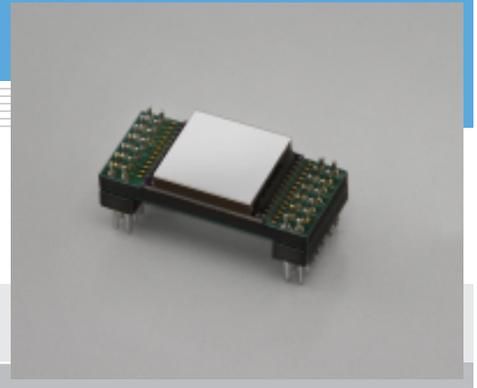


# Si photodiode array

## S7978

5 × 5 element array for X-ray detector



### Features

- High reliability photodiode with ceramic scintillator  
High X-ray sensitivity: 1.8 times higher than CWO scintillator  
Less afterglow: <0.1 %/3 ms, <0.01 %/30 ms  
No deliquescence
- 5 × 5 element photodiode array
- Number of channels can be increased by connecting several S7978 together.

### Applications

- X-ray analysis, X-ray detection

### ■ 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 (Ta=25 °C, per 1 element, without scintillator)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	$\lambda$	With resin	-	220 to 1000	-	nm
Peak sensitivity wavelength	$\lambda_p$		-	720	-	$\mu\text{m}$
Photo sensitivity	S	$\lambda=500$ nm, with resin	-	0.36	-	A/W
Dark current	ID	VR=10 mV	-	0.1	10	pA
Terminal capacitance	Ct	VR=5 V, f=10 kHz	-	30	50	pF

### ■ X-ray sensitivity (reference value, per 1 element, tube current: 1.0 mA, aluminum filter: t=6 mm, distance=830 mm)

X-ray tube voltage	Typ.	Unit
120 kV	2.1	nA

Note) Depends on equipment and measurement conditions.

