

dimensions in mm

Features

- 2-stage charge amplifier, filter amplifier and comparator
- 100 mm² PIN detector with 8 mm CsI:Tl scintillator
- Very compact design
- High sensitivity for Cs137

Description

High energy gamma radiation detector module with 100 mm² photodiode and 8 mm CsI:Tl scintillator. Pulse output for easy integration in gamma radiation detection instruments.

Application

- Ionizing radiation detector
- Medical equipment
- Personal dosimeter

RoHS

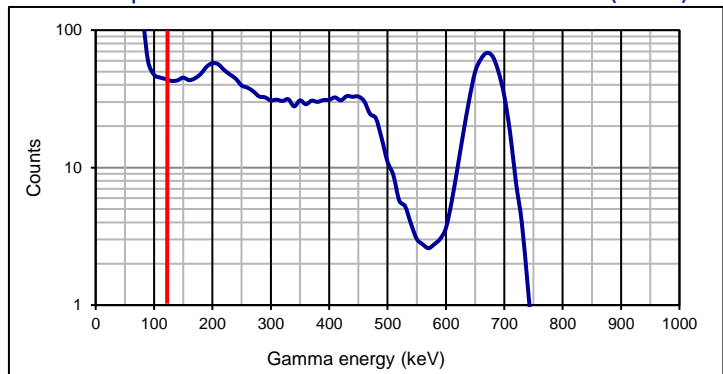
2002/95/EC



Absolute maximum ratings

Symbol	Parameter	Min	Max	Unit
T _{STG}	Storage temp	-20	65	°C
T _{OP}	Operating temp	0	40	°C

Gamma spectrum Cs137 with detector threshold (23 °C)



Connector schedule

PIN	Symbol	Connection
1	V-	Negative supply voltage, -5 V
2	V+	Positive supply voltage, 5 V
3	GND	Ground
4	Vout	Digital output voltage

Electro-optical characteristics of detector @ 23 °C

Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	Active area			10 x 10		mm
	Scintillator size	Material: CsI:Tl		10 x 10 x 8		mm
	Detectable radiation	Gamma radiation	150		1500	keV
	Dose rate sensitivity Cs137 (Count rate per dose rate)	Internal bias V _R = 10 V	800	900	1200	cpm / μSv/h
I _D	Dark current	V _R = 10 V		1	2.5	nA
C	Capacitance	V _R = 10 V; f = 10 kHz		80		pF

Electrical characteristics of module @ 23 °C

	Power supply voltage		±4.75		±5.25	V
	Quiescent current range		-11		14	mA
	Output voltage	Logic low; 3 mA sink current			0.2	V
		Logic high; 3 mA sink current		3.1		V
	Output rise time	Load capacitance 50 pF		100		ns
	Noise limit for detection			80		keV
	Pulse detection threshold			120		keV

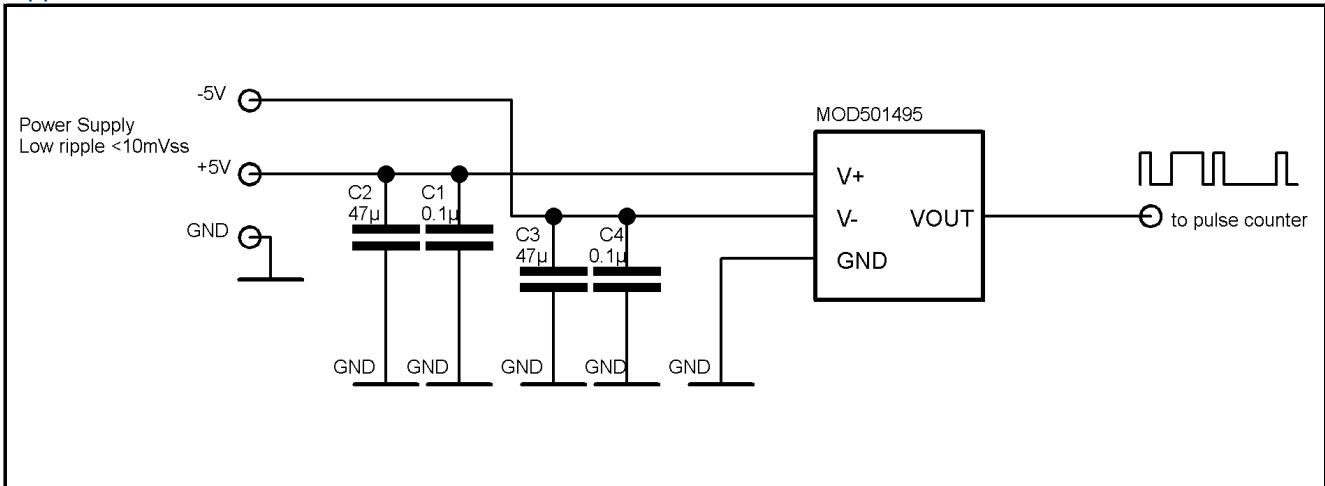
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Application hints



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.

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

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