

No Slow-Tail Photodiodes

InGaAs

Wavelength range

800nm – 1700nm

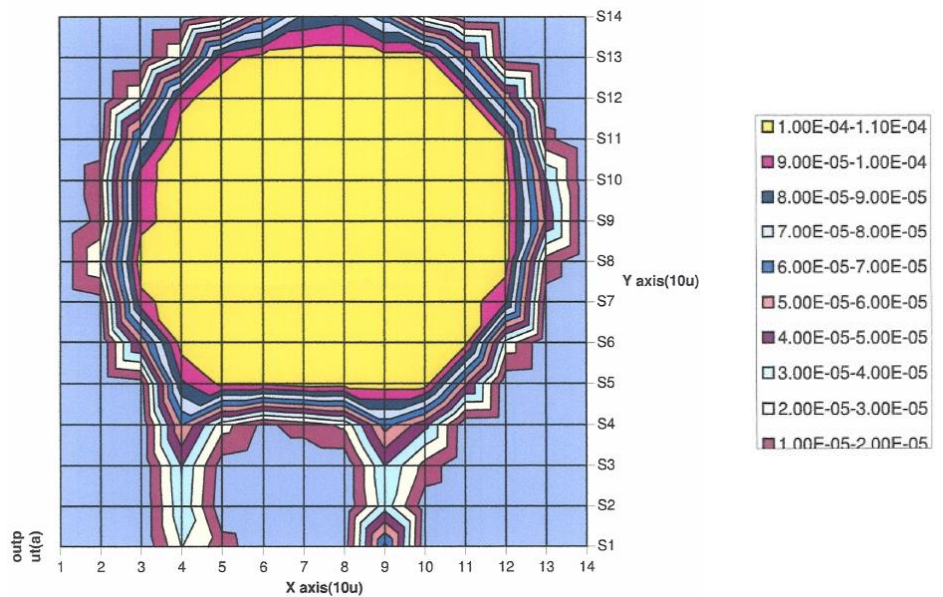
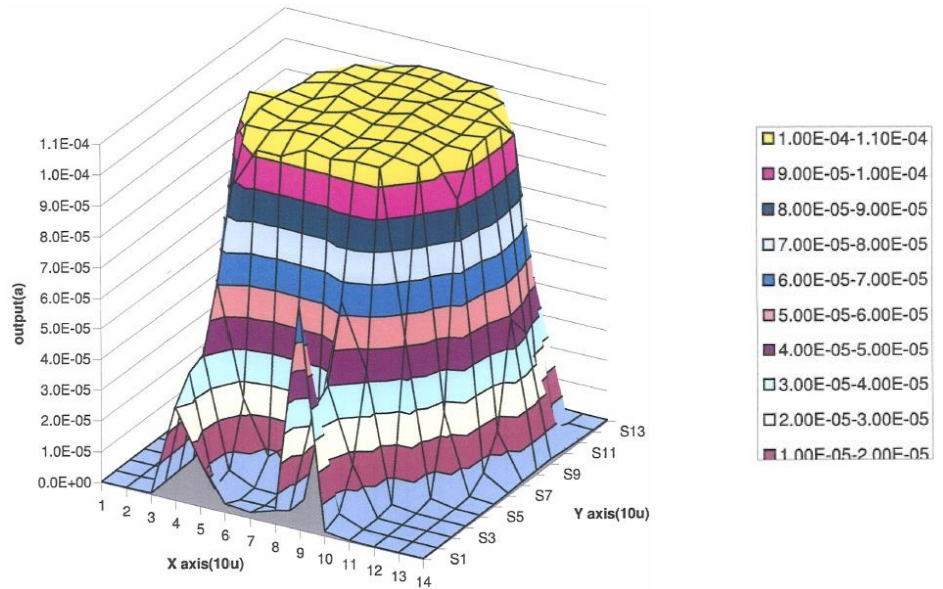
Applications

- Infrared sensing
- Tele communications
- Optical communications
- Short haul telecom /
Datacom receivers

Features

- No Slow-Tail
- Metal aperture
- High responsivity
- High shunt resistance
- Low capacitance → high speed
- Planar design for high reliability

