



Opto-Electronic
Components



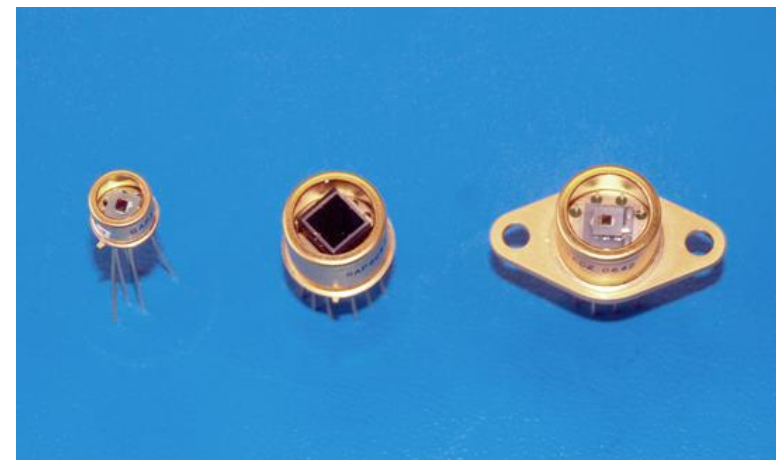
InGaAs Thermoelectric Cooled Photodiodes

Features:

- Single Stage or Dual Stage TE Cooler
- Active Area (0.3mm to 5mm)
- High Shunt Resistance
- Low Dark or Leakage Current
- High Sensitivity
- Cutoff Wavelength (1.7 μ m, 1.9 μ m, 2.05 μ m, 2.2 μ m and 2.6 μ m)
- Standard Package (TO-5, TO-8, TO-66)
- Custom Package with Fiber Pigtail, SMA Receptacle
- RoHS Compliant.

Applications:

- NIR Photometry/Radiometry
- Spectroscopy
- Gas Sensing
- FTIR
- Raman Spectroscopy
- Medical Diagnostics.





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Electro-Optical Characteristics

TE1

Model No.	Active Diameter (mm)	Operating Temperature (°C)	Peak Wavelength (typ) μm	Cutoff Wavelength (50%) (typ) μm	Responsivity @ λ_{PK} (min/typ) (A/W)	Shunt Resistance (typ) (M Ω)	Dark Current (max) (nA)	Capacitance (typ) @ 0V (pF)	Bandwidth w/ 50 Ω @ 0 V (MHz)	Rise time w/ 50 Ω @ 0 V (ns)	NEP @ λ_{PK} typ (W/Hz ^{1/2})	Linearity (± 0.2 dB @ 0 V) (dBm)	Case Style
GAP1000TE1	1	-10	1.52 \pm 0.1	1.65 \pm 0.1	0.95/1.0	550	3 @ 5 V	80	40	8.8	5.1E-12	10	TO5/TO37/ TO8/TO66
GAP2000TE1	2					125	20 @ 2 V	300	11	32	1.1E-11	8	
GAP3000TE1	3					110	50 @ 2 V	600	5	70	1.1E-11		
GAP5000TE1	5					25	100 @ 0.1 V	1000	3	117	2.4E-11		
GAP1000TE1/2.05	1	-10	1.77 \pm 0.1	2.02 \pm 0.1	0.9/1.0	5	500 @ 1 V	500	6.4	55	5.4E-11	6	TO5/TO37/ TO8/TO66
GAP2000TE1/2.05	2					0.8	1100 @ 1 V	1600	2	176	1.3E-10		
GAP3000TE1/2.05	3					0.14	1360 @ 0.5 V	4000	0.8	440	3.2E-10		
GAP1000TE1/2.2	1	-10	1.97 \pm 0.1	2.17 \pm 0.1	0.9/1.0	0.56	1250 @ 1 V	1000	3.18	110	1.6E-10	6	TO5/TO37/ TO8/TO66
GAP2000TE1/2.2	2					0.012	5000 @ 1 V	4000	0.795	440	1.1E-09		
GAP3000TE1/2.2	3					0.048	6250 @ 0.5 V	8000	0.397	881	5.5E-10		
GAP1000TE1/2.6	1	-10	2.17 \pm 0.1	2.57 \pm 0.1	0.9/1.0	0.04	8000 @ 0.5 V	1000	3.2	110	6.0E-10	6	TO5/TO37/ TO8/TO66
GAP2000TE1/2.6	2					0.015	32000 @ 0.5 V	4400	0.8	440	9.8E-10		
GAP3000TE1/2.6	3					0.005	50000 @ 0.5 V	10000	0.35	1000	1.7E-09		



