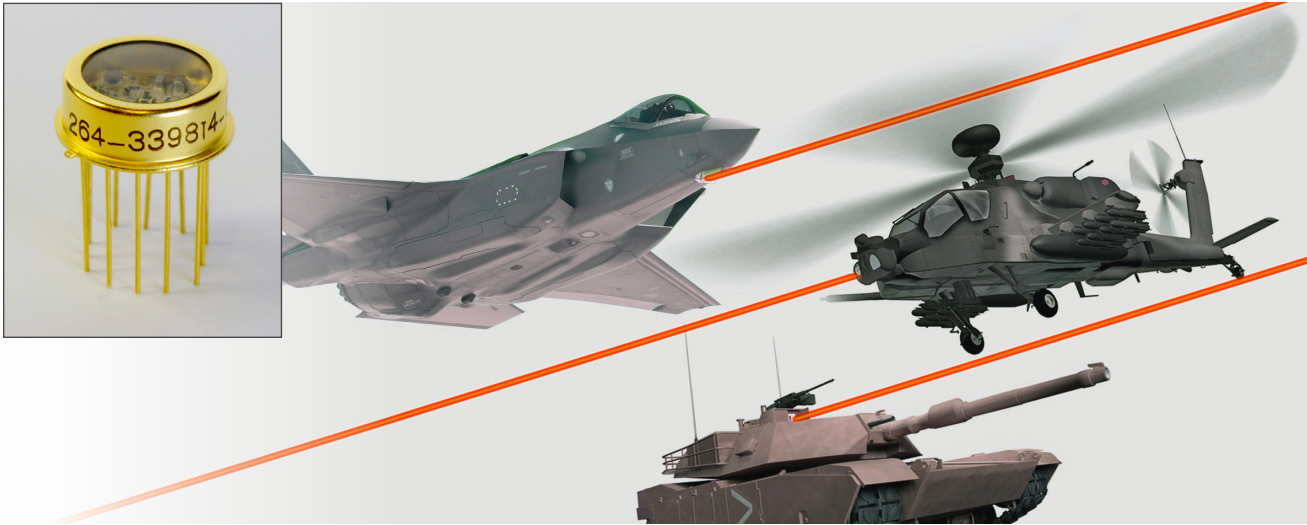


Dual Wavelength InGaAs Avalanche Photodiode Preamplifier Module with Thermoelectric Cooler

- High sensitivity • Low noise • Temperature control • RoHS compliant



A distance detecting device should provide you with accurate and consistent readings under a variety of conditions and wavelengths. Whether you are dealing with low signals or high, warm weather or cold, distances near or far, your decision making depends on the speed and precision of the information you receive.

CMC's new *InGaAs Avalanche Photodiode (APD) Preamplifier Module* supports designs that detect farther distances more accurately than other device of its kind. Plus, it is safe and practical, operating quietly and efficiently in multiple scenarios.

Fast, accurate and practical all rolled into one receiver

- High-density microcircuit combined with advanced optoelectronics
- No need for APD temperature compensation design work
- Nanosecond recovery from laser bursts without damage
- Ability to detect signal power in low nW
- Low NEP at high temperatures
- Compact design minimizing parasitic noise

CMC is committed to:

- Work closely with your engineering team throughout the project
- Develop a solution that is tailored to your design needs
- Take the time required to deliver a quality product