Blind field response diagram (example shown for 100µm active area with a 10µm scanning spot size)





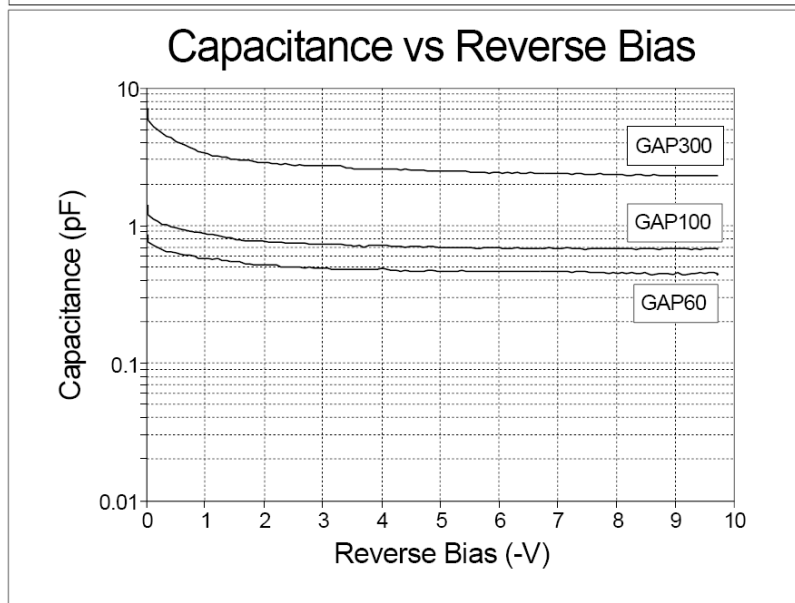
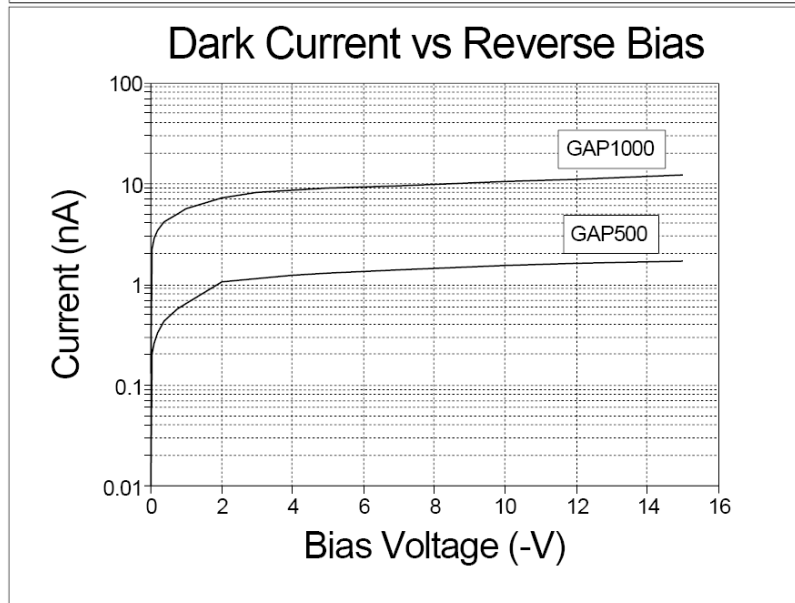
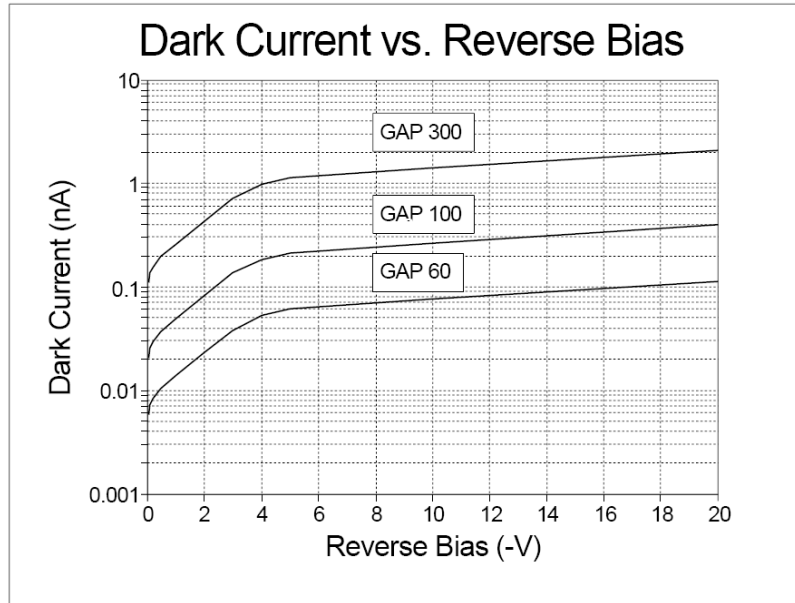
Technical Data