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Electro-Optical Characteristics

TE2

Model No.	Active Diameter (mm)	Operating Temperature (°C)	Peak Wavelength (typ) μm	Cutoff Wavelength (50%) (typ) (μm)	Responsivity @ λ_P (min/typ) (A/W)	Shunt Resistance (typ) (M Ω)	Dark Current (max) (nA)	Capacitance (typ) @ 0V (pF)	Bandwidth w/ 50 Ω @ 0 V (MHz)	Rise time w/ 50 Ω @ 0 V (ns)	NEP @ λ_{PK} typ (W/Hz ^{1/2})	Linearity (± 0.2 dB @ 0 V) (dBm)	Case Style
GAP1000TE2	1	-20	1.51 \pm 0.1	1.64 \pm 0.1	0.95/1.0	1000	2 @ 5 V	80	40	8.8	3.7E-12	10	TO8/TO66
GAP2000TE2	2					500	10 @ 2 V	300	11	32	5.3E-12	8	
GAP3000TE2	3					250	20 @ 2 V	600	5	70	7.5E-12		
GAP5000TE2	5					50	50 @ 0.1 V	1000	3	117	1.7E-11		
GAP1000TE2/2.05	1	-20	1.76 \pm 0.1	2.01 \pm 0.1	0.9/1.0	10	200 @ 1 V	500	6.4	55	3.7E-11	6	TO8/TO66
GAP2000TE2/2.05	2					1.5	240 @ 1 V	1600	2	176	9.6E-11		
GAP3000TE2/2.05	3					0.34	700 @ 0.5 V	4000	0.8	440	2.0E-10		
GAP1000TE2/2.2	1	-20	1.96 \pm 0.1	2.16 \pm 0.1	0.9/1.0	0.98	700 @ 1 V	1000	3.18	110	1.2E-10	6	TO8/TO66
GAP2000TE2/2.2	2					0.168	2900 @ 1 V	4000	0.795	440	2.9E-10		
GAP3000TE2/2.2	3					0.084	3600 @ 0.5 V	8000	0.397	881	4.1E-10		
GAP1000TE2/2.6	1	-20	2.16 \pm 0.1	2.56 \pm 0.1	0.9/1.1	0.088	3600 @ 0.5 V	1000	3.2	110	4.0E-10	6	TO8/TO66
GAP2000TE2/2.6	2					0.033	14500 @ 0.5 V	4400	0.8	440	6.5E-10		
GAP3000TE2/2.6	3					0.011	22700 @ 0.5 V	10000	0.35	1000	1.1E-09		



