

### Features

- 100 mm<sup>2</sup> PIN detector
- Light blocking encapsulant
- Low dark current
- Low capacitance
- High shunt resistance
- High sensitivity

### Description

Square active area PIN photodiode with 100 mm<sup>2</sup> active area. Ceramic carrier type LCC10 package with light blocking black epoxy encapsulant. Reflow solderable. Non-hermetic.

### Application

- Ionizing radiation detector
- Medical equipment
- Personal dosimeter

### RoHS

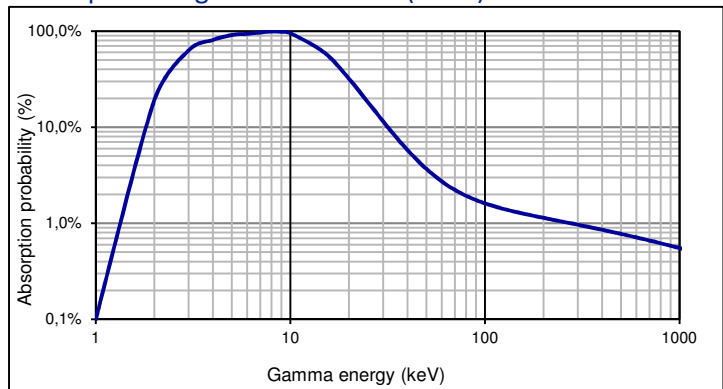
2002/95/EC



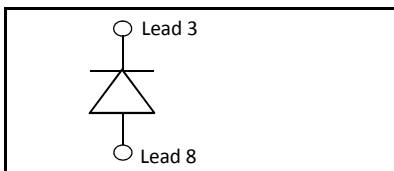
### Absolute maximum ratings

| Symbol            | Parameter           | Min | Max | Unit |
|-------------------|---------------------|-----|-----|------|
| T <sub>STG</sub>  | Storage temp        | -40 | 100 | °C   |
| T <sub>OP</sub>   | Operating temp      | -20 | 70  | °C   |
| V <sub>max</sub>  | Max reverse voltage |     | 50  | V    |
| I <sub>PEAK</sub> | Peak DC current     |     | 10  | mA   |

### Absorption of gamma radiation (23 °C)



### Schematic



### Electro-optical characteristics @ 23 °C

| Symbol                           | Characteristic                       | Test Condition   | Min | Typ      | Max  | Unit            |
|----------------------------------|--------------------------------------|--|-----|----------|------|-----------------|
|                                  | Active area                          |  |     | 10 x 10  |      | mm              |
|                                  | Active area                          |  |     | 100      |      | mm <sup>2</sup> |
|                                  | Energy range of detectable radiation | Gamma radiation  | 5   |          | 1000 | keV             |
| I <sub>D</sub>                   | Dark current                         | V <sub>R</sub> = 12 V                                    |     | 1.5      | 3    | nA              |
| T <sub>K</sub> (I <sub>D</sub> ) | Temperature coefficient              | V <sub>R</sub> = 12 V; change of dark current            |     | 13       |      | %/K             |
| C                                | Capacitance                          | V <sub>R</sub> = 0 V; f = 10 kHz                         |     | 500      |      | pF              |
|                                  |                                      | V <sub>R</sub> = 12 V; f = 10 kHz                        |     | 80       |      | pF              |
| t <sub>R</sub>                   | Rise time                            | V <sub>R</sub> = 12 V; E = 10 keV; R <sub>L</sub> = 50 Ω |     |          | 500  | ns              |
|                                  | Shunt Resistance                     | V <sub>R</sub> = 10 mV                                   |     | 40       |      | MΩ              |
|                                  | Noise current                        | V <sub>R</sub> = 12 V                                    |     | 6.1 E-14 |      | A/√Hz           |
| V <sub>BR</sub>                  | Breakdown voltage                    | I <sub>R</sub> = 2 μA                                    | 50  | 80       |      | V               |

#### European, International Sales:



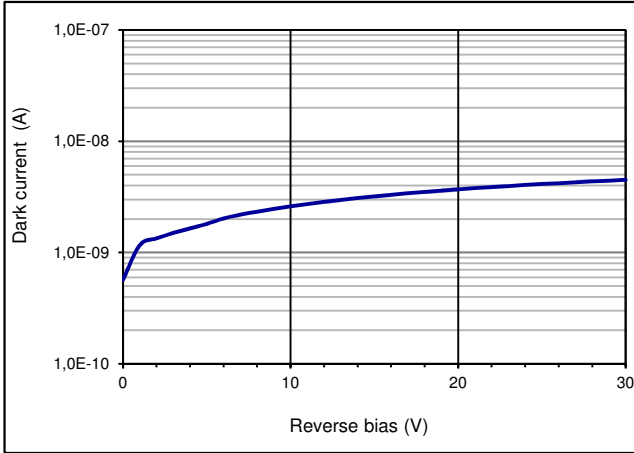
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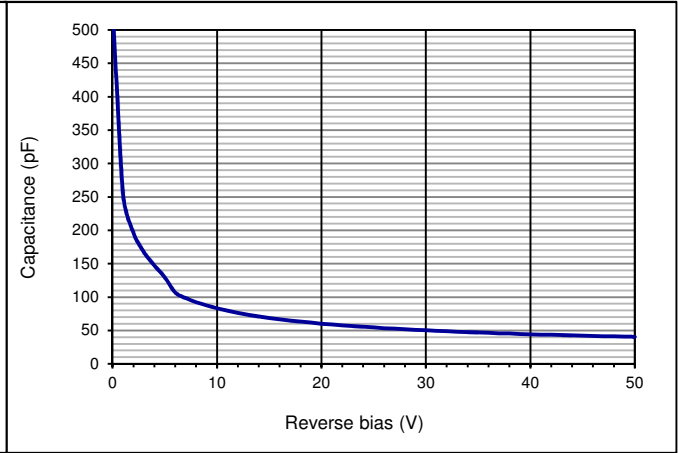


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**Dark current (23 °C)**



**Capacitance as fct of reverse bias (23 °C)**



**Package dimension:**

Small quantities: Foam pad, boxed (12 cm x 16.5 cm)

**Handling:**

Please refer to document "Instructions for handling and processing"

Disclaimer: Due to our strive for continuous improvement, specifications are subject to change within our PCN policy according to JESD46C.

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