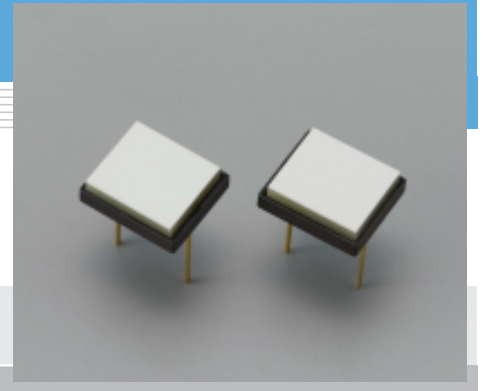


# Si photodiode

## S8193

Detector for X-ray monitors



### Features

- High sensitivity, high reliability photodiode with ceramic scintillator
- High X-ray sensitivity: 1.8 times that of CWO
- Less afterglow than CsI: <math><0.1\% / 3\text{ ms}</math>, <math><0.01\% / 30\text{ ms}</math>
- Unlike CsI, has no deliquescence

### Applications

- X-ray analysis, X-ray detection

#### ■ Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Value	Unit
Reverse voltage	V <sub>R</sub> Max.	5	V
Operating temperature	T <sub>opr</sub>	-10 to +60	°C
Storage temperature	T <sub>stg</sub>	-20 to +70	°C

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

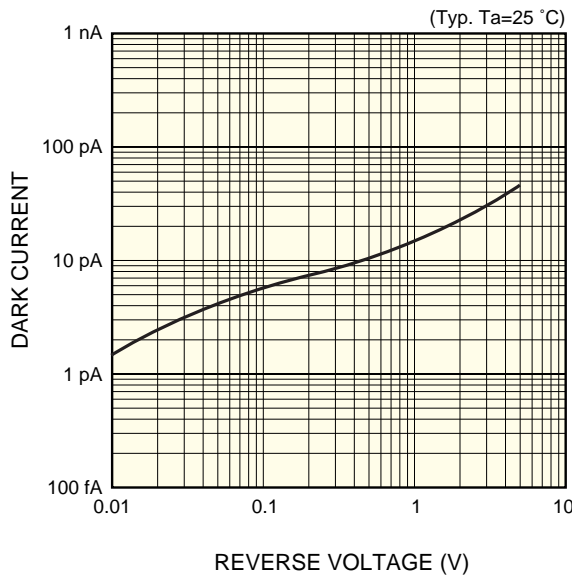
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	$\lambda$		-	190 to 1000	-	nm
Peak sensitivity wavelength	$\lambda_p$			720	-	nm
Photo sensitivity	S	$\lambda=500\text{ nm}$	-	0.26	-	A/W
		$\lambda=\lambda_p$	-	0.5	-	A/W
Dark current	I <sub>D</sub>	V <sub>R</sub> =10 mV	-	2	50	pA
Terminal capacitance	C <sub>t</sub>	V <sub>R</sub> =0 V, f=10 kHz	-	950	-	pF

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

X-ray tube voltage	Typ.	Unit
120 keV	30	nA

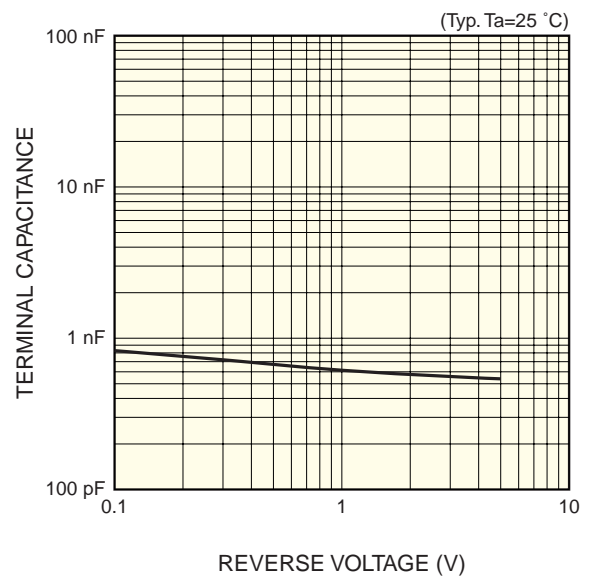
Note) Depends on equipment and measurement conditions.

■ Dark current vs. reverse voltage



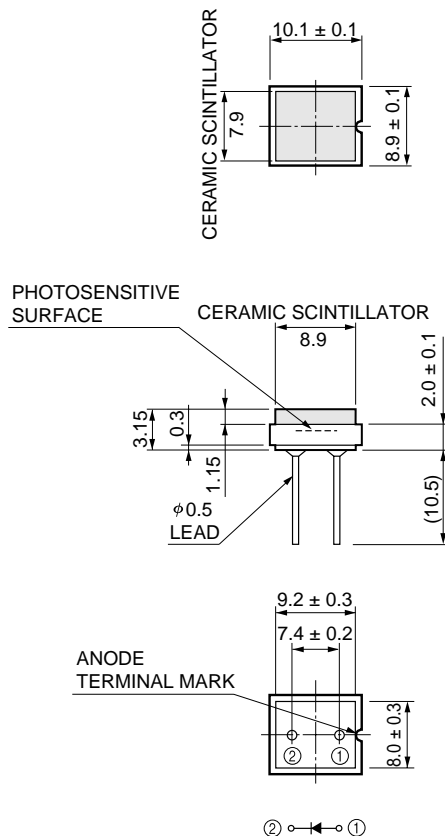
KSPDB0152EA

■ Terminal capacitance vs. reverse voltage



KSPDB0153EA

■ Dimensional outline (unit: mm)



KSPDA0129EA

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