
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 #50147701; 4 mm #50147702).

Application

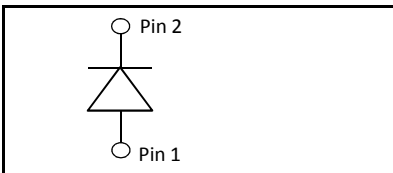
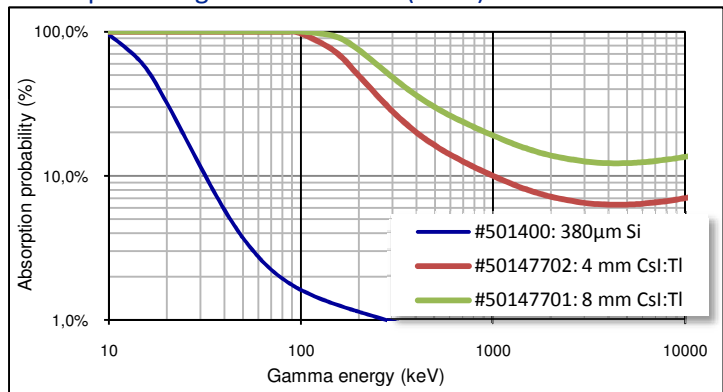
- Ionizing radiation detector
- Medical equipment
- Personal dosimeter

RoHS

2002/95/EC


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

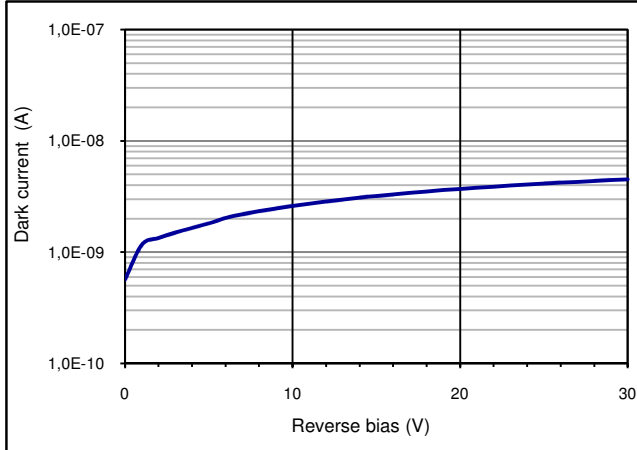
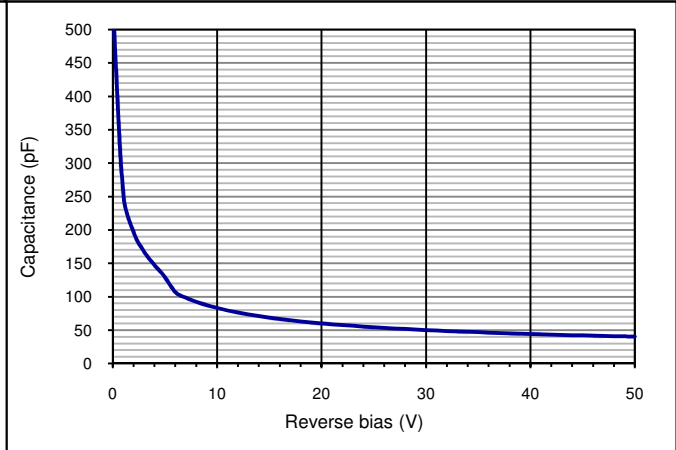
Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	Active area			10 x 10		mm
	Active area			100		mm ²
	Detectable radiation	Gamma radiation	1		10000	keV
	Scintillator thickness	# 50147702; Material: CsI:Tl		4		mm
		# 50147701; Material: CsI:Tl		8		mm
	Count rate Cs-137	# 50147702; V _R = 10 V	500			cpm /
		# 50147701; V _R = 10 V	800			µSv/h
I _D	Dark current	V _R = 10 V		3	10	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		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

European, International Sales:


First Sensor AG
 Peter-Behrens-Strasse 15
 12459 Berlin
 Germany
 T +49 30 6399 2399
 F +49 30 639923-752
 sales.opto@first-sensor.com

USA:


First Sensor Inc.
 5700 Corsa Avenue #105
 Westlake Village
 CA 91362 USA
 T +1 818 706 3400
 F +1 818 889 7053
 sales.us@first-sensor.com

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"