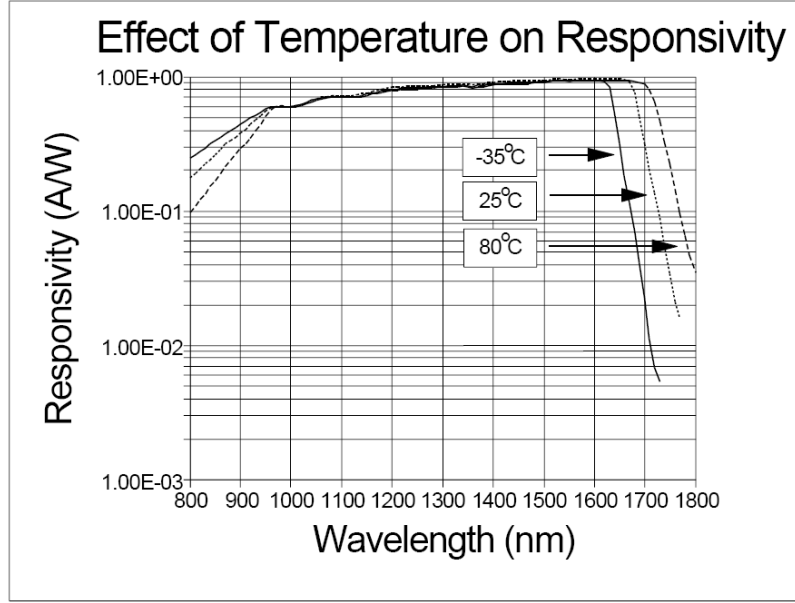
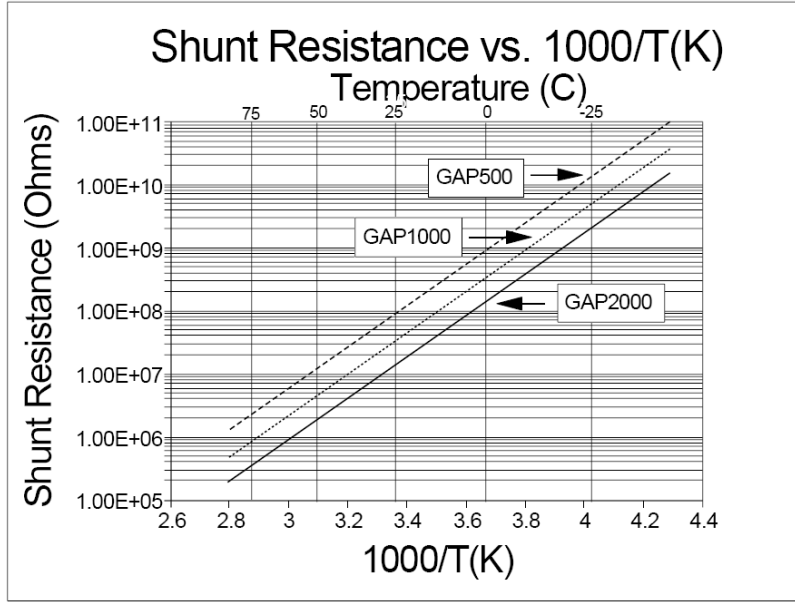
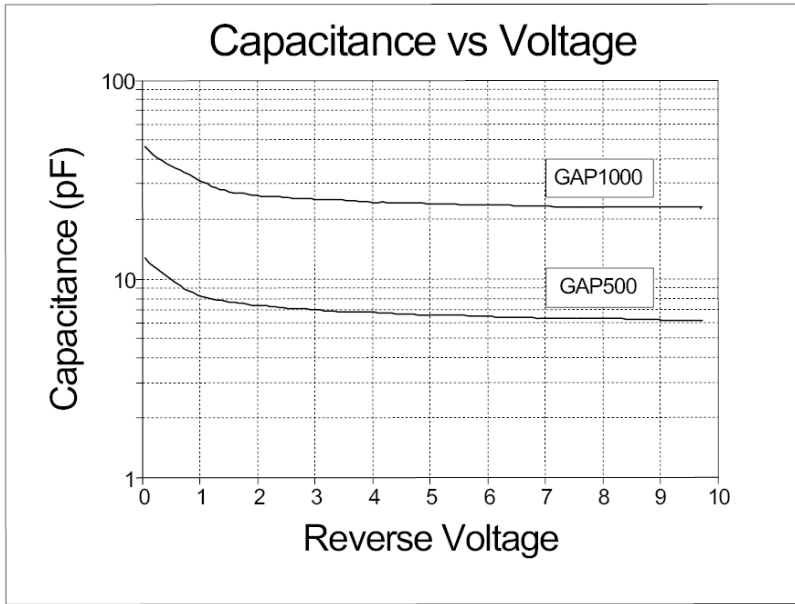
| Type | Condition | GAP168 | | | GAP362 | | | Unit |
|-----------------|--------------------|-----------------------|-----|-----|---------------------|-----|-----|--------------------|
| | | min | typ | max | min | typ | max | |
| Active area | | 100 | | | 300 | | | μm |
| Responsivity | @850nm | 0.1 | 0.2 | | 0.1 | 0.2 | | A/W |
| | @1300nm | 0.8 | 0.9 | | 0.8 | 0.9 | | A/W |
| | @1550nm | 0.95 | | | 0.95 | | | A/W |
| Dark current | @5V | 0.5 1 | | | 1 5 | | | nA |
| Capacitance | @5V | 1 1.2 | | | 4 8 | | | pF |
| | @5V-CS | | | | | | | pF |
| Cutoff freq. | @5V-3dB 50Ohm | 2 | | | 0.7 | | | GHz |
| | @5V-3dB 50OhmCS | | | | | | | GHz |
| Rise / Faltime | @5V.50Ohm 10-90% | | | | 0.1 | | | Ns |
| | @5V.50Ohm 10-90%CS | | | | | | | Ns |
| NEP | @1550nm | 1.5*10 ⁻¹⁵ | | | 5*10 ⁻¹⁵ | | | W/H ^{0.5} |
| Storage Temp. | max | -40 | 125 | | -40 | 125 | | °C |
| Operating Temp. | max | -40 | 85 | | -40 | 85 | | °C |
| Reverse voltage | max | 25 | | | 25 | | | V |
| Reverse current | max | 10 | | | 25 | | | mA |
| Forward current | max | 10 | | | 100 | | | mA |
| Aperture | | Yes | | | Yes | | | |
| Slow Tail | | No | | | No | | | |

