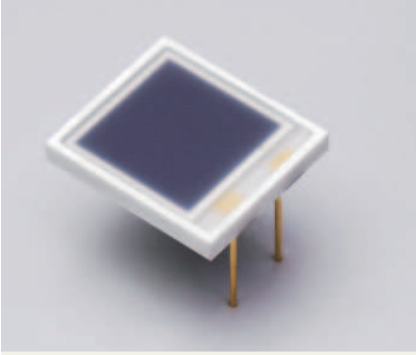
HAMAMATSU
PHOTON IS OUR BUSINESS

Si PIN photodiode



S8650

Flat surface ideal for bonding to scintillator

The S8650 Si PIN photodiode has an epoxy coating window processed to have a flat surface (flatness: ±5 µm). When bonded to a scintillator, the flat surface allows highly tight coupling to the scintillator so bubbles are unlikely to penetrate in between.
We also accept special orders for machining flat surfaces on other ceramic package products. Feel free to place an order with us.

Features

- **Flat epoxy coating surface ideal for bonding to scintillator Flatness: ±5 µm**
- **Photosensitive area: 10 × 10 mm**

Applications

- **Scintillation X-ray detectors**
- **Calorimeters, etc.**

Absolute maximum ratings (Ta=25 °C)

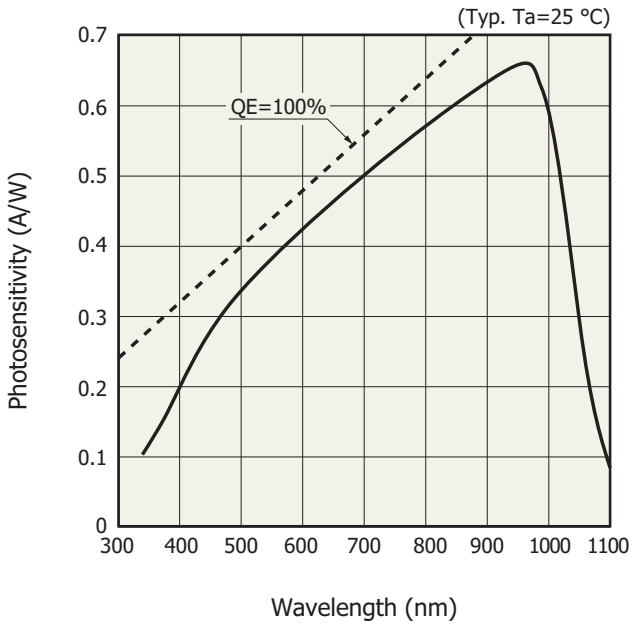
Parameter	Symbol	Value	Unit
Reverse voltage	V_R Max.	100	V
Operating temperature	Topr	-20 to +60	°C
Storage temperature	Tstg	-20 to +80	°C

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 (Ta=25 °C)

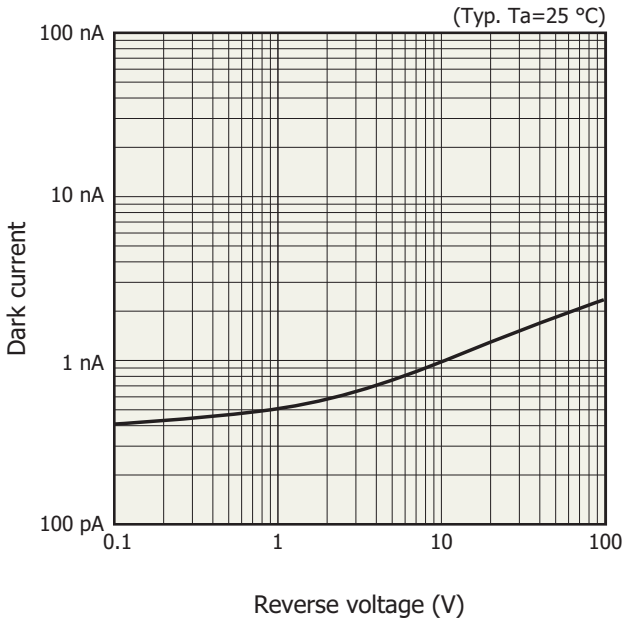
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	340 to 1100	-	nm
Peak sensitivity wavelength	λp		-	960	-	nm
Photosensitivity	S	λ=λp	-	0.66	-	A/W
		BGO: λ=480 nm	-	0.30	-	A/W
		CsI (Tl): λ=540 nm	-	0.37	-	A/W
Dark current	I_D	V_R=70 V	-	2	6	nA
Cutoff frequency	fc	λ=780 nm, V_R=70 V R_L=50 Ω, -3 dB	-	40	-	MHz
Terminal capacitance	Ct	V_R=70 V, f=1 MHz	-	40	-	pF
Noise equivalent power	NEP	V_R=70 V, λ=λp		3.8×10^{-14}	-	$W/Hz^{1/2}$

