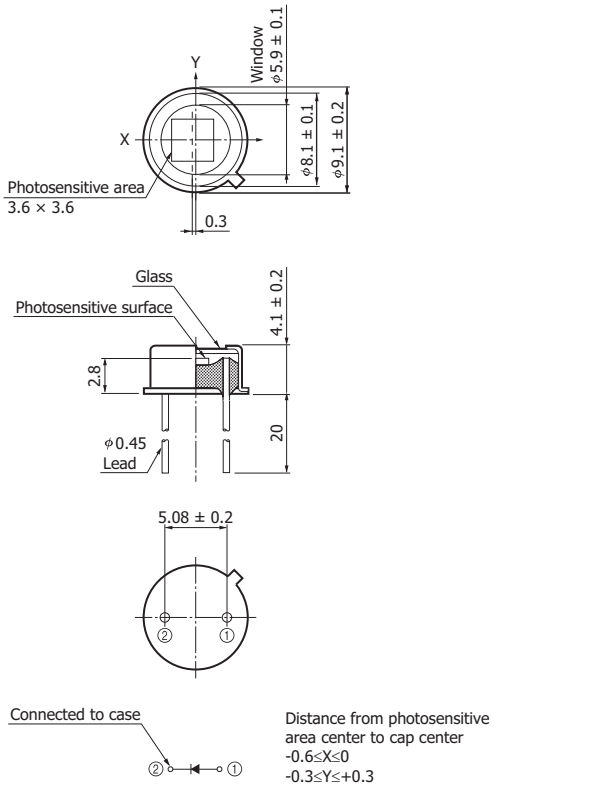
(5) S1336-44BQ



Distance from photosensitive area center to cap center
-0.6≤X≤0
-0.3≤Y≤+0.3

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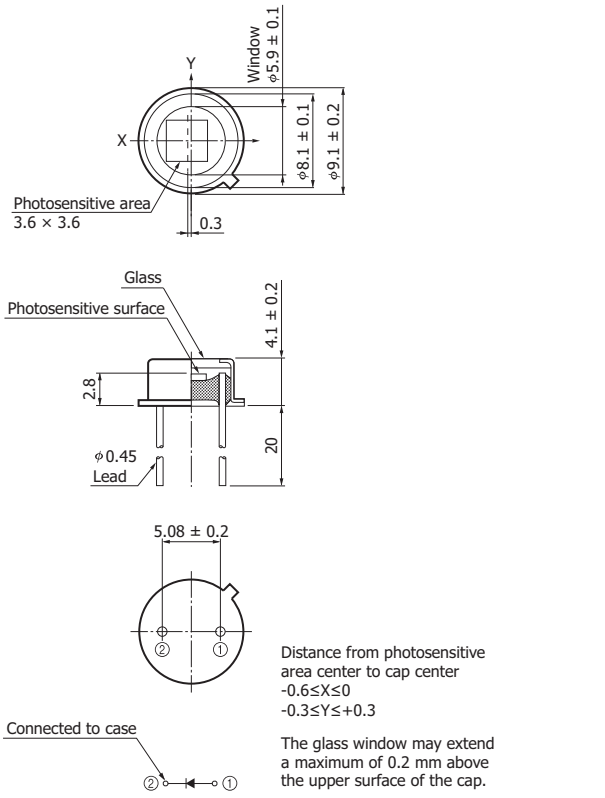
(6) S1336-44BK



Distance from photosensitive area center to cap center
-0.6≤X≤0
-0.3≤Y≤+0.3

The glass window may extend a maximum of 0.2 mm above the upper surface of the cap.

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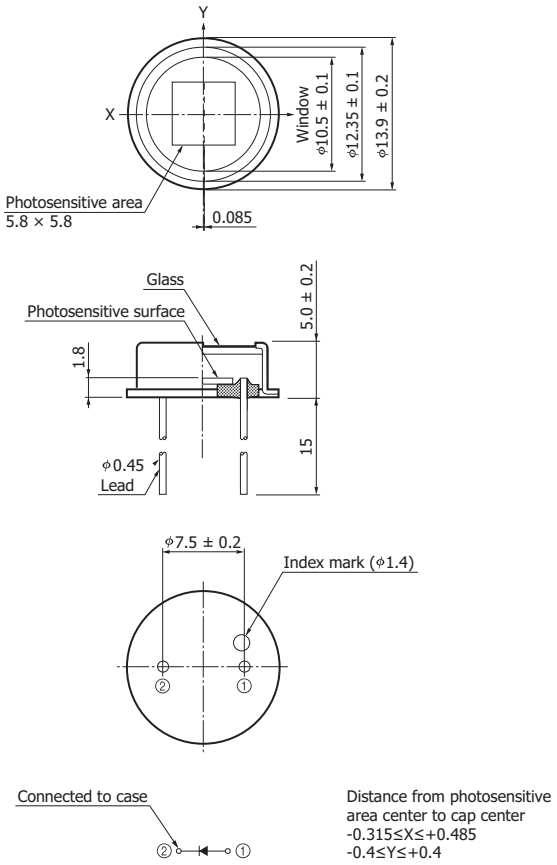
(7) S1336-8BQ



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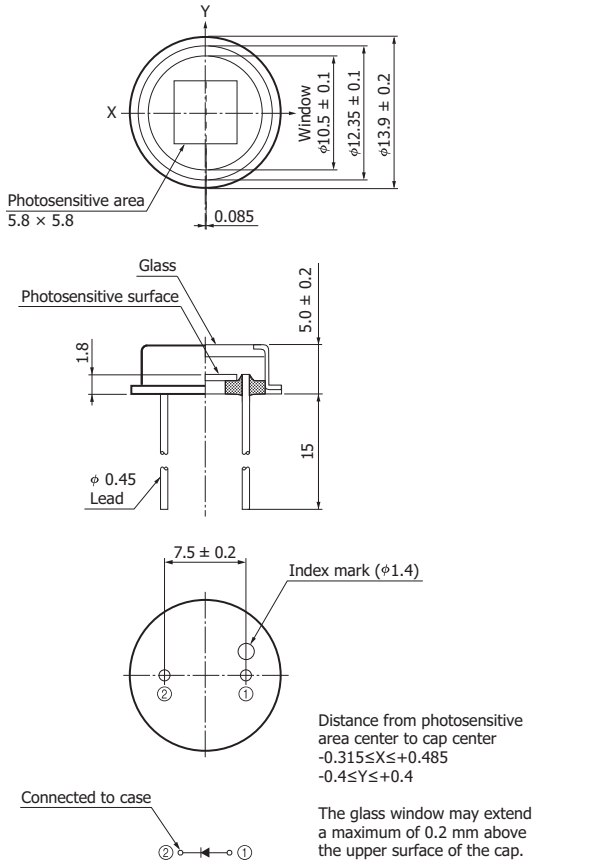
(8) S1336-8BK



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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

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www.hamamatsu.com

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