

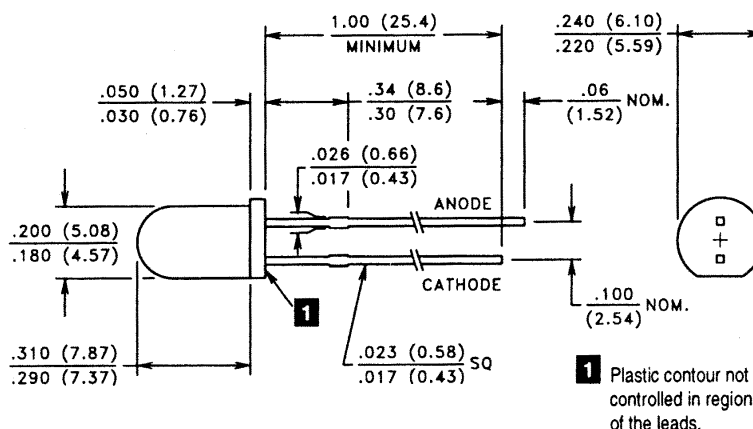
# GaAlAs Infrared Emitting Diodes

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

VTE1291-1H, 1291-2H



## PACKAGE DIMENSIONS inch (mm)



CASE 26 T-1 $\frac{3}{4}$  (5 mm)  
CHIP SIZE: .015" x .015"

## DESCRIPTION

This narrow beam angle 5 mm plastic packaged emitter contains a double wirebonded, GaAlAs, 880 nm IRED chip. This cost effective design is well suited for dc or high current pulse applications. This device is a UL recognized component for smoke alarm applications (UL file #S3506).

## RoHS Compliant



## 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 $\mu A$ |
| 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 $\mu s$ Fall: 1.0 $\mu s$      |            |
| Peak Forward Current, 10 $\mu s$ , 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<br>■ | Output             |      |           |          |                   |                |                 | Forward Drop      |      | Half Power Beam Angle |
|------------------|--------------------|------|-----------|----------|-------------------|----------------|-----------------|-------------------|------|-----------------------|
|                  | Irradiance         |      |           |          | Radiant Intensity | Total Power    | Test Current    | V <sub>F</sub>    |      |                       |
|                  | E <sub>e</sub>     |      | Condition |          | I <sub>e</sub>    | P <sub>O</sub> | I <sub>FT</sub> | @ I <sub>FT</sub> |      | θ <sub>1/2</sub>      |
|                  | mW/cm <sup>2</sup> |      | distance  | Diameter | mW/sr             | mW             | mA<br>(Pulsed)  | Volts             |      | Typ.                  |
|                  | Min.               | Typ. | mm        | mm       | Min.              | Typ.           |                 | Typ.              | Max. |                       |
| VTE1291-1H       | 2.5                | 3.3  | 36        | 6.4      | 32                | 20             | 100             | 1.5               | 2.0  | ±12°                  |
| VTE1291-2H       | 5.0                | 6.5  | 36        | 6.4      | 65                | 25             | 100             | 1.5               | 2.0  | ±12°                  |

■ Refer to General Product Notes, page 2.