| | GAP 536 | GAP 1101 | GAP 1124 |
|--|----------------|------------------|------------------|
| Active Diameter [mm] | 0.5 | 1.0 | 1.0 |
| Responsivity @ 850nm | 0.10 (0.20) | 0.10 (0.20) | 0.10 (0.20) |
| A/W min. (typ.) | 1300nm | 0.80 (0.90) | 0.80 (0.90) |
| | 1550nm | 0.95 | 0.95 |
| Dark Current nA max. (typ.) | 30 (6) @ 5V | 100 (25) @ 5V | 100 (25) @ 5V |
| C _J @ 0V pF max (typ.) | 40 (20) | 120 (80) | 120 (80) |
| C _J @ -5V pF max (typ.) | 10 (8) | 50 (30) | 50 (30) |
| Bandwidth 50 Ω -3dB | 200 (5V) | 40 (5V) | 40 (5V) |
| T _r R _L = 50 Ω ns (typ.) | 2.5 (5V) | 5.0 (5V) | 5.0 (5V) |
| R _S MΩ min (typ.) | 50 (125) | 100 | 100 |
| NEP (1550nm) pW/√Hz min. | .008 | .01 | .01 |
| Linear Range (± 0.2dB) dBm | +10 | +10 | +10 |
| Case Style (standard) | TO-46 (mod.) | TO-46 (mod.) | TO-46 (mod.) |
| Aperture | Yes | Yes | Yes |
| Slow Tail | No | No | No |



