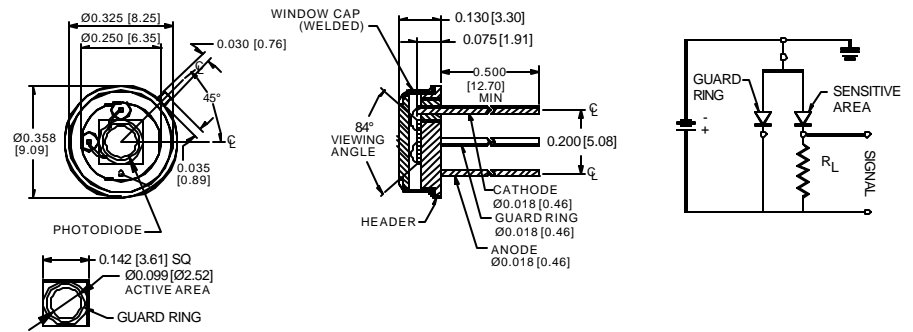


# PHOTONIC DETECTORS INC.

## 1.06 Micron, High Speed Silicon Photodiode Type PDI-M301



### PACKAGE DIMENSIONS INCH [mm]



### TO-5 HERMETIC CAN PACKAGE

ACTIVE AREA = 5.0 mm<sup>2</sup>

### FEATURES

- .45 A/W @ 1060 nm
- 11 ns response time
- Low noise

### DESCRIPTION

The **PDI-M301** is a high speed photodiode, processed on high resistivity P type silicon. Guard ring construction for enhanced 1060 nm response and 28 Mhz bandwidth. Packaged in a 3 leaded hermetic TO-5 hermetic package. Ideal for Nd YAG laser.

### APPLICATIONS

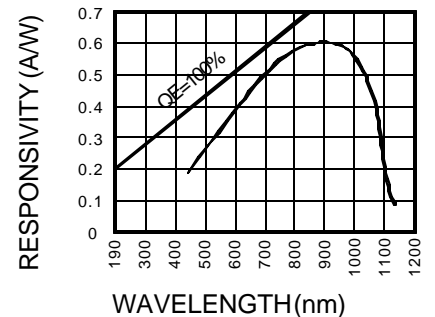
- YAG laser detection
- High speed IR sensor
- Optical pyrometer sensor

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

SYMBOL	PARAMETER	MIN	MAX	UNITS
V <sub>BR</sub>	Reverse Voltage		75	V
T <sub>STG</sub>	Storage Temperature	-55	+125	°C
T <sub>O</sub>	Operating Temperature Range	-40	+100	°C
T <sub>S</sub>	Soldering Temperature*		+260	°C
I <sub>L</sub>	Light Current		500	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 = 100 fc, 2850 K	40	60		μA
I <sub>D</sub>	Dark Current	H = 0, V <sub>R</sub> = 200 V		9	16	nA
R <sub>SH</sub>	Shunt Resistance	H = 0, V <sub>R</sub> = 10 mV		100		MΩ
TCR <sub>SH</sub>	RSH Temp. Coefficient	H = 0, V <sub>R</sub> = 10 mV		-10		% / °C
C <sub>J</sub>	Junction Capacitance	H = 0, V <sub>R</sub> = 200 V**		2.8	3.0	pF
λ <sub>range</sub>	Spectral Application Range	Spot Scan	400		1150	nm
λ <sub>p</sub>	Spectral Response - Peak	Spot Scan		900		nm
V <sub>BR</sub>	Breakdown Voltage	I = 1 μA	250	400		V
NEP	Noise Equivalent Power	V <sub>R</sub> = 10 V @ 900 nm		1.5x10 <sup>-12</sup>		W/√Hz
tr	Response Time	RL = 1 KΩ V <sub>R</sub> = 200 V		11		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 = 1 MHz [FORM NO. 100-PDI-M301 REV C]