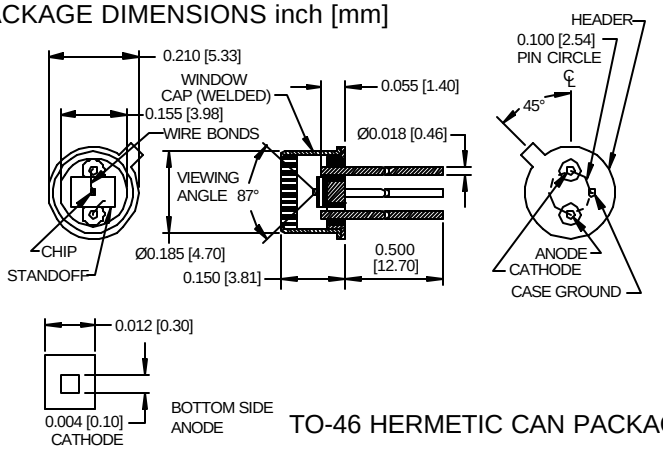
PHOTONIC DETECTORS INC.

Silicon Carbide (SiC), Ultra Violet (U.V.) Photodiode

Type PDU-S101

PACKAGE DIMENSIONS inch [mm]



TO-46 HERMETIC CAN PACKAGE

ACTIVE AREA = 0.08 mm^2

FEATURES

- 0.14 A/W @ 280 nm
- High shunt resistance
- 280 nm peak response
- Short wavelength resp.

DESCRIPTION

The **PDU-S101** is a SiC, planar passivated U.V. photodiode. Spectral range from 200 nm to 400 nm with a 0.08 mm^2 active area. Packaged in a isolated TO-46 with U.V. transmitting window can.

APPLICATIONS

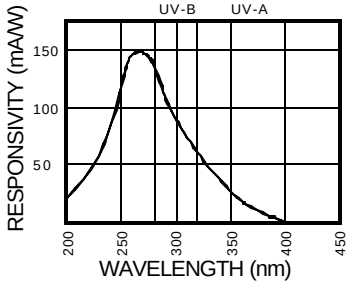
- Flame detectors
- U.V. sensors
- U.V. monitors
- U.V. instrumentation

ABSOLUTE MAXIMUM RATING (TA=25^{O}C unless otherwise noted)

SYMBOL	PARAMETER	MIN	MAX	UNITS
V_{BR}	Reverse Voltage		20	V
T_{STG}	Storage Temperature	-55	+175	^{O}C
T_{O}	Operating Temperature Range	-40	+125	^{O}C
T_{S}	Soldering Temperature*		+240	^{O}C
I_{L}	Light Current		0.5	mA

*1/16 inch from case for 3 secs max

SPECTRAL RESPONSE



ELECTRO-OPTICAL CHARACTERISTICS (TA=25^{O}C unless otherwise noted)

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{SC}	Short Circuit Current	H = 1 SUN, 360 nm	30	40		nA
I_{D}	Dark Current	H = 0, V_R = 1 V		0.5	1.0	nA
R_{SH}	Shunt Resistance	H = 0, V_R = 10 mV	500	1000		MΩ
TC R_{SH}	RSH Temp. Coefficient	H = 0, V_R = 10 mV		-8		% / ^{o}C
C_{J}	Junction Capacitance	H = 0, V_R = 0 V**		21	50	pF
λrange	Spectral Application Range	Spot Scan	200		400	nm
λp	Spectral Response - Peak	Spot Scan		280		nm
V_{BR}	Breakdown Voltage	I = 10 μA	10	30		V
N E P	Noise Equivalent Power	V_R = 10 V @ Peak		$1.5x10^{-14}$		W/$\sqrt{Hz}$
tr	Response Time	RL = 1 KΩ V_R = 10 V		5	10	nS

Information in this technical data sheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice. ** f = 1MHz