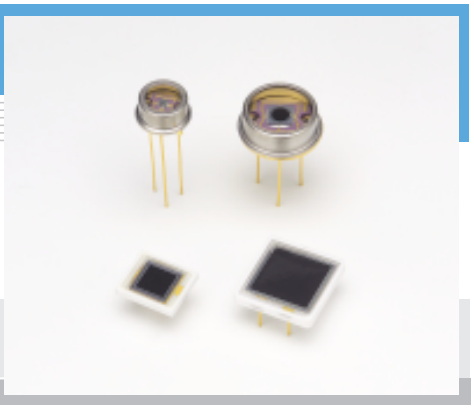
Si APD
S8664 series

Short wavelength type APD



Features

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

Applications

- Low-light-level measurement
- Analytical equipment

■ General ratings / Absolute maximum ratings

Type No.	Dimensional outline /Window material *1	Package	Effective *2 active area size (mm)	Effective active area (mm^2)	Absolute maximum ratings	
					Operating temperature Topr (°C)	Storage temperature 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		

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

Type No.	Spectral response range λ (nm)	Peak *3 sensitivity wavelength 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 Typ. (V)	Breakdown voltage VBR ID=100 μA Max. (V)	Temperature coefficient of VBR (V/°C)	Dark *3 current ID Typ. (nA)	Dark *3 current ID Max. (nA)	Cut-off frequency fc (MHz)	Terminal *3 capacitance Ct (pF)	Excess *3 Noise index λ=420 nm	Gain M λ=420 nm
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		

*1: K: Borosilicate glass E: Epoxy resin
*2: Area in which a typical gain can be obtained.
*3: Values measured at a gain listed in the characteristics table.

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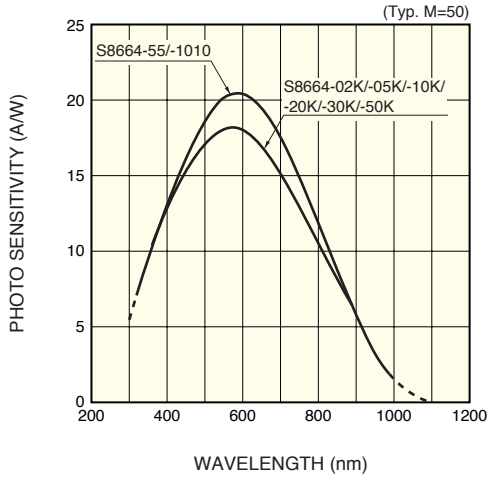
■ Spectral response



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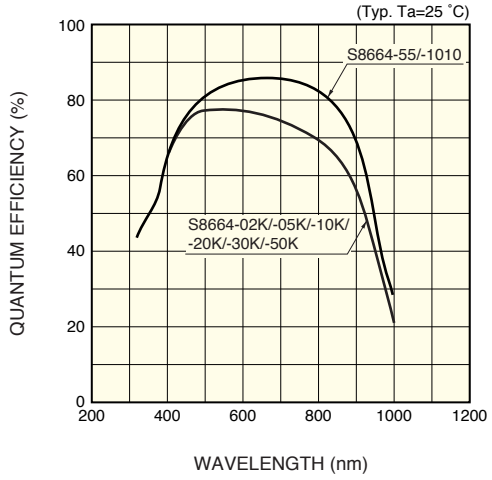
■ Quantum efficiency vs. wavelength



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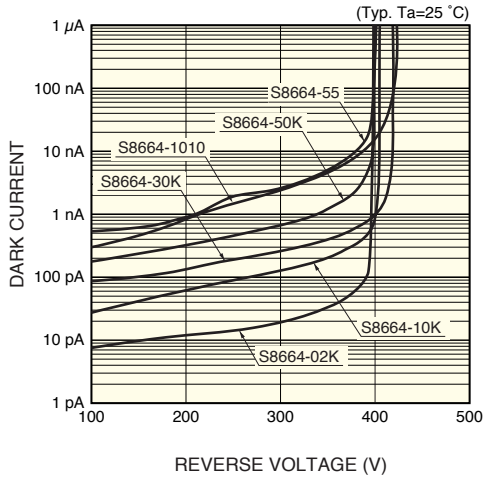
■ Dark current vs. reverse voltage



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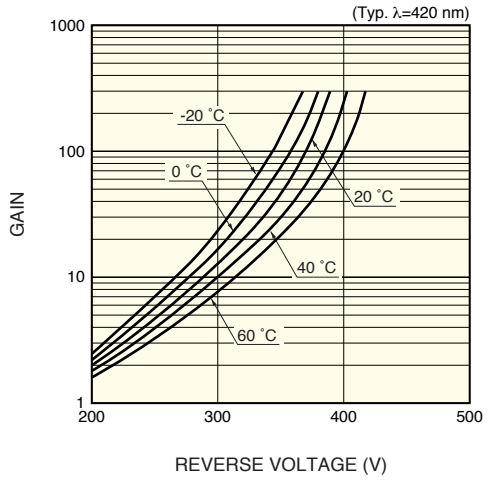
■ Gain vs. reverse voltage



