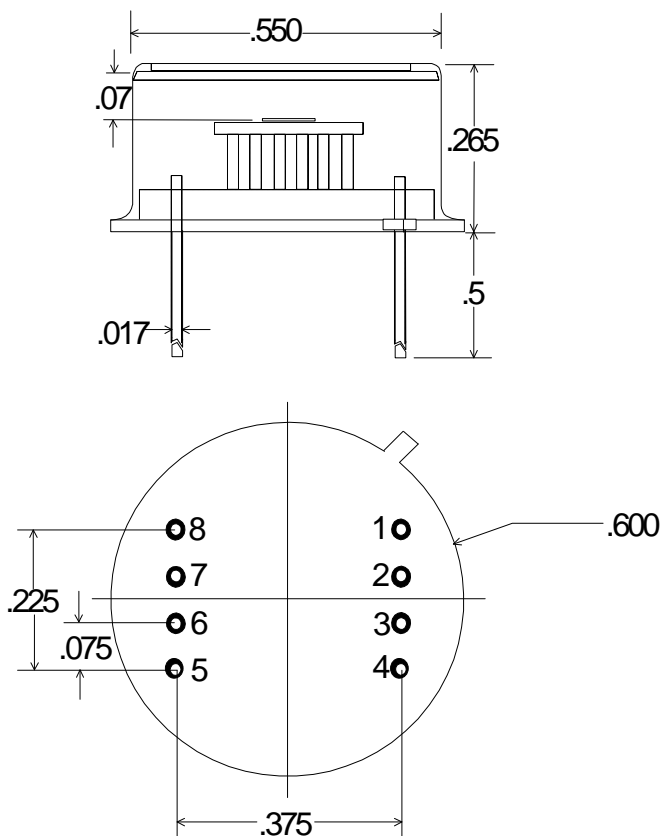


## TE - COOLED PHOTODETECTOR


**Part no.**
**PBSE-020-TE1**
**PIN OUT**

**1 = COOLER (-)**  
**2 = THERMISTOR**  
**3 = THERMISTOR**  
**4 = COOLER (+)**  
**5 = DETECTOR**  
**6 = DETECTOR**  
**7 = NO CONNECT**  
**8 = NO CONNECT**

**Note:**
*Dimensions in Inches*

### Operating Note

The TE cooled photodetector series consists of a high performance photoconductor mounted on a thermoelectric cooler, all housed in a TO-8 package. A thermistor is mounted to the TEC's cold plate to provide a precise, reliable temperature monitor. Before operation VERIFY ELECTRICAL WIRING, else catastrophic damage may be sustained by the unit. Electrical power consumption can exceed 1 watt (1V / 1.00A); therefore, this package must be suitably heat sunk. Thermal grease with secure clamping is recommended for power dissipation. Temperature levels below  $-10^{\circ}\text{C}$  are possible with an optimized mechanical assembly.

## SPECIFICATIONS

Operating Temperature ( $^{\circ}\text{C}$ )	22	-10
Active Area	2 mm x 2 mm	
Detector Resistance ( $\Omega$ ), typ	0.2 - 1.0 M	0.5 - 4.0 M
Responsivity (4.2 $\mu\text{m}$ ) V/W,	> 4000	> 10000
$D^*$ (4.2 $\mu\text{m}$ , 1 kHz) $\text{cm}\cdot\text{Hz}^{1/2}/\text{W}$	> $3 \times 10^9$	> $1 \times 10^{10}$
Thermistor Resistance (k $\Omega$ )	1.7 nom	7.5 nom
Cooler Current (A)	0.0	0.65
Maximum Cooler Current (A)	1.00	