

S8664 series

Short wavelength type APD

Features

- High sensitivity at visible range
- Low noise
- High gain
- Low capacitance

Applications

- Low-light-level measurement
- Analytical instrument

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*3 Topr (°C)	Storage temperature*3 Tstg (°C)	
S8664-02K	①/K	TO-5	φ0.2	0.03	-20 to +60	-55 to +100	
S8664-05K			φ0.5	0.19			
S8664-10K			φ1.0	0.78			
S8664-20K			φ2.0	3.14			
S8664-30K	②/K	TO-8	φ3.0	7.0			
S8664-50K			φ5.0	19.6			
S8664-55	③/E	Ceramic	5 × 5	25			-20 to +80
S8664-1010	④/E		10 × 10	100			

*1: K: Borosilicate glass E: Epoxy resin

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

*3: No dew condensation. When there is a temperature difference between a product and the surrounding area in high humidity environments, dew condensation may occur on the product surface. Dew condensation on the product may cause deterioration in characteristics and reliability.

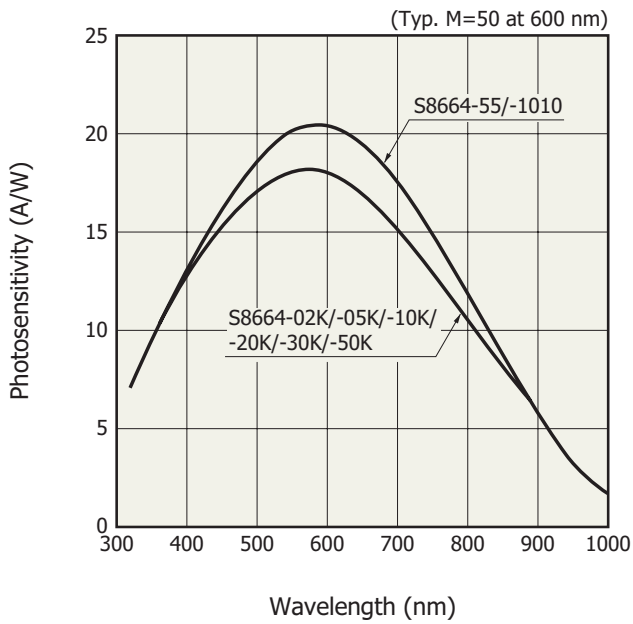
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

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

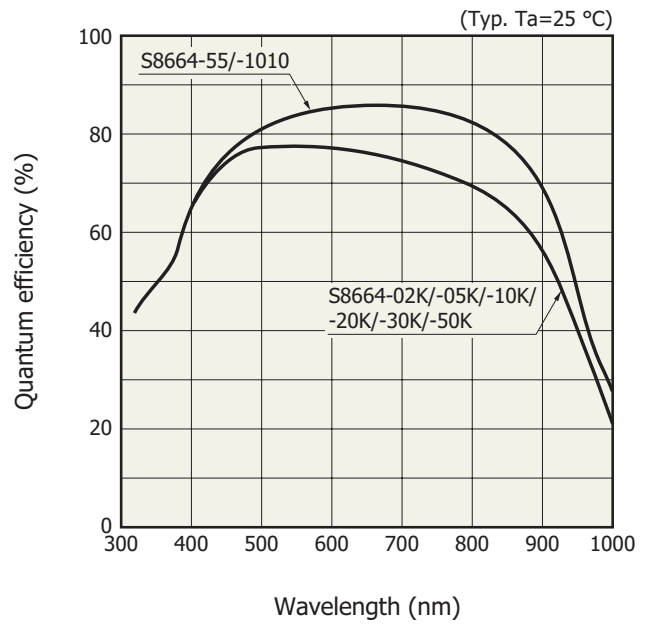
Type no.	Spectral response range λ (nm)	Peak sensitivity wavelength*4 λp (nm)	Photo sensitivity S M=1 λ=420 nm (A/W)	Quantum efficiency QE M=1 λ=420 nm (%)	Breakdown voltage VBR ID=100 μA		Temperature coefficient of VBR (V/°C)	Dark current*4 ID		Cutoff frequency*4 fc (MHz)	Terminal capacitance*4 Ct (pF)	Excess Noise index*4 λ=420 nm	Gain M λ=420 nm
					Typ. (V)	Max. (V)		Typ. (nA)	Max. (nA)				
S8664-02K	320 to 1000	600	0.24	70	400	500	0.78	0.1	1	700	0.8	0.2	50
S8664-05K								0.2	1.5	680	1.6		
S8664-10K								0.3	3	530	4		
S8664-20K								0.6	6	280	11		
S8664-30K								1	15	140	22		
S8664-50K								3	35	60	55		
S8664-55								5	50	40	80		
S8664-1010								10	100	11	270		