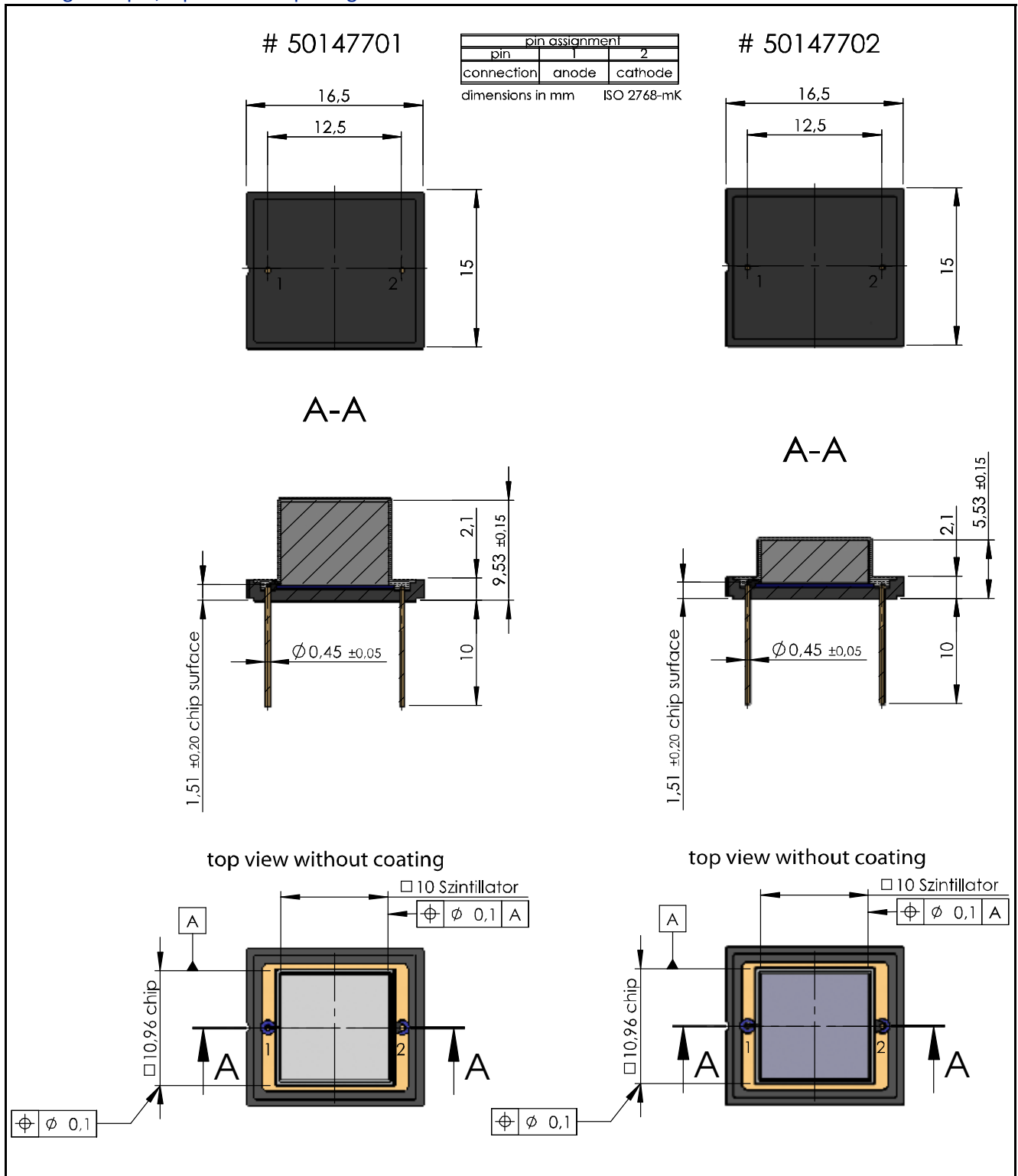
Only suitable for hand soldering. Keep temperature of device below 65 °C

European, International Sales:


First Sensor AG
 Peter-Behrens-Strasse 15
 12459 Berlin
 Germany
 T +49 30 6399 2399
 F +49 30 639923-752
 sales.opto@first-sensor.com

USA:


First Sensor Inc.
 5700 Corsa Avenue #105
 Westlake Village
 CA 91362 USA
 T +1 818 706 3400
 F +1 818 889 7053
 sales.us@first-sensor.com

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.

European, International Sales:

 First Sensor AG
 Peter-Behrens-Strasse 15
 12459 Berlin
 Germany
 T +49 30 6399 2399
 F +49 30 639923-752
 sales.opto@first-sensor.com

USA:

 First Sensor Inc.
 5700 Corsa Avenue #105
 Westlake Village
 CA 91362 USA
 T +1 818 706 3400
 F +1 818 889 7053
 sales.us@first-sensor.com