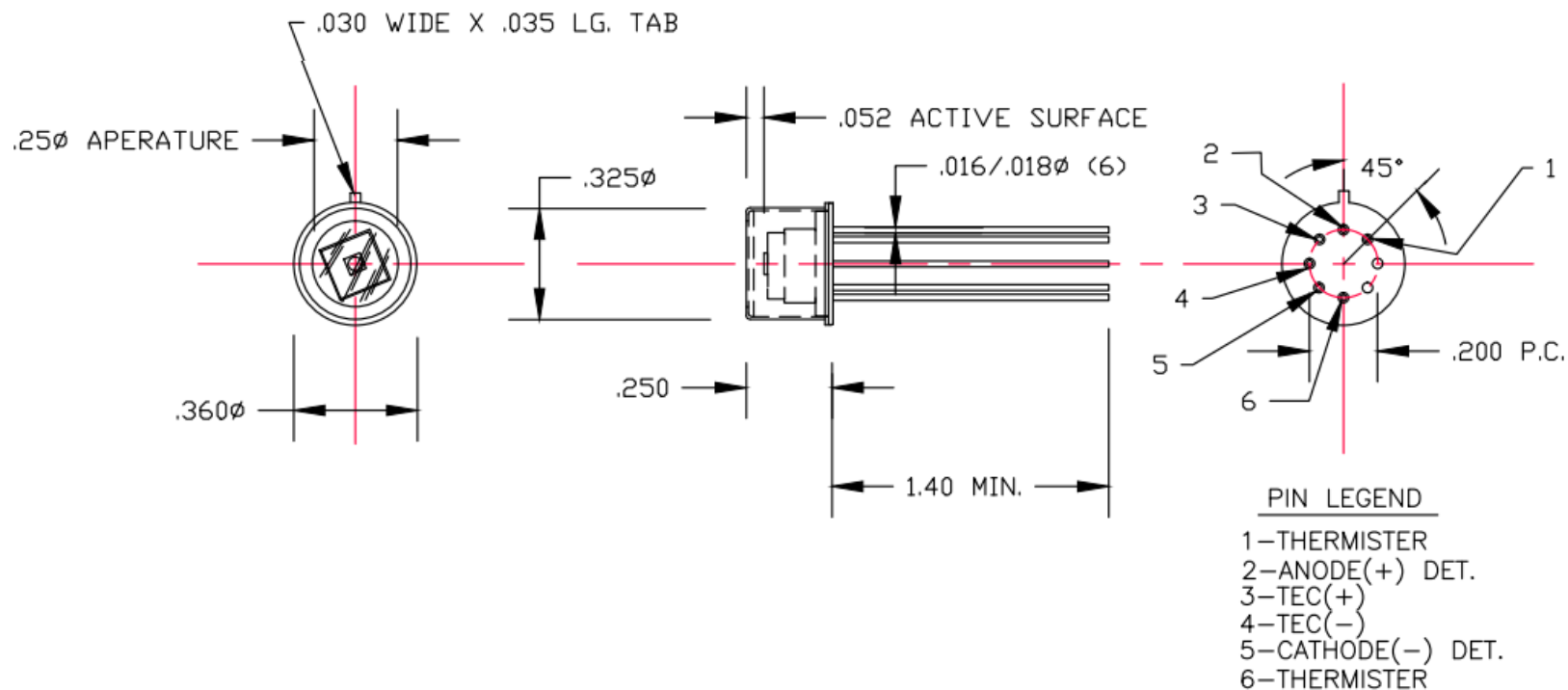
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Packages

T05 with TE1 (Active Area $\leq 3\text{mm}$)



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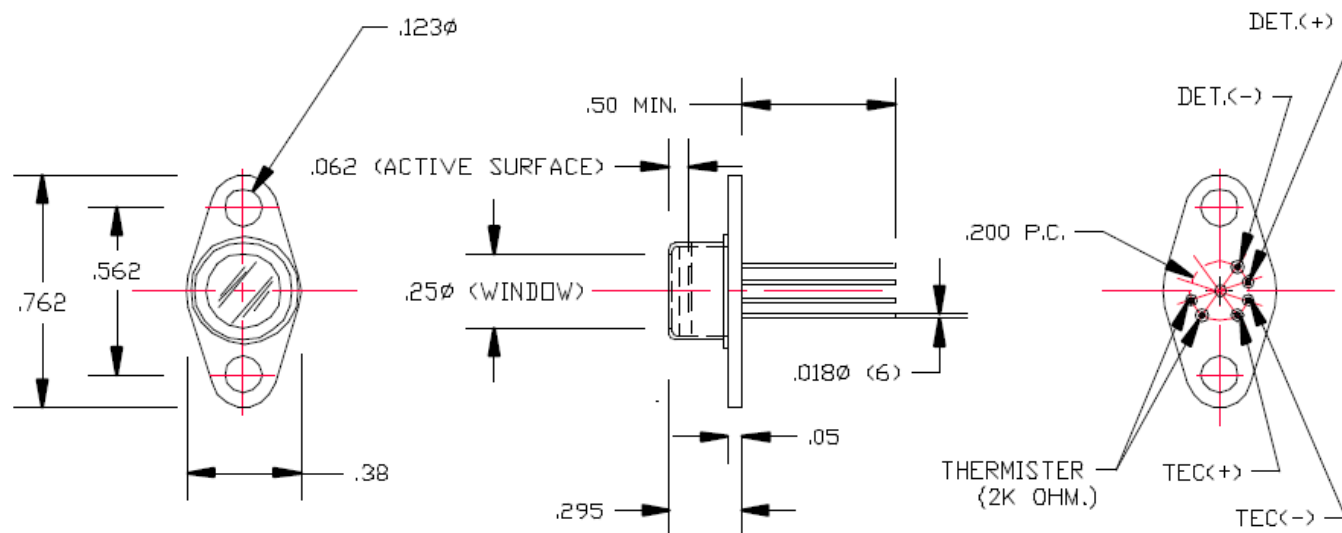
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TO37 with TE1 (Active Area $\leq 3\text{mm}$)