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

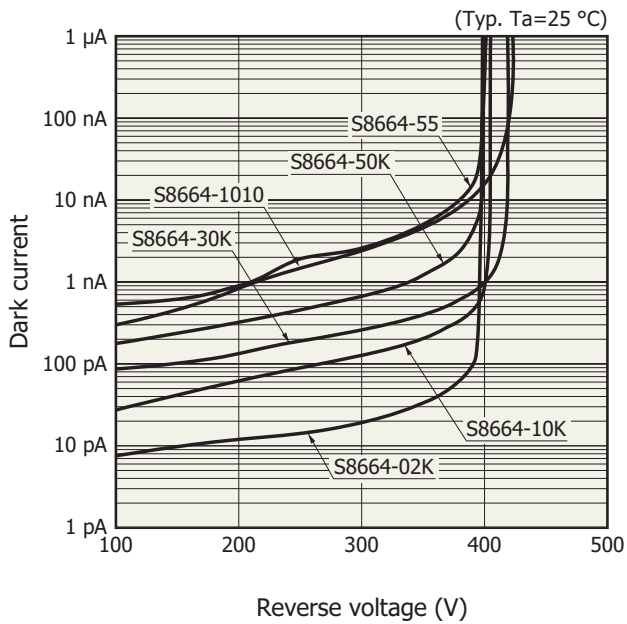
Spectral response



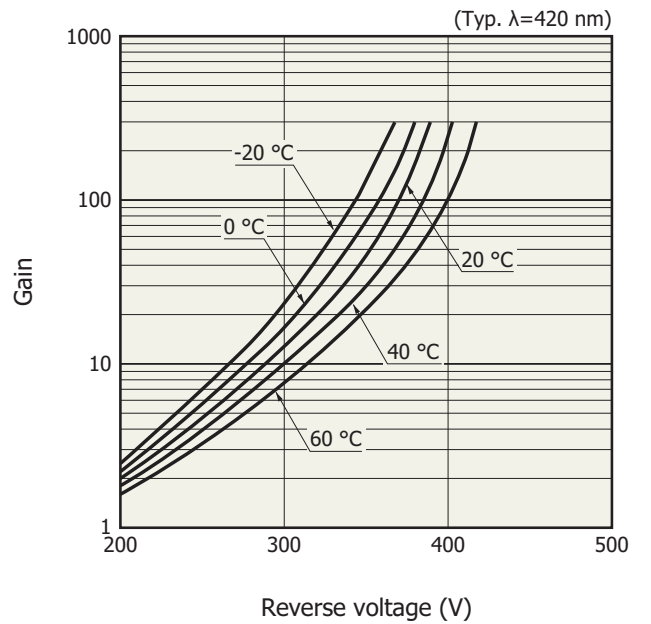
Quantum efficiency vs. wavelength

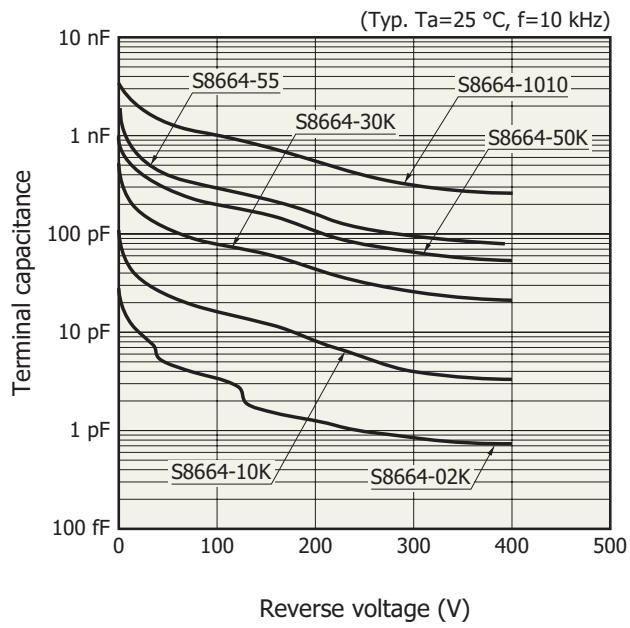


Dark current vs. reverse voltage



Gain vs. reverse voltage

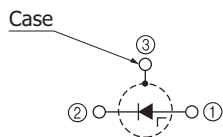
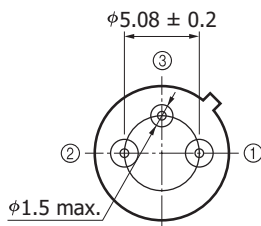
