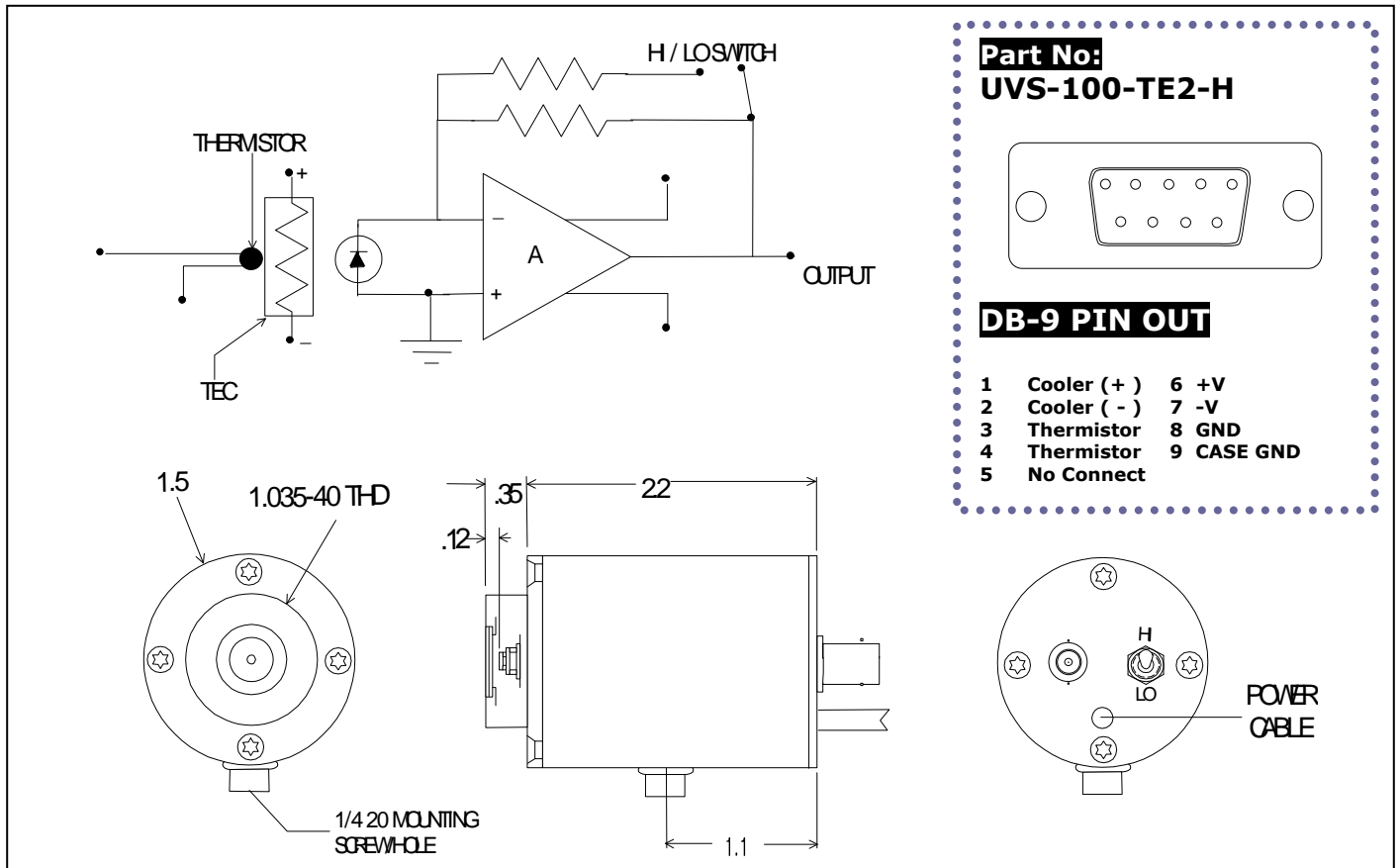


## TE-SERIES PHOTODIODE / RECEIVER



### 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	10mm x 10mm UV Silicon Photodiode	
Operating Temperature- °C	22 @ $I_{tech} = 0.0$ A	- 30 @ $I_{tech} = 0.65$ A
Operating Wavelength- $\mu$ m	0.2 - 1.0	0.2 - 1.0
Responsivity- V/W @ 850nm	$10^9 / 10^8$	$10^9 / 10^8$
Noise- V/Hz <sup>1/2</sup>	$35 \times 10^{-6} / 3.5 \times 10^{-6}$	$5.0 \times 10^{-6} / 1.0 \times 10^{-6}$
NEP- W/Hz <sup>1/2</sup> @ 850nm	$< 7.0 \times 10^{-14}$	$< 1.0 \times 10^{-14}$
Bandwidth (-3dB)- Hz, typ	DC - 500 / 2k	DC - 500 Hz / 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 / Controller.	