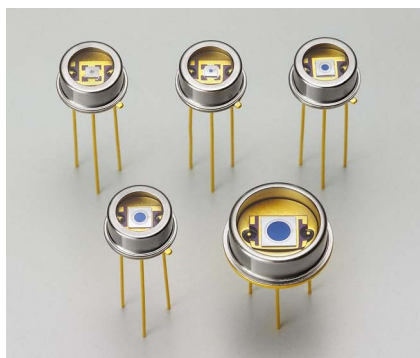




Si APD

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)	Forward current If max (mA)	Reverse current Ir max (μA)
S8890-02	(1)/K	TO-5	φ0.2	0.03	-20 to +85	-55 to +125	10	200
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

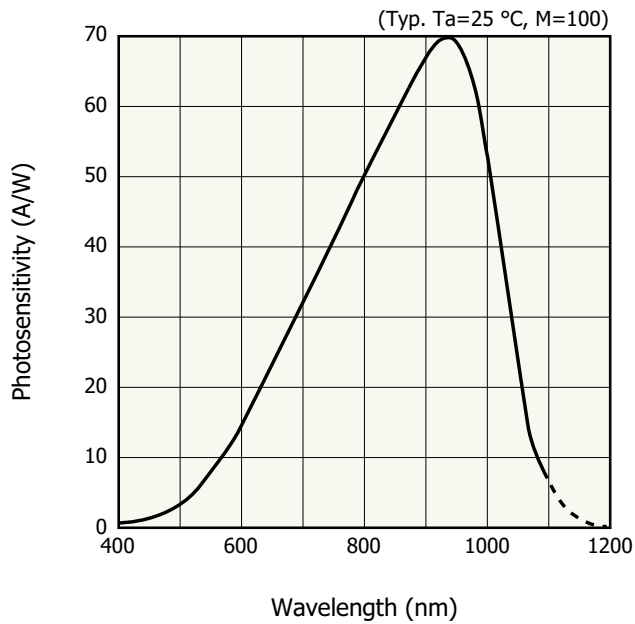
*2: Area in which a typical gain can be obtained

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

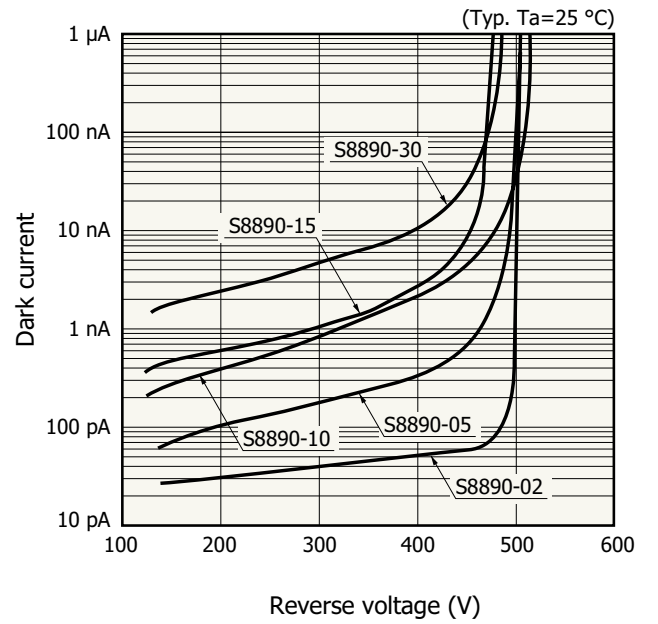
Type no.	Spectral response range λ (nm)	Peak*3 sensitivity wavelength λp (nm)	Breakdown voltage VBR ID=100 μA		Temp. coefficient of VBR (V/°C)	Dark*3 current ID		Terminal*3 capacitance Ct (pF)	Cutoff*3 frequency fc RL=50 Ω (MHz)	Excess*3 noise figure x λ=800 nm	Gain M λ=800 nm
			Typ. (V)	Max. (V)		Typ. (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

