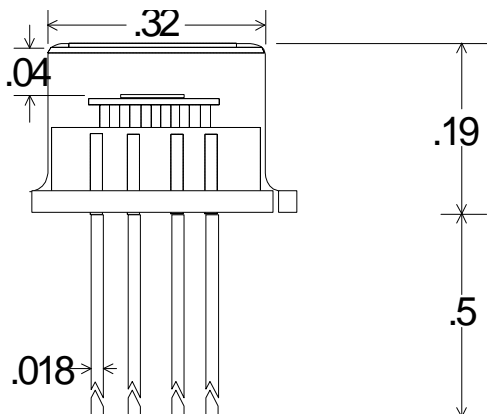


## TE - COOLED PHOTODETECTOR



**Part Number:** IGA-010-TE1

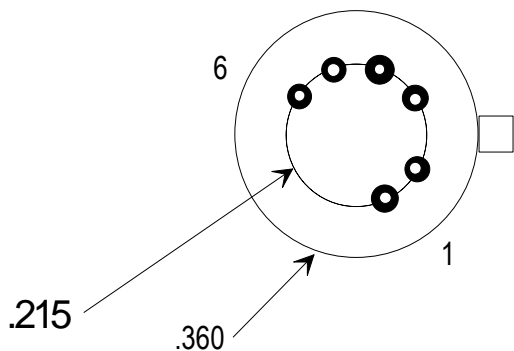
**PIN OUT**

- 1 = THERMISTOR
- 2 = THERMISTOR
- 3 = COOLER (+)
- 4 = COOLER (-)
- 5 = DETECTOR ANODE
- 6 = DETECTOR CATHODE

**Note:** Dimensions in Inches

### Operating Note

The TE cooled photodetector series consists of a high performance photodiode mounted on a thermoelectric cooler, housed in a hermetic TO-37 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 2 Watts; therefore, this package must be suitably heat sunk. Thermal grease with secure clamping is recommended for power dissipation. Temperature levels below  $-25^{\circ}\text{C}$  are possible with an optimized mechanical assembly.



### SPECIFICATIONS

| Detector Type  | 1.0 mm dia. InGaAs     |                       |
|--|------------------------|-----------------------|
| Operating Temperature ( $^{\circ}\text{C}$ )               | 22                     | -10                   |
| Shunt Resistance ( $\text{M}\Omega$ ) min                  | 100                    | 500.                  |
| Cut-off Wavelength (50%)                                   | 1.0 -1.7               | 1.0 - 1.65            |
| Shunt Capacitance (pF), typ                                | 120                    | 120                   |
| Responsivity @ peak (A/W)                                  | 0.9                    | 0.9                   |
| NEP @ $\lambda$ pk, 100 Hz, ( $\text{W}/\text{Hz}^{1/2}$ ) | $< 1.5 \cdot 10^{-14}$ | $< 5 \times 10^{-15}$ |
| Cooler Current (A)   | 0.                     | 0.7 nom               |
| Thermistor Resistance (k $\Omega$ )                        | 1.8 nom                | 7.9 nom               |