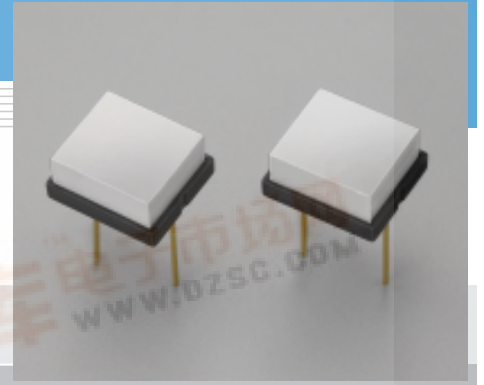


PHOTODIODE

# 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     | $\lambda$   |                  | -    | 190 to 1000 | -    | nm   |
| Peak sensitivity wavelength | $\lambda_p$ |                  |      | 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)

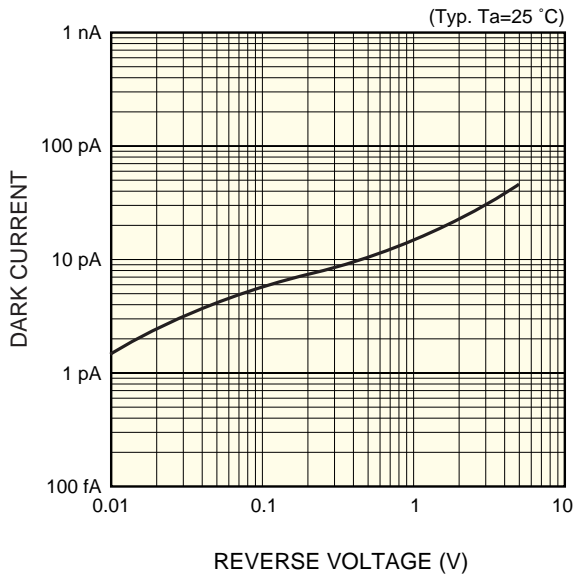
| X-ray tube voltage | Typ. | Unit |
|--------------------|------|------|
| 120 kV             | 52   | nA   |

Note) Depends on equipment and measurement conditions.

Handling precautions

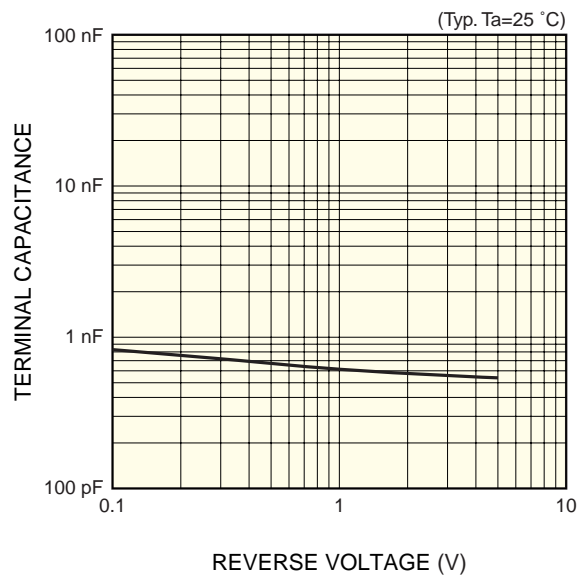
Avoid storing or using S8559 at high humidity because CsI scintillator has deliquescence.

■ Dark current vs. reverse voltage



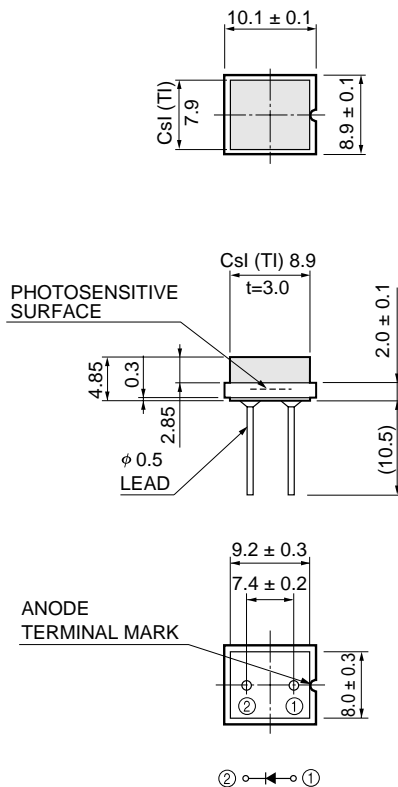
KSPDB0152EA

■ Terminal capacitance vs. reverse voltage



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■ Dimensional outline (unit: mm)



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