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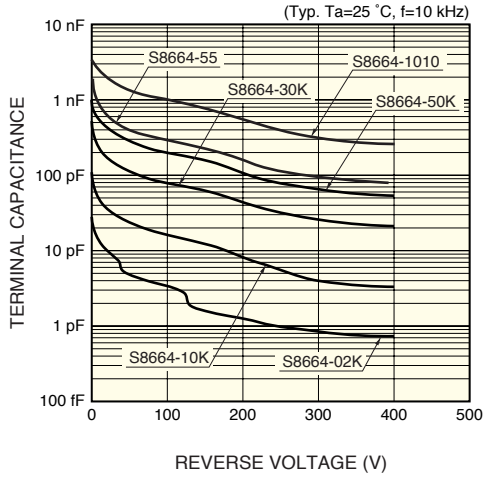
■ Terminal capacitance vs. reverse voltage



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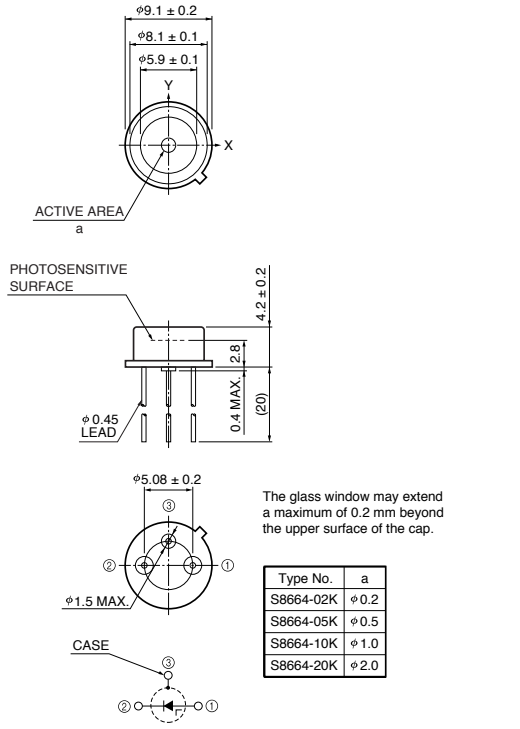
■ Dimensional outlines (unit: mm)

① 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	φ0.2
S8664-05K	φ0.5
S8664-10K	φ1.0
S8664-20K	φ2.0

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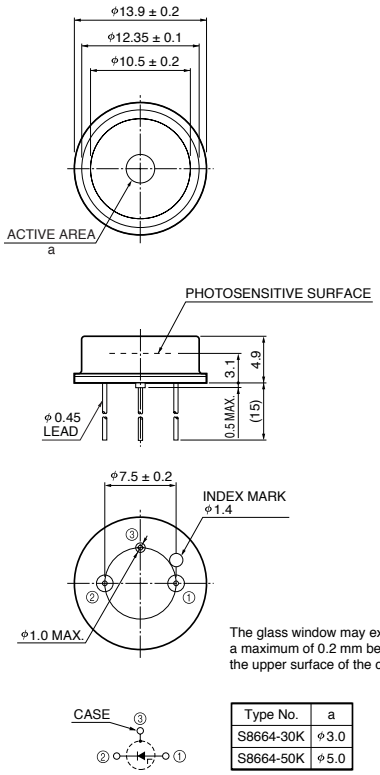
② S8664-30K/-50K



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

Type No.	a
S8664-30K	φ3.0
S8664-50K	φ5.0

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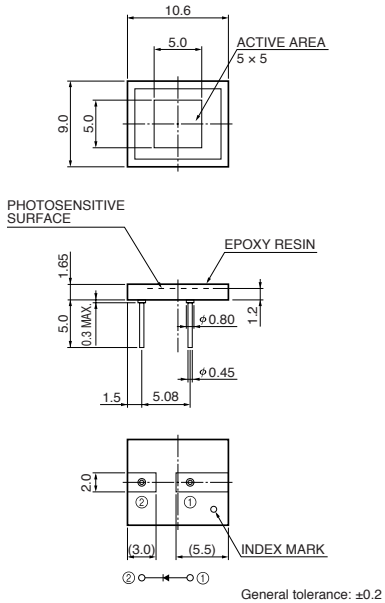
③ S8664-55



General tolerance: ±0.2

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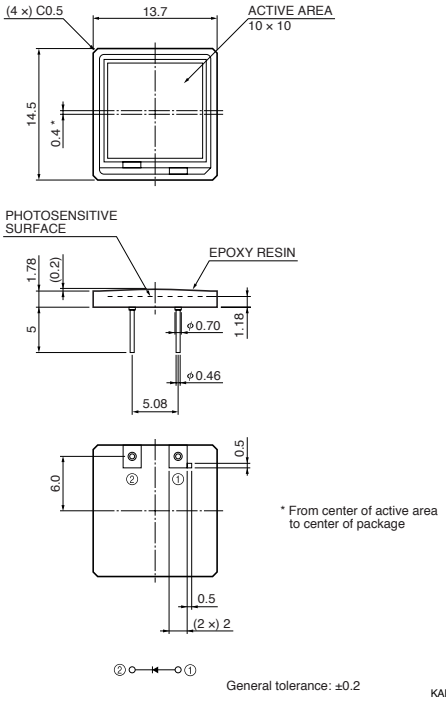
④ S8664-1010



* From center of active area to center of package

General tolerance: ±0.2

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