Characteristics



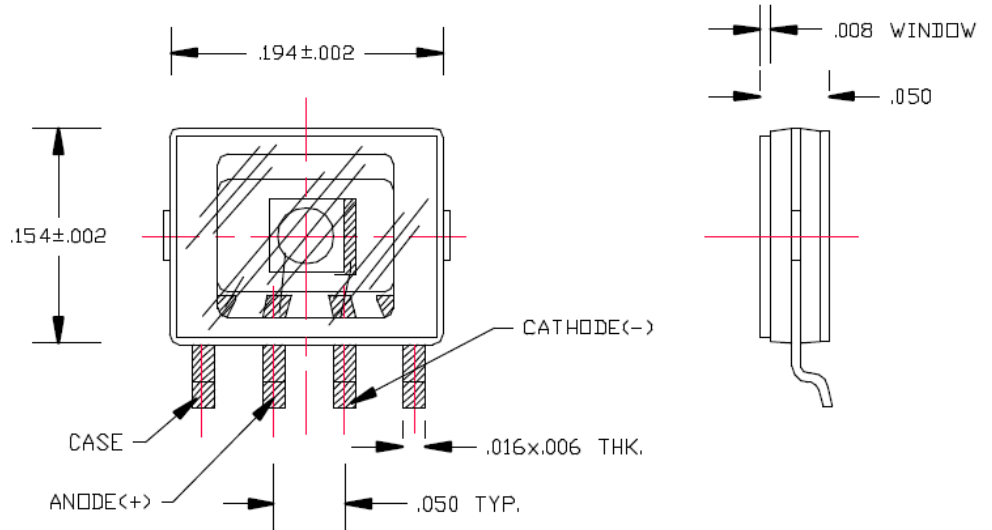




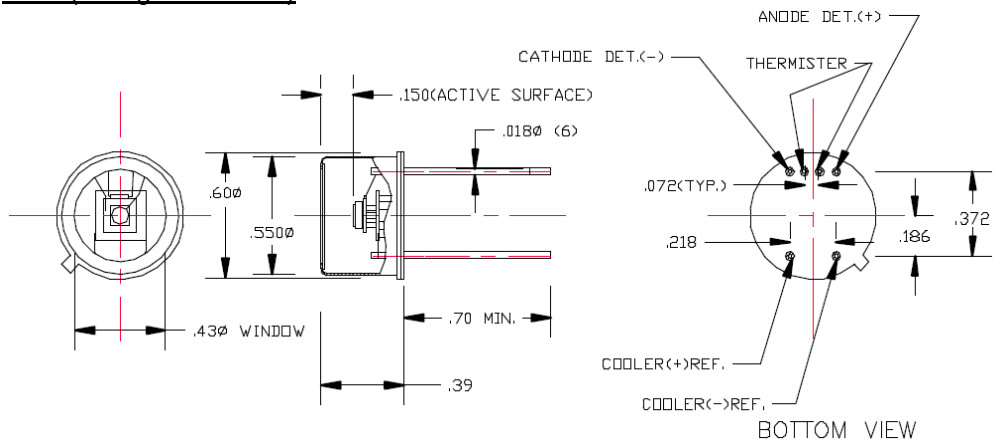
Packages

(Dimensions in Inches)

