

Si photodiode S7878

High sensitivity X-ray detector



Features

- Ceramic scintillator for high sensitivity and reliability unlike CsI (ceramic scintillator: no deliquescence)
- 5 × 5 element photodiode array
- High sensitivity to X-rays: 1.8 times higher sensitivity than CWO
- Less afterglow: lower than CsI
<0.1 %/3 ms, <0.01 %/30 ms
- Low crosstalk structure

Applications

- X-ray fluorescence analysis
- X-ray detection

■ Absolute maximum ratings (Ta=25 °C)

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

■ Photodiode electrical and optical characteristics (Ta=25 °C, per element)

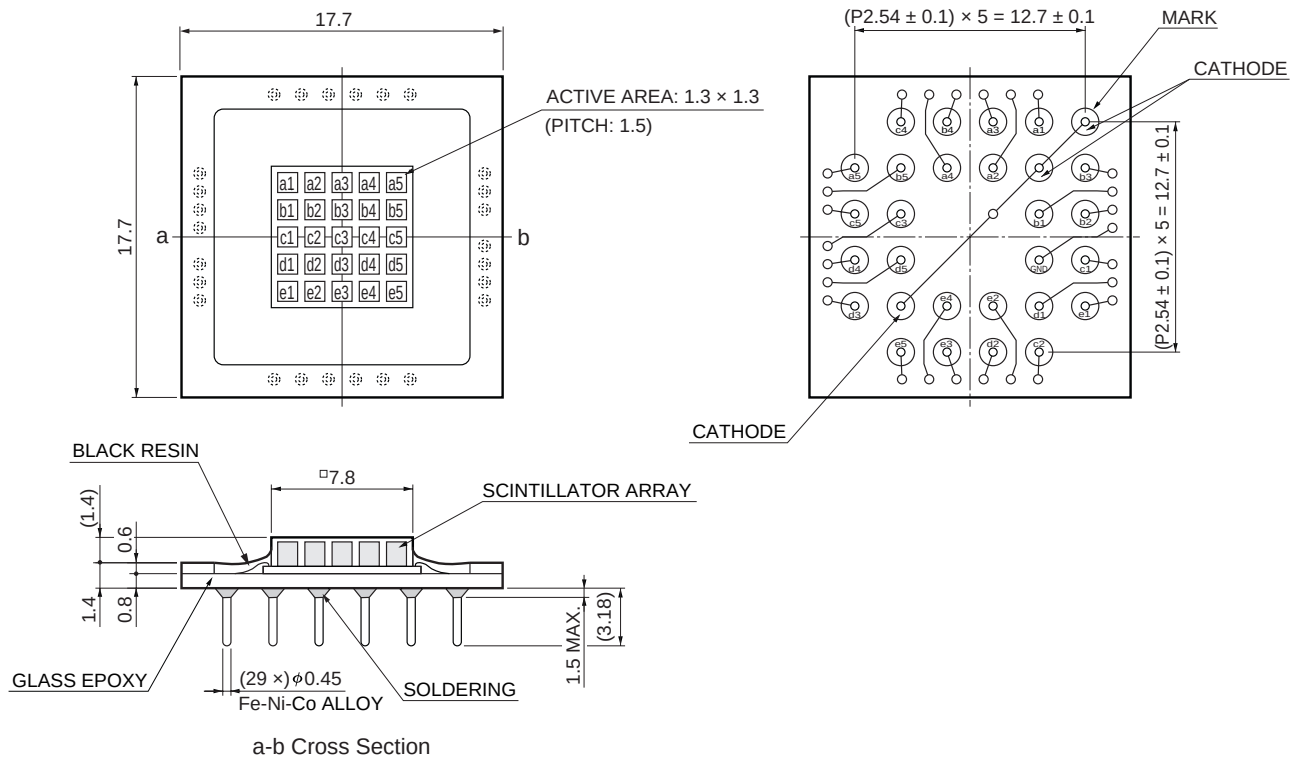
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	320 to 1000	-	nm
Peak sensitivity wavelength	λ_p		-	800	-	nm
Photo sensitivity	S	$\lambda=510$ nm	0.33	0.38	-	A/W
		$\lambda=\lambda_p$	0.44	0.51	-	A/W
Dark current	Id	VR=10 mV	-	1.5	10	pA
Terminal capacitance	Ct	VR=0 V, f=10 kHz	-	20	-	pF

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

X-ray tube voltage	Value	Unit
120 kV	1.2	nA

Note) Sensitivity values are just for your reference. Actual sensitivity values may vary depending on an equipment type and measurement conditions.

■ Dimensional outline (unit: mm)



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