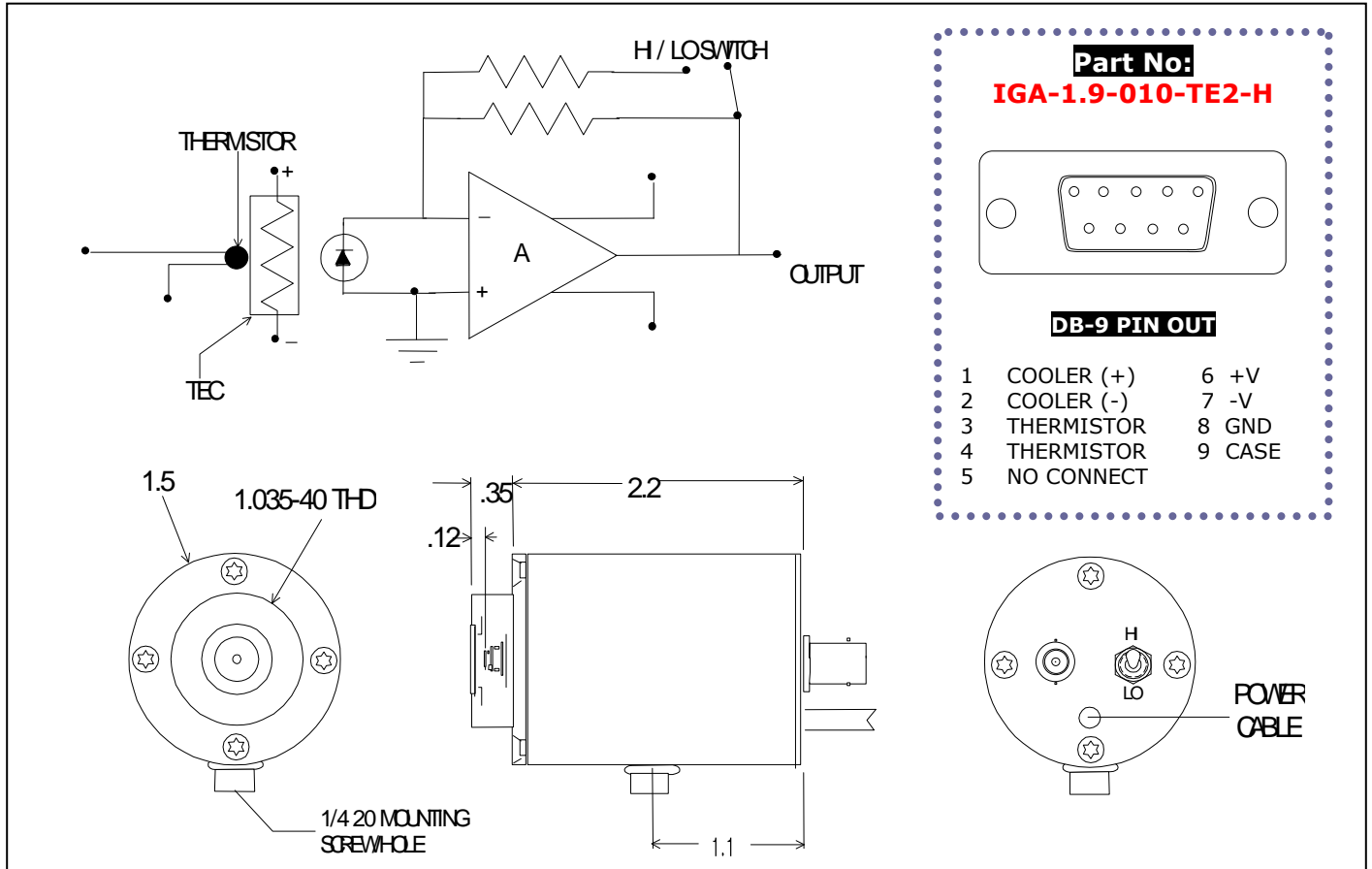


H - SERIES PHOTODIODE / RECEIVER



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 @ $I_{tec} = 0.0$ A	-30 @ $I_{tec} = 0.6$ A
Operating Wavelength - μ m	1.2 - 2.1	1.2 - 2.1
Responsivity - V/W @ pk	$1.0 \times 10^8 / 10^7$	$1.0 \times 10^8 / 10^7$
Noise - V/Hz ^{1/2} @ 100 Hz	$2.5 \times 10^{-5} / 10^{-6}$	$5.0 \times 10^{-6} / 10^{-7}$
NEP - W/Hz ^{1/2} @ 1.9 μ m Detectivity - cm-Hz ^{1/2} /W @ 1.9 μ m	< 2.5×10^{-13} > 3.6×10^{11}	< 5.0×10^{-14} > 1.5×10^{12}
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.	

RoHS Compliant