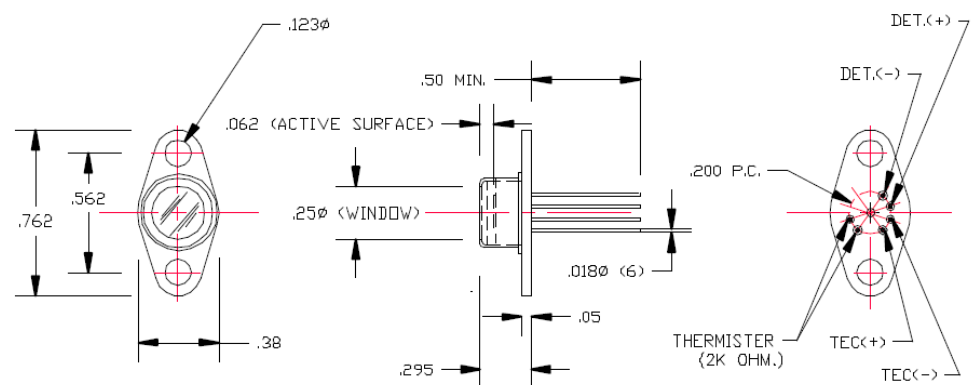
Flatpack



TO-8 (2-stage TE-cooler)

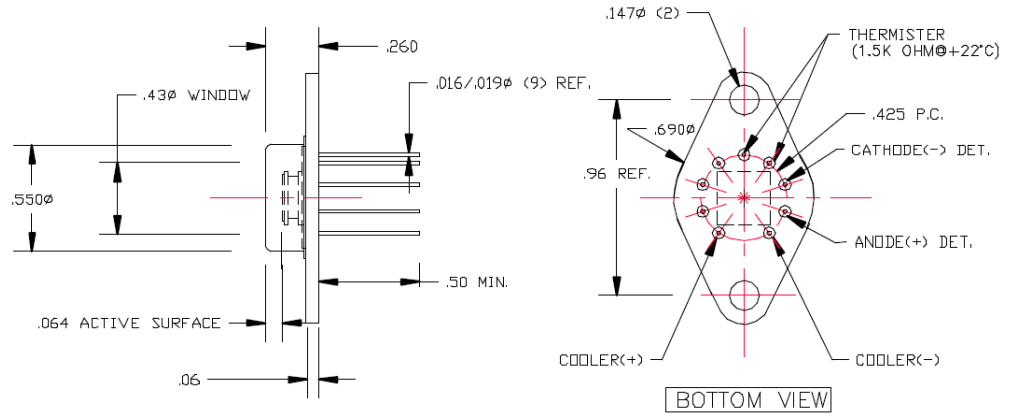


TO-37 (1-stage TE-cooler)

