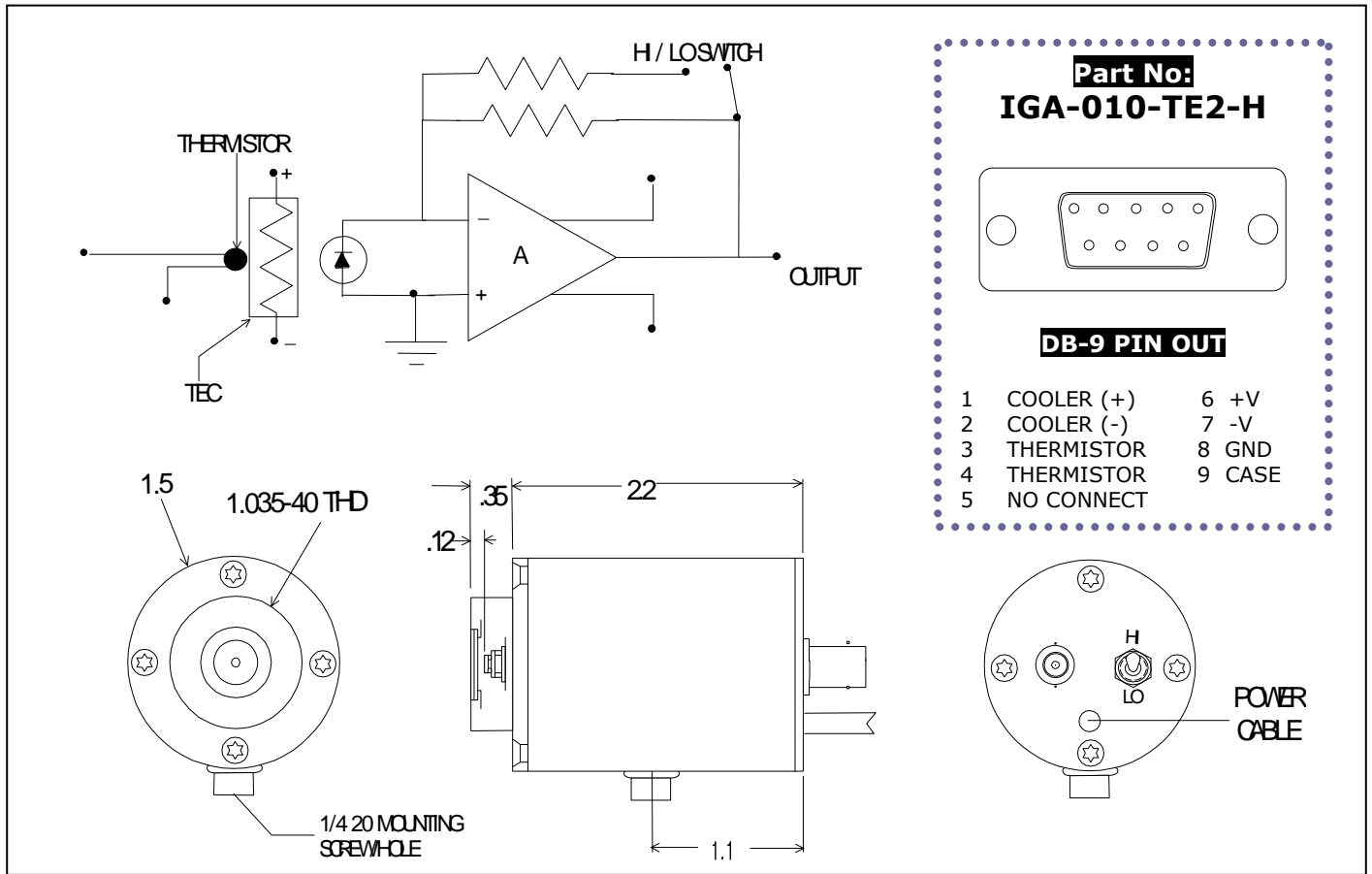


## TE - SERIES PHOTODIODE / RECEIVER



### 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	1mm InGaAs Photodiode	
Operating Temperature- °C	22 @ $I_{tec} = 0.0 A$	-30 @ $I_{tec} = 0.5 A$
Operating Wavelength - $\mu m$	0.8 - 1.7	0.8 - 1.6
Responsivity- V/W @ pk	$0.9 \times 10^9 / 10^8$	$0.9 \times 10^9 / 10^8$
Noise- V/Hz <sup>1/2</sup>	$12. \times 10^{-6} / 1.2 \times 10^{-6}$	$4.0 \times 10^{-6} / 1.2 \times 10^{-6}$
NEP- W/Hz <sup>1/2</sup> pk	$< 1.5 \times 10^{-14}$	$< 0.5 \times 10^{-14}$
Bandwidth (-3dB)- Hz	DC - 500	DC - 500
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 / Controller.	

**RoHS Compliant**