Spectral response



KPINB0231EC

Dark current vs. reverse voltage



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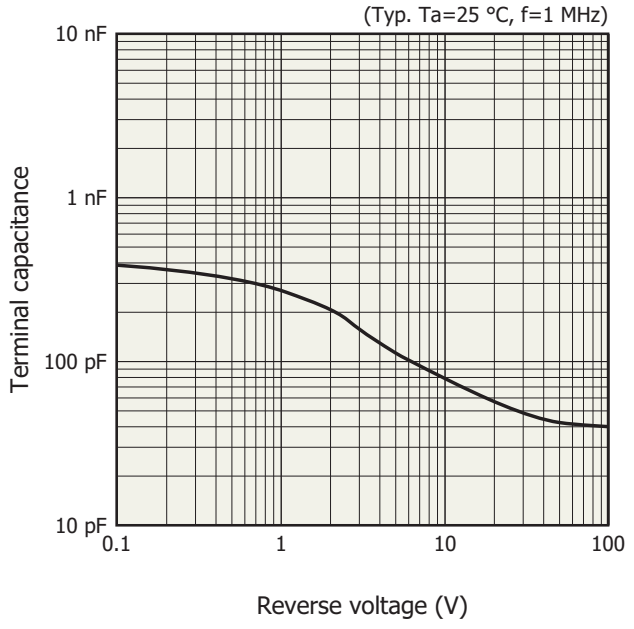
Terminal capacitance vs. reverse voltage



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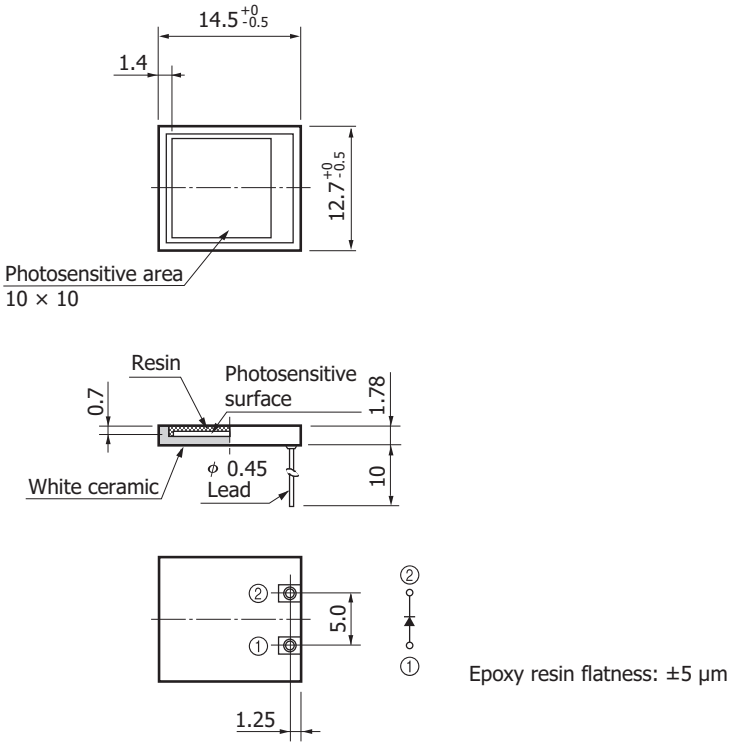
Dimensional outline (unit: mm, tolerance unless otherwise noted: ±0.2)



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Information described in this material is current as of April, 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.
Type numbers of products listed in the delivery specification sheets or supplied as samples may have a suffix "(X)" which means preliminary specifications or a suffix "(Z)" which means developmental 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.

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