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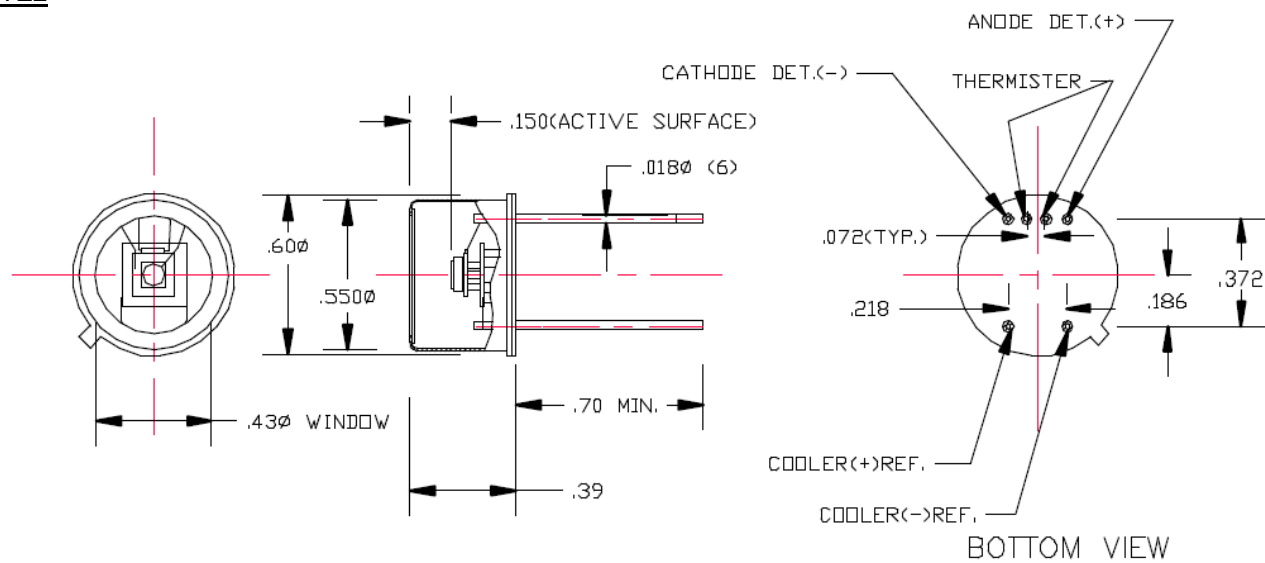
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Packages

TO8 with TE1 or TE2 (Active Area $\leq 5\text{mm}$)

TE2





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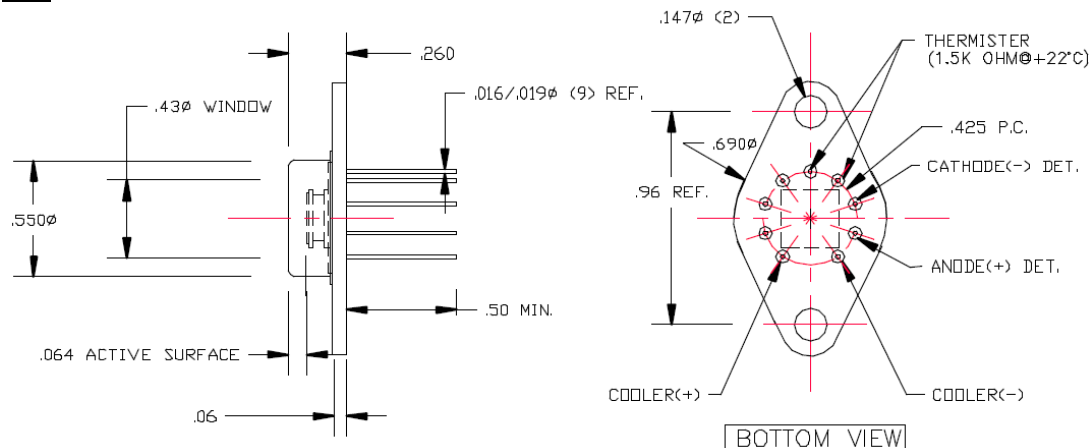


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InGaAs Thermoelectric Cooled Photodiodes

Packages T066 with TE1 or TE2 (Active Area $\leq 5\text{mm}$)

TE1



TE2