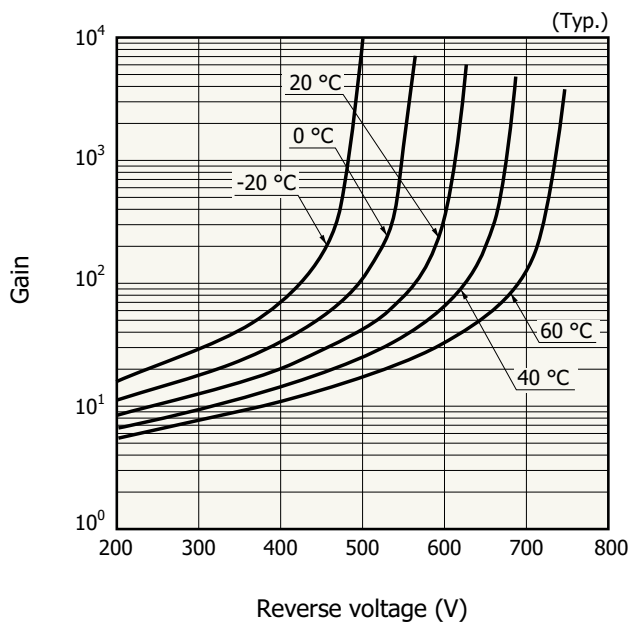
Spectral response



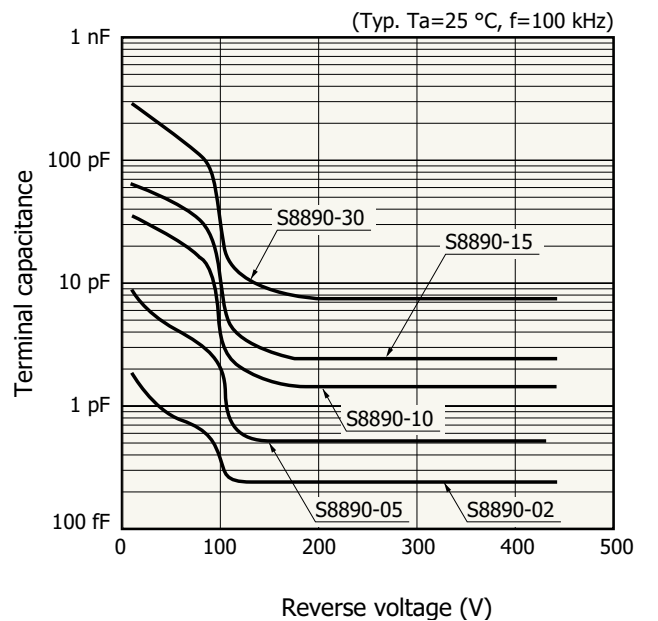
Dark current vs. reverse voltage



Gain vs. reverse voltage

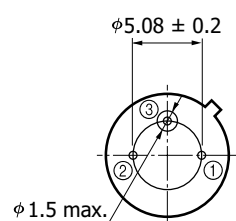
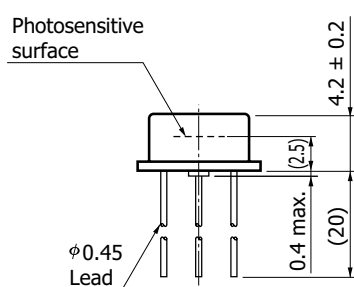
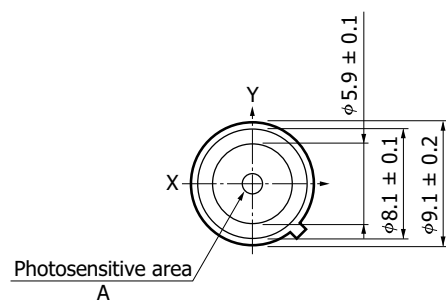


Terminal capacitance vs. reverse voltage



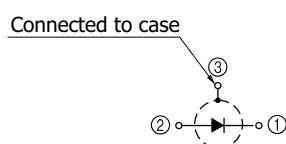
Dimensional outlines (unit: mm)

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



Distance from photosensitive area center to cap center
 $-0.3 \leq X \leq +0.3$
 $-0.3 \leq Y \leq +0.3$

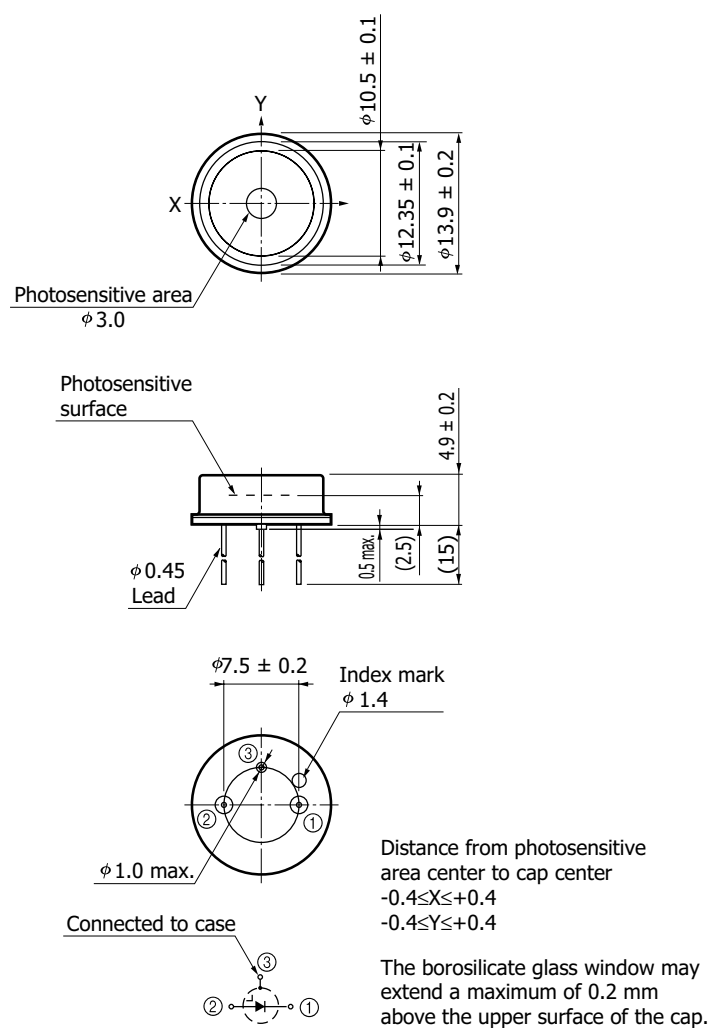
The borosilicate glass window may extend a maximum of 0.2 mm above the upper surface of the cap.



Type no.	A
S8890-02	$\phi 0.2$
S8890-05	$\phi 0.5$
S8890-10	$\phi 1.0$
S8890-15	$\phi 1.5$

KAPDA0024EB

(2) S8890-30



KAPDA0025EB

❖ Recommended soldering conditions

Solder temperature: 260 °C (10 s or less, once)

Solder the leads at a point at least 1 mm away from the package body.

Note: When you set soldering conditions, check that problems do not occur in the product by testing out the conditions in advance.

❖ Related information

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

■ Precautions

- Disclaimer
- Precautions / Metal, ceramic, plastic package products

■ Catalogs

- Technical note / Si APD

Information described in this material is current as of February 2026.

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.