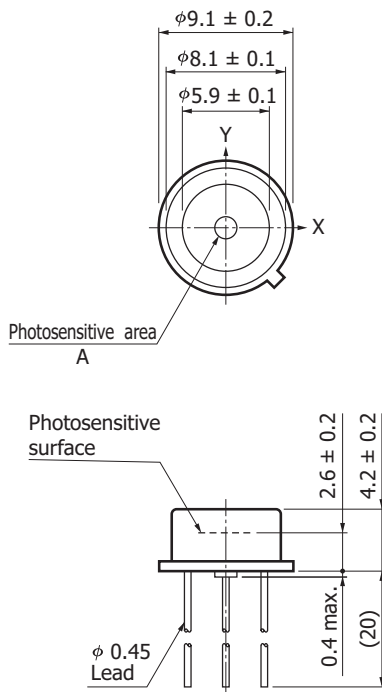


Terminal capacitance vs. reverse voltage

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Dimensional outlines (unit: mm)

① S8664-02K/-05K/-10K/-20K

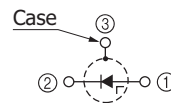
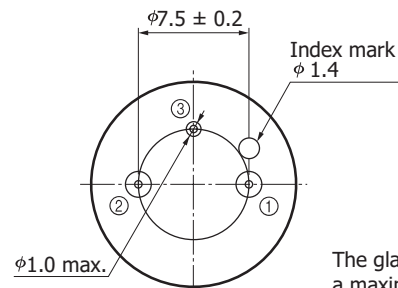
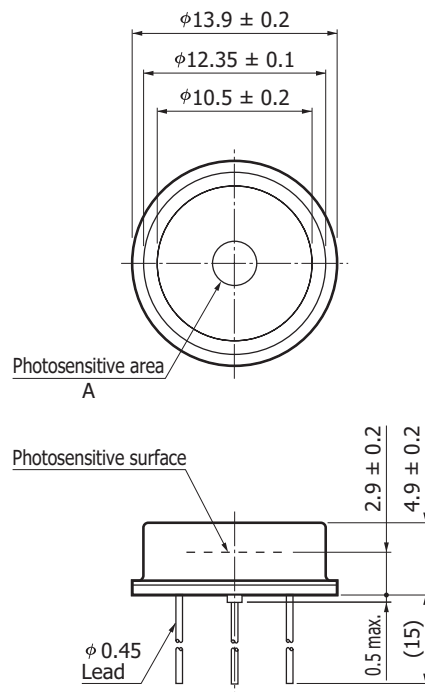


The glass window may extend a maximum of 0.2 mm beyond the upper surface of the cap.

