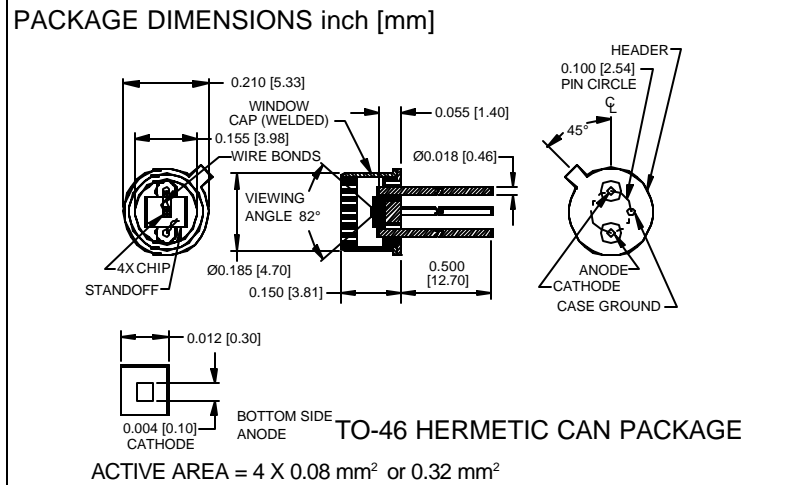


# PHOTONIC DETECTORS INC.

## Silicon Carbide (SiC), Ultra Violet (U.V.) Photodiode Type PDU-S104



### FEATURES

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

### DESCRIPTION

The **PDU-S104** is a SiC, planar passivated U.V. photodiode. Spectral range from 200 nm to 400 nm with a 0.08 mm<sup>2</sup> active area per chip. Four chips packaged in a isolated TO-46 with a U.V. transmitting window can.

### APPLICATIONS

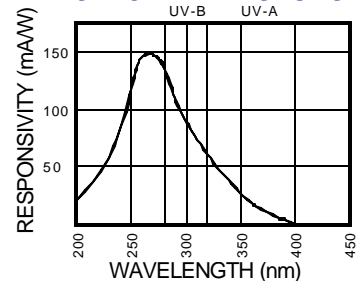
- Flame detectors
- U.V. sensors
- U.V. monitors
- U.V. instrumentation

### ABSOLUTE MAXIMUM RATING (TA=25°C unless otherwise noted)

SYMBOL	PARAMETER	MIN	MAX	UNITS
V <sub>BR</sub>	Reverse Voltage		20	V
T <sub>STG</sub>	Storage Temperature	-55	+175	°C
T <sub>O</sub>	Operating Temperature Range	-40	+125	°C
T <sub>S</sub>	Soldering Temperature*		+240	°C
I <sub>L</sub>	Light Current		0.5	mA

\*1/16 inch from case for 3 secs max

### SPECTRAL RESPONSE



### ELECTRO-OPTICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I <sub>SC</sub>	Short Circuit Current	H = 1 SUN, 360 nm	30	40		nA
I <sub>D</sub>	Dark Current	H = 0, V <sub>R</sub> = 1 V		2	5	nA
R <sub>SH</sub>	Shunt Resistance	H = 0, V <sub>R</sub> = 10 mV	100	250		MΩ
TC R <sub>SH</sub>	RSH Temp. Coefficient	H = 0, V <sub>R</sub> = 10 mV		-8		% / °C
C <sub>J</sub>	Junction Capacitance	H = 0, V <sub>R</sub> = 0 V**		100	250	pF
λ <sub>range</sub>	Spectral Application Range	Spot Scan	200		400	nm
λ <sub>p</sub>	Spectral Response - Peak	Spot Scan		280		nm
V <sub>BR</sub>	Breakdown Voltage	I = 10 μA	10	30		V
NEP	Noise Equivalent Power	V <sub>R</sub> = 10 V @ Peak		6x10 <sup>-14</sup>		W/√Hz
tr	Response Time	RL = 1 KΩ V <sub>R</sub> = 10 V		20	50	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

[FORM NO. 100-PDU-S104 REV N/C]