

Features

- 100 mm² PIN detector
- CsI:Tl scintillator
- Low dark current
- Low capacitance
- High shunt resistance
- High sensitivity

Description

Square active area PIN photodiode with 100 mm² active area. Ceramic carrier type 2-pin package with CsI:Tl scintillator (8 mm #3001447; 4 mm #3001448).

Application

- Ionizing radiation detector
- Medical equipment
- Personal dosimeter

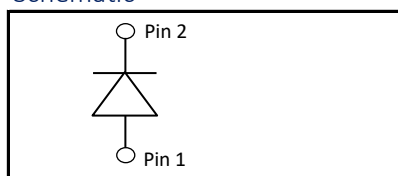
RoHS

2011/65/EU

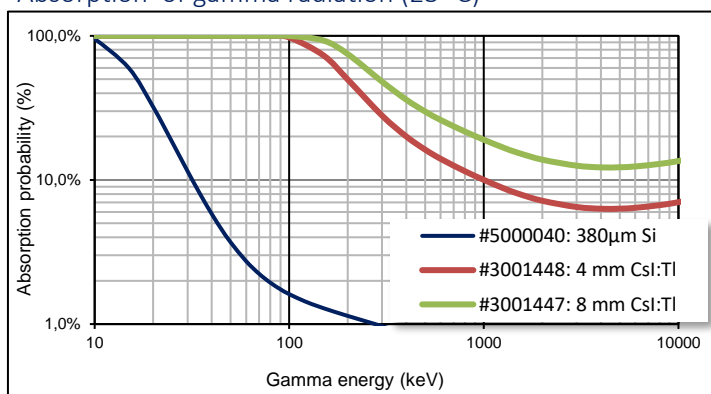
Absolute maximum ratings

Symbol	Parameter	Min	Max	Unit
T _{STG}	Storage temp	-40	65	°C
T _{OP}	Operating temp	-20	60	°C
V _{max}	Max reverse voltage		50	V
I _{PEAK}	Peak DC current		10	mA

Schematic



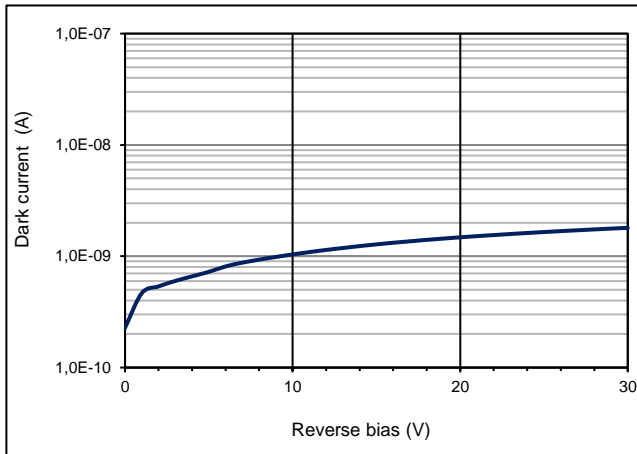
Absorption of gamma radiation (23 °C)



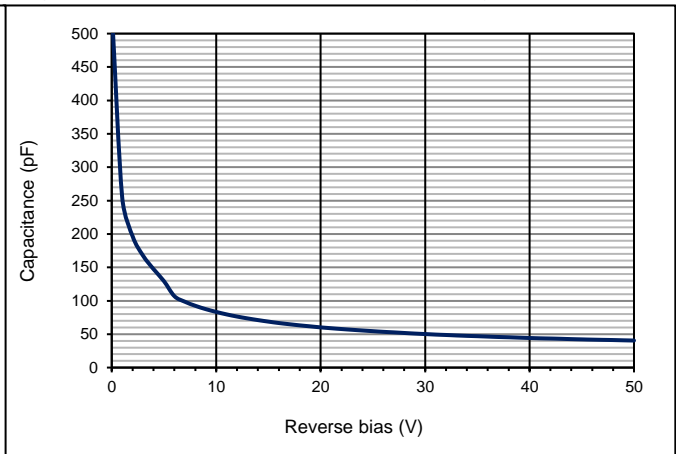
Electro-optical characteristics @ 23 °C

Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	Active area		10 x 10			mm
	Active area		100			mm ²
	Detectable radiation	Gamma radiation	1		10000	keV
	Scintillator thickness	# 3001448; Material: CsI:Tl		4		mm
		# 3001447; Material: CsI:Tl		8		mm
	Count rate Cs-137	# 3001448; V _R = 10 V	500		750	cpm /
		# 3001447; V _R = 10 V	800		1200	μSv/h
I _D	Dark current	V _R = 10 V		1.5	2.5	nA
S _{abs}	Responsivity	V _R = 10 V; λ = 550 nm (emission peak of CsI:Tl)		0.27		A/W
C	Capacitance	V _R = 0 V; f = 10 kHz		500		pF
		V _R = 10 V; f = 10 kHz		80	105	pF
t _R	Rise time	V _R = 10 V; E = 622 keV; R _L = 50 Ω			1	μs
	Shunt Resistance	V _R = 10 mV		40		MΩ
	Noise current	V _R = 10V		6.1 E-14		A/√Hz
V _{BR}	Breakdown voltage	I _R = 2 μA	50	80		V

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"

Only suitable for hand soldering. Keep temperature of device below 65 °C.

