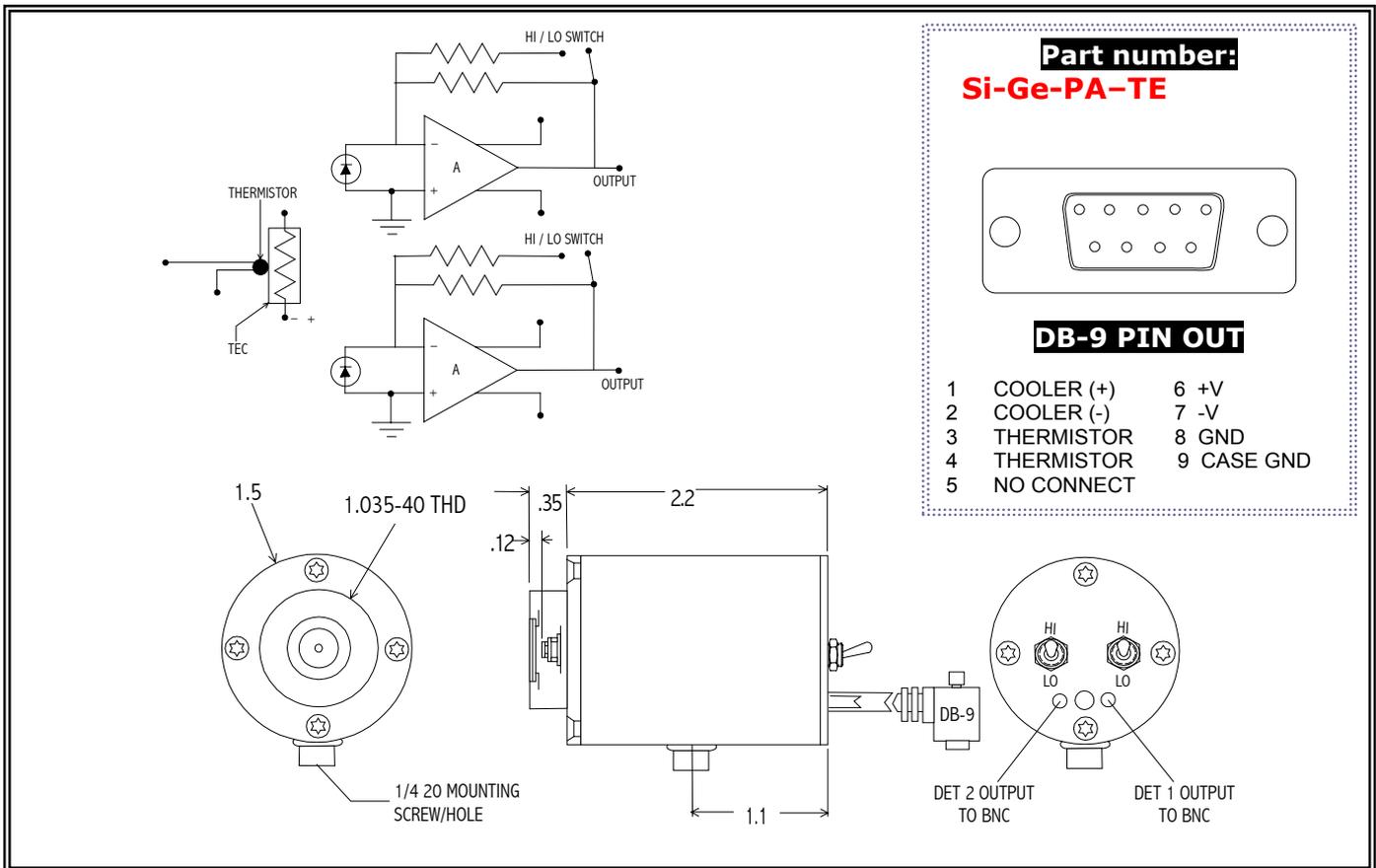


## 2 - COLOR PHOTODIODE / RECEIVER



### Application Note

This unit is a high performance two color "sandwich" photodiode/receiver operated with a thermoelectric cooler for stabilization/cooling and dual gain FET input transimpedance amplifiers.

The output voltage is proportional to the input signal current:  $V_{out} = I_{signal} \cdot R_f$ . The PD/AMP are DC coupled dual gain systems. Care should be taken in shielding the unit from stray light during operation to prevent saturation of the amplifiers (and potential failure).

## SPECIFICATIONS

Detector Type	2.5 mm dia Si Photodiode		2 mm dia Ge Photodiode	
Operating Temperature - °C	22 @ $I_{TEC} = 0.0 A$		-30 @ $I_{TEC} = 0.6 A$	
Operating Wavelength - $\mu m$	0.3 - 1.0	1.0 - 1.8	0.3 - 1.0	0.3 - 1.7
Responsivity - V/W @ pk	$0.6 \times 10^9 / 10^8$	$0.6 \times 10^7 / 10^6$	$0.6 \times 10^9 / 10^8$	$0.6 \times 10^7 / 10^6$
Noise - V/Hz <sup>1/2</sup>	$6 \times 10^{-6} / 10^{-7}$	$6.0 \times 10^{-6} / 10^{-7}$	$3.6 \times 10^{-6} / 10^{-7}$	$6 \times 10^{-7} / 10^{-8}$
NEP - W/Hz <sup>1/2</sup> @ pk	$1 \times 10^{-14}$	$1 \times 10^{-12}$	$< 6 \times 10^{-15}$	$< 1 \times 10^{-13}$
Bandwidth (-3dB) - Hz	DC - 2k			
Power Requirements	+/- 9 VDC to +/- 15 VDC			
Connections	Two shielded signal cables terminated with a BNC. Shielded power cable terminated with a DB-9 connector directly couples the unit with the PS/TC -1 Low Noise Power Supply.			