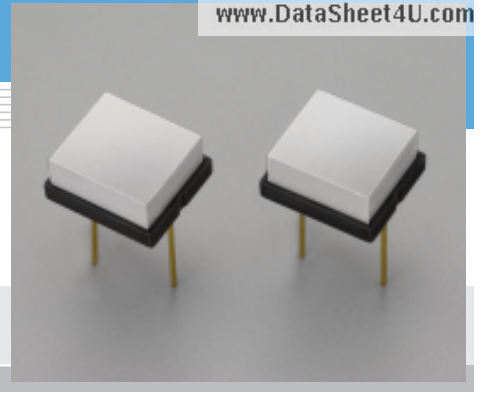


Si photodiode

S8559

Detector for X-ray monitor



Features

- Si photodiode coupled to low cost CsI scintillator
- Ideal for detection of X-ray energy below 100 keV

Applications

- X-ray detection
- X-ray monitors

■ Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Value	Unit
Reverse voltage	VR Max.	5	V
Operating temperature	Topr	-10 to +60	°C
Storage temperature	Tstg	-20 to +70	°C

■ Electrical and optical characteristics (without scintillator, Ta=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	190 to 1000	-	nm
Peak sensitivity wavelength	λ_p			720	-	nm
Photo sensitivity	S	$\lambda=500$ nm	-	0.26	-	A/W
Dark current	ID	VR=10 mV	-	2	50	pA
Terminal capacitance	Ct	VR=0 V, f=10 kHz	-	950	-	pF

■ X-ray sensitivity (reference value, tube current: 1.0 mA, aluminum filter: t=6 mm, distance=830 nm)

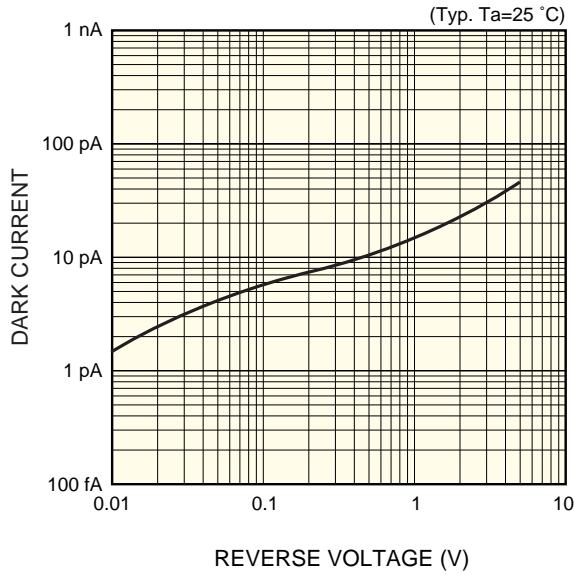
X-ray tube voltage	Typ.	Unit
120 kV	52	nA

Note) Depends on equipment and measurement conditions.

Handling precautions

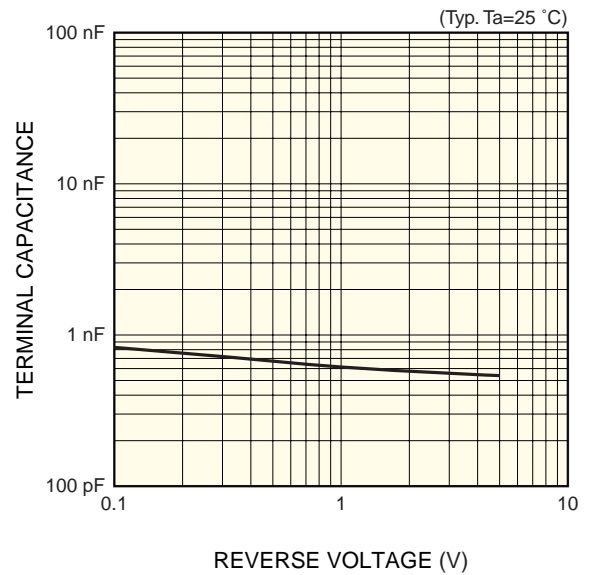
Avoid storing or using S8559 at high humidity because CsI scintillator has deliquescence.

■ Dark current vs. reverse voltage



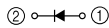
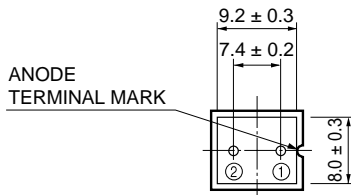
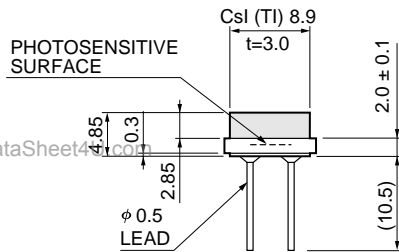
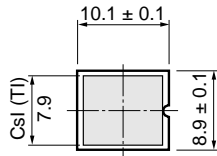
KSPDB0152EA

■ Terminal capacitance vs. reverse voltage



KSPDB0153EA

■ Dimensional outline (unit: mm)



KSPDA0145EA

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HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Higashi-ku, Hamamatsu City, 435-8558 Japan, Telephone: (81) 53-434-3311, Fax: (81) 53-434-5184, <http://www.hamamatsu.com>

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, P.O.Box 6910, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1) 908-231-0960, Fax: (1) 908-231-1218

Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49) 08152-3750, Fax: (49) 08152-2658

France: Hamamatsu Photonics France S.A.R.L.: 19, Rue du Saule Traipu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: 33-(1) 69 53 71 00, Fax: 33-(1) 69 53 71 10

United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, United Kingdom, Telephone: (44) 1707-294888, Fax: (44) 1707-325777

North Europe: Hamamatsu Photonics Norden AB: Smidesvägen 12, SE-171 41 Solna, Sweden, Telephone: (46) 8-509-031-00, Fax: (46) 8-509-031-01

Italy: Hamamatsu Photonics Italia S.R.L.: Strada della Moia, 1/E, 20020 Arese, (Milano), Italy, Telephone: (39) 02-935-81-733, Fax: (39) 02-935-81-741