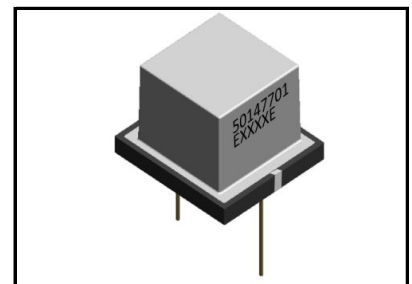
Labeling:

Each detector with scintillator is ink-jet labeled with order number and lot number.

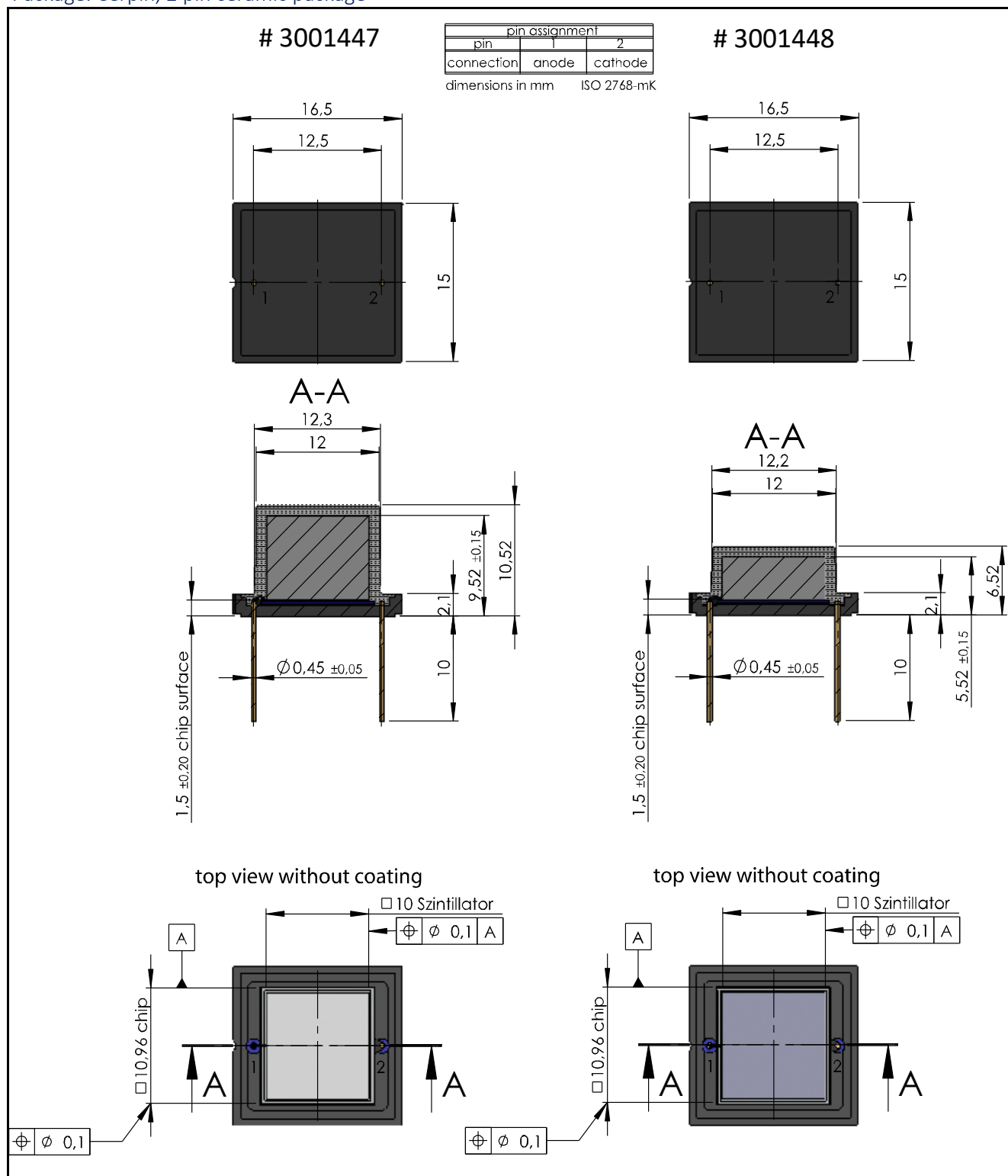
The label is situated on the coated scintillator at the side of the anode pin.

A notch marks the side with anode pin and label.

The label size is approx. 8 mm x 3 mm.



Package: Cerpin, 2 pin ceramic package



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

Mouser Electronics

Authorized Distributor

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First Sensor:

[3001448](#) [3001447](#)