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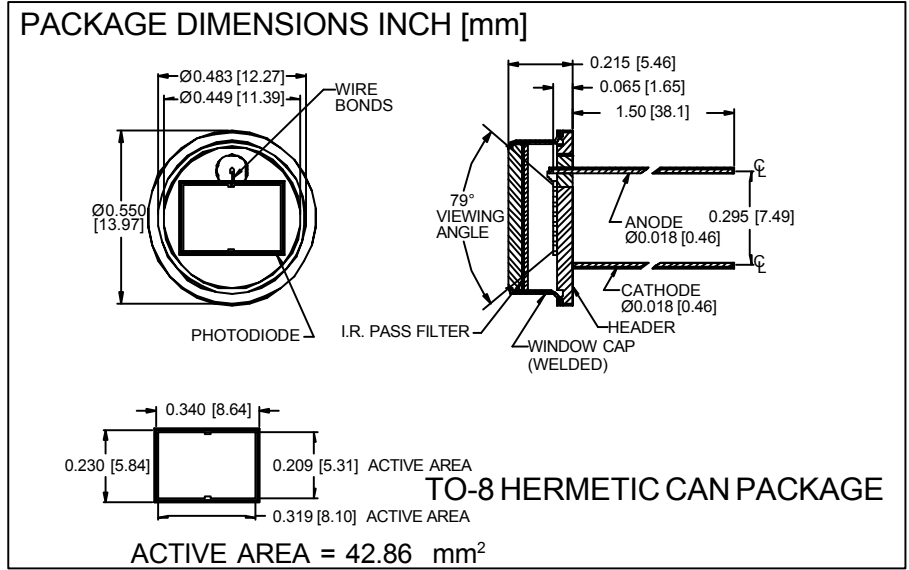
[Advanced Photonix, Inc.](#)  
[PDI-C109-F](#)

For any questions, you can email us directly:

[sales@integrated-circuit.com](mailto:sales@integrated-circuit.com)

# PHOTONIC DETECTORS INC.

## Silicon Photodiode, Near I.R. Photoconductive Type PDI-C109-F



### FEATURES

- High speed
- I.R. pass visible rejection
- Match to I.R. emitters
- Hermetic package

### DESCRIPTION

The **PDI-C109-F** is a silicon, PIN planar diffused photodiode with NIR pass, visible light rejection optical filter. Ideal for high speed, low capacitance, photoconductive NIR applications. Packaged in a hermetic TO-8 metal can with a flat window cap.

### APPLICATIONS

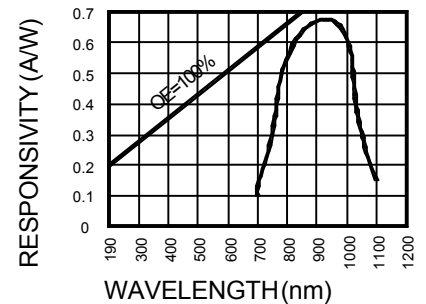
- I.R. detector
- I.R. laser detector
- Photo-interrupters
- Industrial controls

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

SYMBOL	PARAMETER	MIN	MAX	UNITS
V <sub>BR</sub>	Reverse Voltage		100	V
T <sub>STG</sub>	Storage Temperature	-55	+100	°C
T <sub>O</sub>	Operating Temperature Range	-40	+80	°C
T <sub>S</sub>	Soldering Temperature*		+240	°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	405	450		μA
I <sub>D</sub>	Dark Current	H = 0, V <sub>R</sub> = 10 V		5	15	nA
R <sub>SH</sub>	Shunt Resistance	H = 0, V <sub>R</sub> = 10 mV	30	100		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> = 10 V**		120		pF
λ <sub>range</sub>	Spectral Application Range	Spot Scan	700		1100	nm
λ <sub>p</sub>	Spectral Response - Peak	Spot Scan		950		nm
V <sub>BR</sub>	Breakdown Voltage	I = 10 μA	30	50		V
NEP	Noise Equivalent Power	V <sub>R</sub> = 10 V @ Peak		5x10 <sup>-13</sup>		W/√Hz
tr	Response Time	RL = 1 KΩ V <sub>R</sub> = 50 V		25		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