Type no.	A
S8664-02K	$\phi 0.2$
S8664-05K	$\phi 0.5$
S8664-10K	$\phi 1.0$
S8664-20K	$\phi 2.0$

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② S8664-30K/-50K

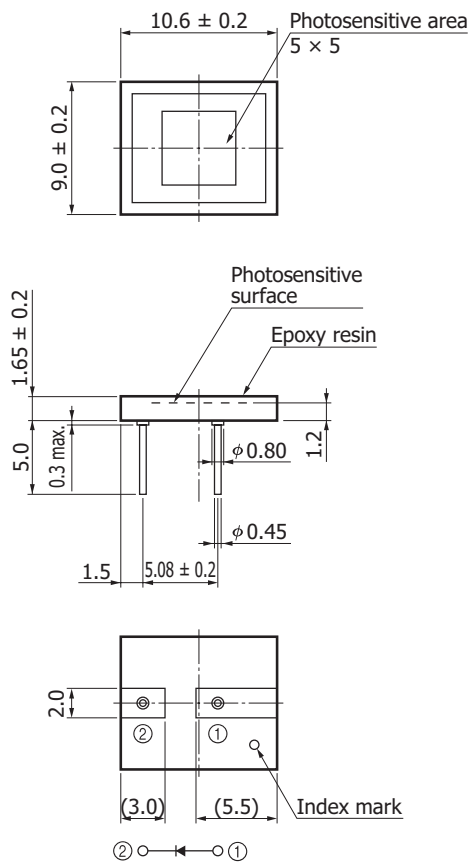


The glass window may extend a maximum of 0.2 mm beyond the upper surface of the cap.

Type no.	A
S8664-30K	$\phi 3.0$
S8664-50K	$\phi 5.0$

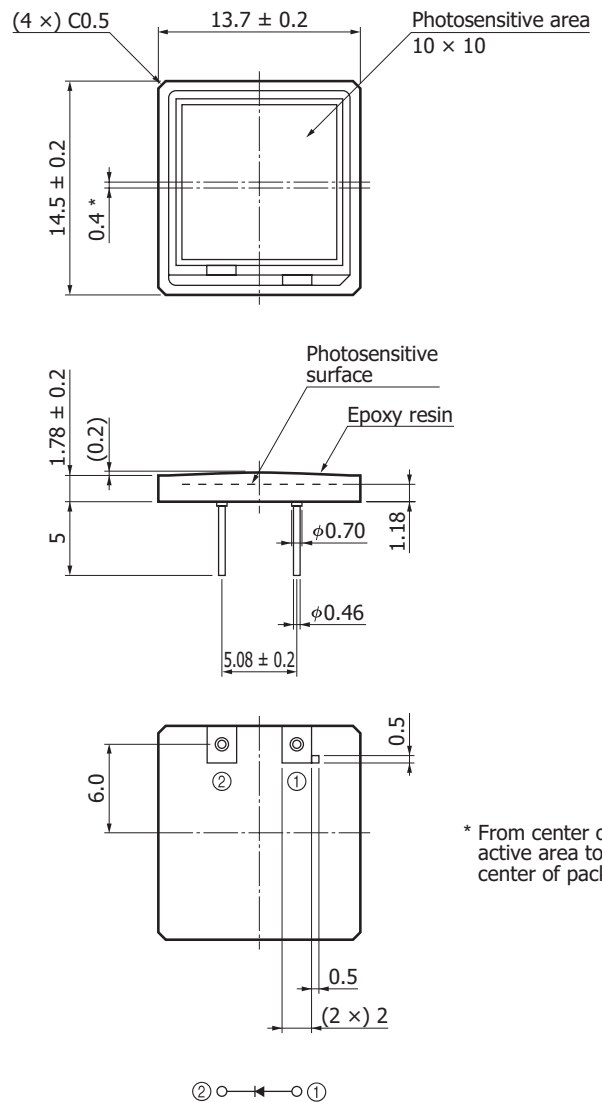
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③ S8664-55



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④ S8664-1010



* From center of active area to center of package

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Recommended soldering conditions

S8664-02K/-05K/-10K/-20K/-30K/-50K

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

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

S8664-55/-1010

Solder temperature: 260 °C (5 s or less, once)

Solder the leads at a point at least 1.5 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
- Metal, ceramic, plastic package products

Information described in this material is current as of December 2020.

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.

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