FEATURES

One receiver, two wavelengths

This eye-safe receiver works at both 1064 nm and 1570 nm

Sensitive enough to read low signals

Detects longer distances more quickly, accurately, and consistently

Fast overload recovery

Minimizes receiver damage and usage interruption from high laser bursts

Built-in thermoelectric cooler

Delivers reliable performance over a wide range of temperatures

KEY APPLICATIONS

Eye-safe laser range finding

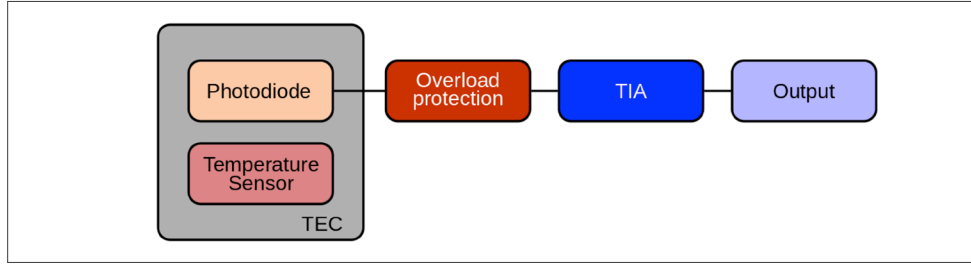
Airborne Lidar

High-speed low-light level detection

Dual Wavelength InGaAs Avalanche Photodiode Preamplifier Module

Take advantage of multiple capabilities as well as superior performance

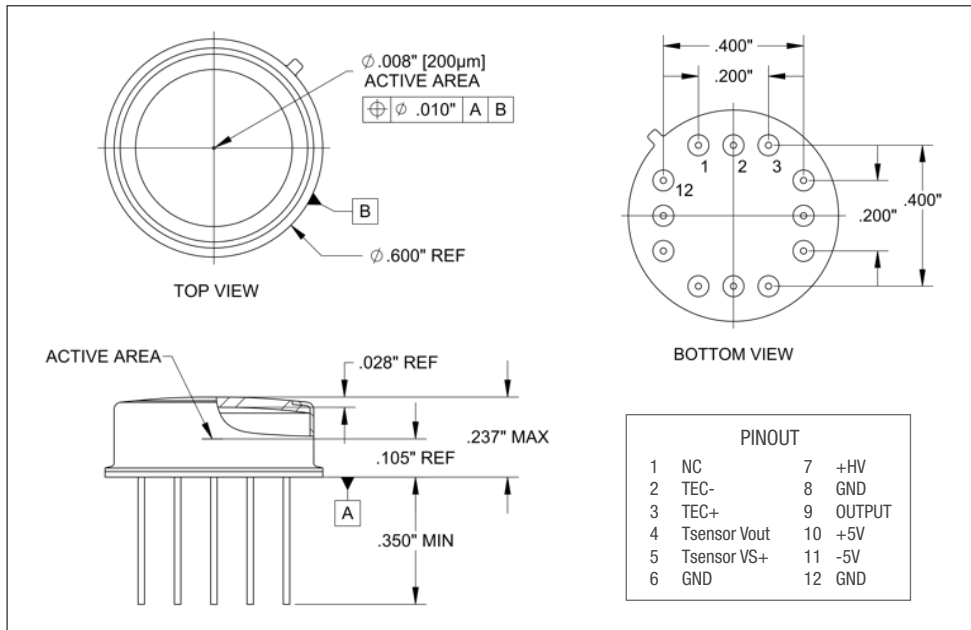
How it works – Device block diagram



Electro-Optical Characteristics at $T_A = 25^\circ$

Parameter/Condition	Min.	Typ.	Max.	Unit.
Responsivity (R) 1570 nm, M=10	–	580	–	kV/W
Noise Equivalent Power (NEP)				
1570 nm, Cooler OFF ($T_{case} = 25^\circ$)	–	110	135	fW/ $\sqrt{\text{Hz}}$
1570 nm, Cooler OFF ($T_{case} = 85^\circ$)	–	255	525	fW/ $\sqrt{\text{Hz}}$
1570 nm, Cooler ON ($T_{case} = 85^\circ$)	–	155	280	fW/ $\sqrt{\text{Hz}}$
Bandwidth, f_{-3dB}	60	85	100	MHz
Storage Range, T_{stg}	-55		+125	$^\circ\text{C}$
Operating Range, T_A	-40		+85	$^\circ\text{C}$

Mechanical Specifications – Package Dimensions and Pinout



For more information, visit www.cmcelectronics.ca or email us at opto@cmcelectronics.ca



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