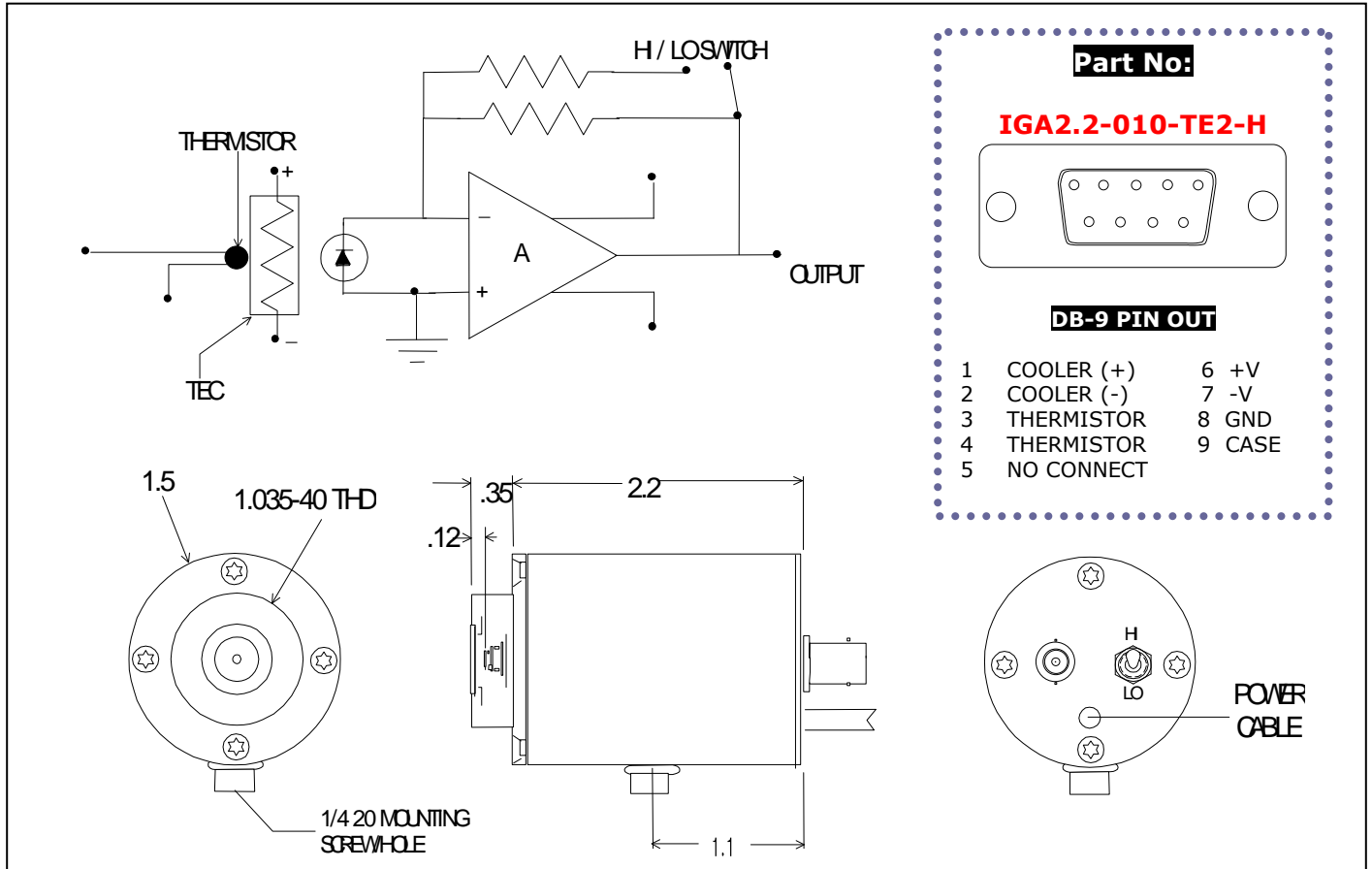


H - SERIES PHOTODIODE / RECEIVER



Application Note

This unit is a high performance photodiode/receiver operated with a thermoelectric cooler for stabilization/cooling with a dual gain FET input transimpedance amplifier.

The output voltage is proportional to the input signal current:

$$V_{out} = I_{signal} \cdot R_f$$

The PD/AMP is a DC coupled dual gain system. Care should be taken in shielding the unit from stray light during operation to prevent saturation of the amplifier (and potential failure).

SPECIFICATIONS

Detector Type	1 mm InGaAs Photodiode	
Operating Temperature- °C	25 @ $I_{tec} = 0.0 \text{ A}$	-30 @ $I_{tec} = 0.6 \text{ A}$
Operating Wavelength - μm	1.3 - 2.5	1.3 - 2.4
Responsivity- V/W @ pk	$1.0 \times 10^6 / 10^5$	$1.0 \times 10^6 / 10^5$
Noise- V/Hz ^{1/2} @ 100 Hz	$1.5 \times 10^{-6} / 10^{-7}$	$2.5 \times 10^{-7} / 10^{-8}$
NEP - W/Hz ^{1/2} @ 2.2 μm	$< 1.5 \times 10^{-12}$	$< 2.5 \times 10^{-13}$
Bandwidth (-3dB)- Hz	DC - 2k	DC - 2k
Power Requirements	+/- 9 VDC to +/- 15 VDC	
Connections	BNC signal output. Shielded power cable terminated with a DB-9 connector directly couples the unit with the PS/TC -1 Low Noise Power Supply.	