

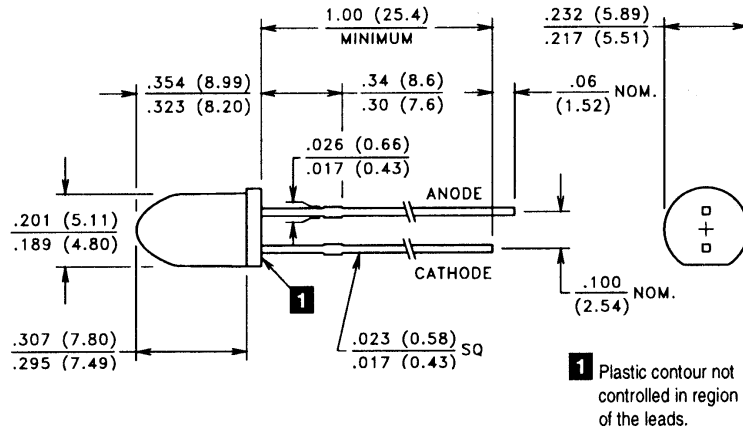
GaAlAs Infrared Emitting Diodes

T-1 $\frac{3}{4}$ (5 mm) Bullet Package — 880 nm

VTE1295



PACKAGE DIMENSIONS inch (mm)



CASE 62 T-1 $\frac{3}{4}$ (5 mm) BULLET
CHIP SIZE: .015" x .015"

DESCRIPTION

This 5 mm diameter, custom lensed device contains a medium area, single wirebonded, GaAlAs, 880 nm high efficiency IRED chip. The custom lens allows this cost effective device to have a very narrow half power beam emission of $\pm 8^\circ$. This device is a UL recognized component for smoke alarm applications (UL file #S3506).

ABSOLUTE MAXIMUM RATINGS @ 25°C (unless otherwise noted) ■

| | | | |
|---|----------------|--|------------|
| Maximum Temperatures | | Maximum Reverse Voltage: | 5.0V |
| Storage and Operating: | -40°C to 100°C | Maximum Reverse Current @ $V_R = 5V$: | 10 μA |
| Continuous Power Dissipation: | 200 mW | Peak Wavelength (Typical): | 880 nm |
| Derate above 30°C: | 2.86 mW/°C | Junction Capacitance @ 0V, 1 MHz (Typ.): | 23 pF |
| Maximum Continuous Current: | 100 mA | Response Time @ $I_F = 20$ mA | |
| Derate above 30°C: | 1.43 mA/°C | Rise: 1.0 μs Fall: 1.0 μs | |
| Peak Forward Current, 10 μs , 100 pps: | 2.5 A | Lead Soldering Temperature: | 260°C |
| Temp. Coefficient of Power Output (Typ.): | -8%/°C | (1.6 mm from case, 5 seconds max.) | |

ELECTRO-OPTICAL CHARACTERISTICS @ 25°C (See also GaAlAs curves, pages 108-110)

| Part Number ■ | Output | | | | | | Forward Drop | | Half Power Beam Angle | |
|------------------|--------------------|-----------|-------------------|-------------|--------------|----------|--------------|----------------|-----------------------|---------------|
| | Irradiance | | Radiant Intensity | Total Power | Test Current | V_F | | | | |
| | E_e | Condition | | I_e | P_O | I_{FT} | @ I_{FT} | $\theta_{1/2}$ | | |
| | mW/cm ² | distance | Diameter | mW/sr | mW | mA | Volts | | | |
| | Min. | Typ. | mm | mm | Min. | Typ. | Typ. | Max. | Typ. | |
| VTE1295 | 3.0 | 5.5 | 36 | 6.4 | 39 | 20 | 100 | 1.5 | 2.0 | $\pm 8^\circ$ |

■ Refer to General Product Notes, page 2.