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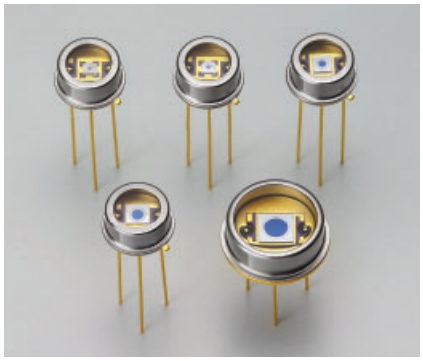
Si APD

S8890 series



Long wavelength type APD

Features

- **High sensitivity**
- **High gain**
- **Low terminal capacitance**

Applications

- **YAG laser detection**
- **Long wavelength light detection**

Structure / Absolute maximum ratings

Type no.	Dimensional outline/Window material*1	Package	Effective photosensitive area size*2 (mm)	Effective photosensitive area (mm^2)	Absolute maximum ratings	
					Operating temperature Topr (°C)	Storage temperature Tstg (°C)
S8890-02	(1)/K	TO-5	φ0.2	0.03	-20 to +85	-55 to +125
S8890-05			φ0.5	0.19		
S8890-10			φ1.0	0.78		
S8890-15			φ1.5	1.77		
S8890-30	(2)/K	TO-8	φ3.0	7.0		

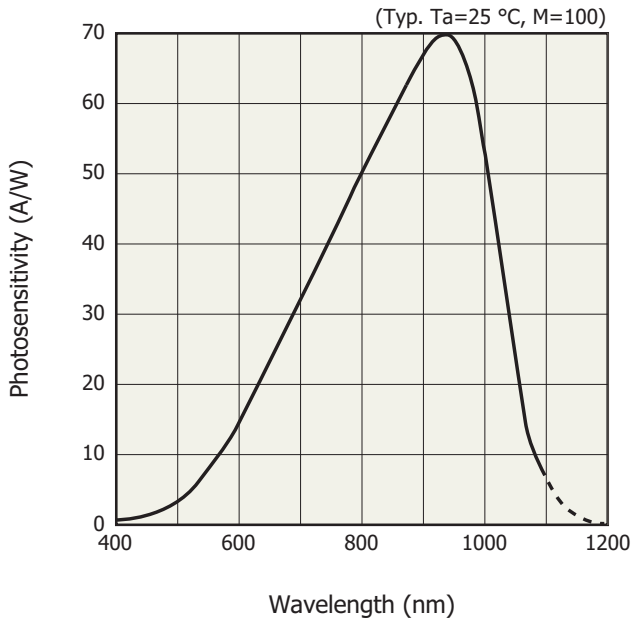
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.
*1: K=borosilicate glass
*2: Area in which a typical gain can be obtained

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

Type no.	Spectral response range λ (nm)	Peak*3 sensitivity wavelength λp (nm)	Breakdown voltage V_{BR} I_D=100 μA		Temp. coefficient of V_{BR} (V/°C)	Dark*3 current I_D		Terminal*3 capacitance Ct (pF)	Cutoff*3 frequency fc R_L=50 Ω (MHz)	Excess*3 noise figure x λ=800 nm	Gain M λ=800 nm
			Typ. (V)	Max. (V)		Typ. (nA)	Max. (nA)				
S8890-02	400 to 1100	940	500	800	3.5	0.2	2	0.2	280	0.3	100
S8890-05						1.5	15	0.5	240		
S8890-10						5.0	50	1.5	230		
S8890-15						10.0	100	2.5	220		
S8890-30						15.0	150	8.0	220		

*3: Values measured at a gain listed in the characteristics table

Spectral response



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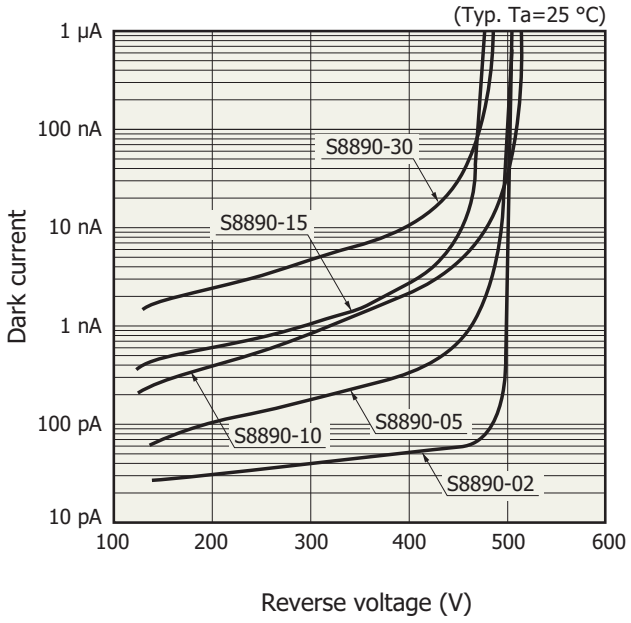
Dark current vs. reverse voltage