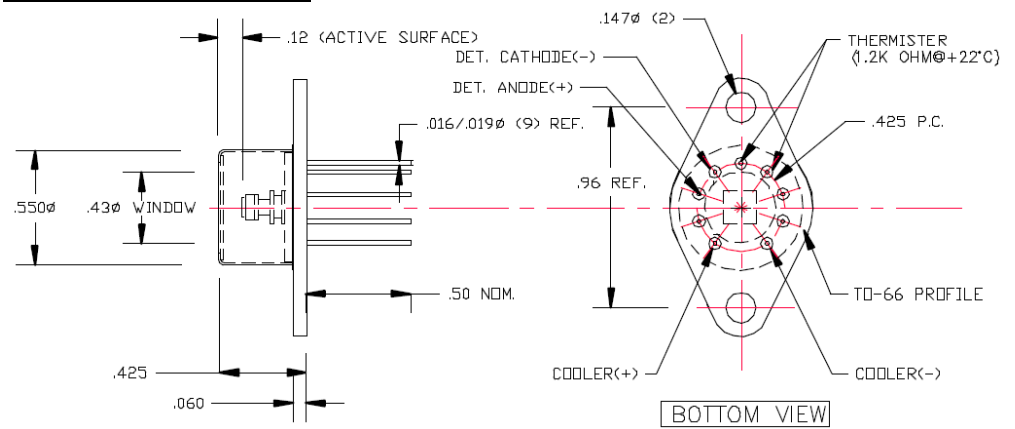




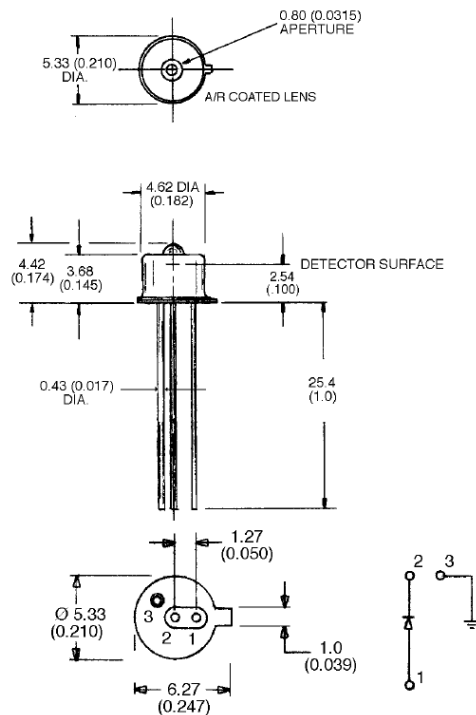
TO-66 (1-stage TE-cooler)



TO-66 (2-stage TE-cooler)



TO-46 (modified) with Ball Lens (BL)
Dimensions in mm (inches)



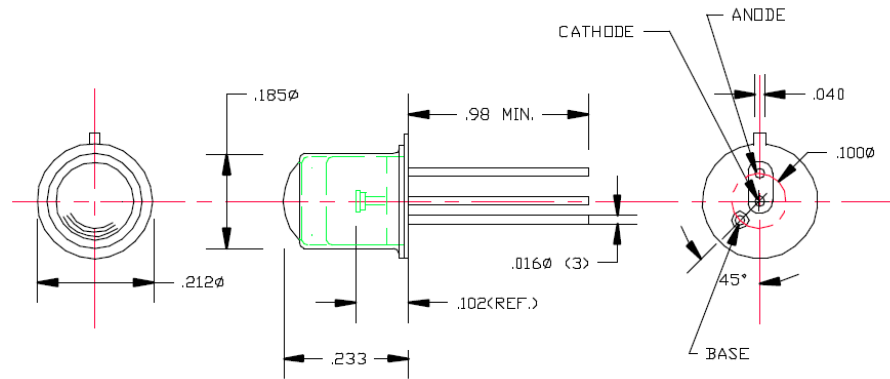
OEC



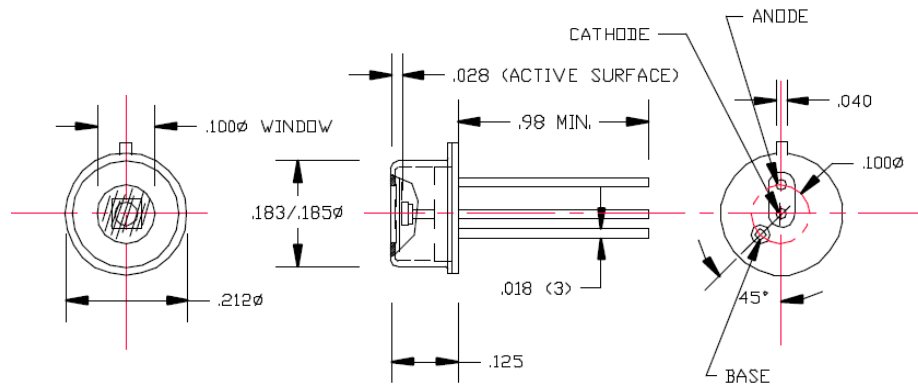
Opto-Electronic
Components



TO-46 (modified) with Full Lens (FL)
Dimensions in mm (inches)



TO-46 (modified) with Flat Window (FW)
Dimensions in mm (inches)



OEC
YOUR PARTNER



TO-46 (modified) with FC-Receptacle / Active Mount
Dimensions in mm (inches)