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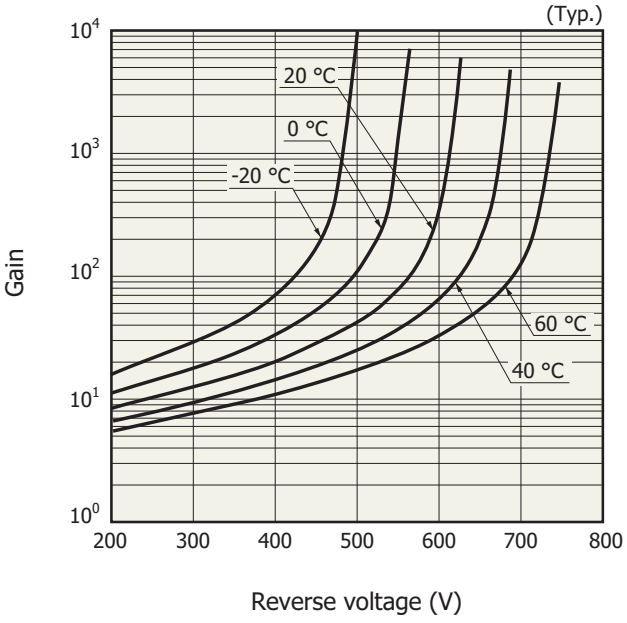
Gain vs. reverse voltage



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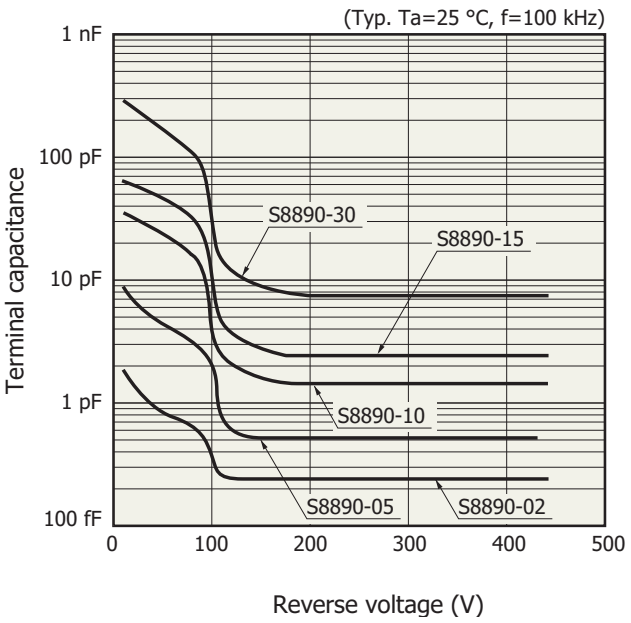
Terminal capacitance vs. reverse voltage



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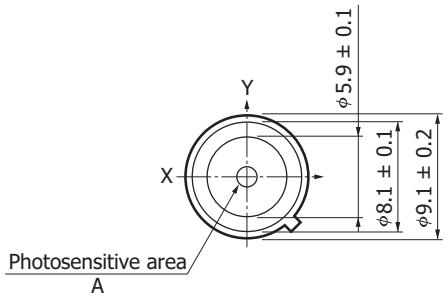
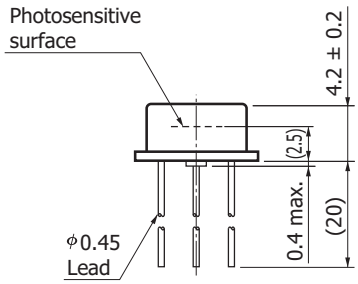
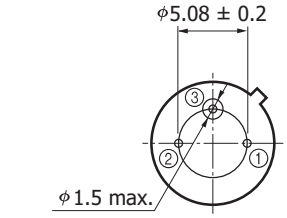
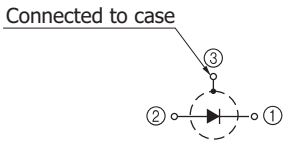
Dimensional outlines (unit: mm)

(1) S8890-02/-05/-10/-15









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

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

Type no.	A
S8890-02	φ0.2
S8890-05	φ0.5
S8890-10	φ1.0
S8890-15	φ1.5

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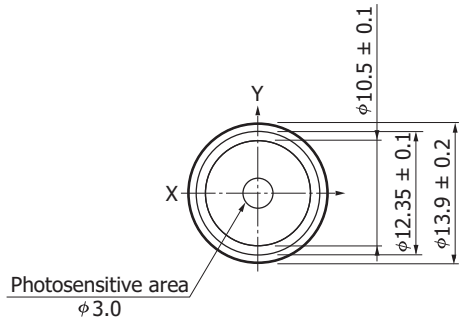
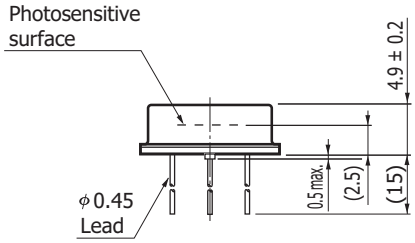
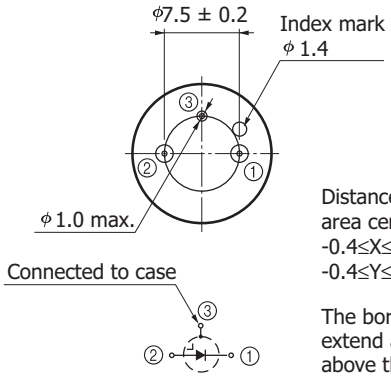
(2) S8890-30







Distance from photosensitive area center to cap center
-0.4≤X≤+0.4
-0.4≤Y≤+0.4

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

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Information described in this material is current as of September, 2012.
Product specifications are subject to change without prior notice due to improvements or other reasons. Before assembly into final products, please contact us for the delivery specification sheet to check the latest information.

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