

# LITEON

## GaAs Plastic Side Look Infrared Emitting Diode

LTE-302-M/LTE-309

### Features

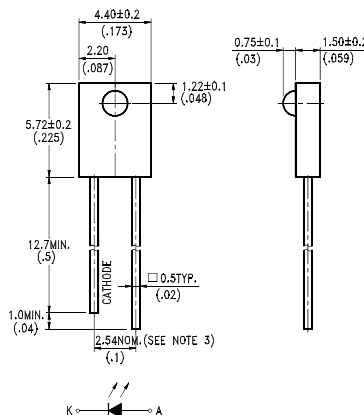
- Selected to specific on-line intensity and radiant intensity ranges.
- Low cost plastic end looking package.
- Mechanically and spectrally matched to the LTR-5576D/ LTR-5986DH series of phototransistor.
- The LTE-302 series are made with Gallium Arsenide infrared emitting diodes.

### Description

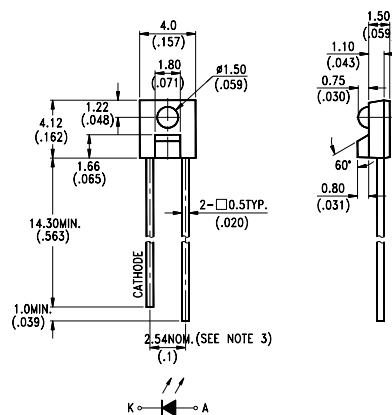
The LTE-302-M/LTE-309 series are high intensity Gallium Arsenide infrared emitting diodes mounted in clear plastic side looking packages. The LTE-302-M/LTE-309 series provides a broad range of intensity selection.

### Package Dimensions

LTE-302-M



LTE-309



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25\text{mm}$  (.010") unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change without notice.

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## Absolute Maximum Ratings at Ta=25°C

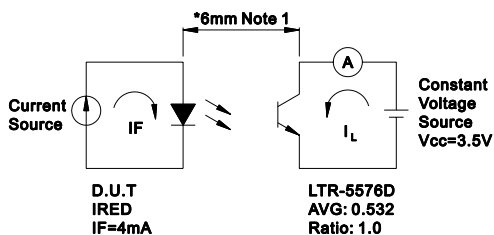
| Parameter                                                  | Maximum Rating      | Unit |
|------------------------------------------------------------|---------------------|------|
| Power Dissipation                                          | 75                  | mW   |
| Peak Forward Current(300pps, 10 $\mu$ s pulse)             | 1                   | A    |
| Continuous Forward Current                                 | 50                  | mA   |
| Reverse Voltage                                            | 5                   | V    |
| Operating Temperature Range                                | -40°C to +85°C      |      |
| Storage Temperature Range                                  | -55°C to +100°C     |      |
| Lead Soldering Temperature<br>[1.6mm (.063 in.) from body] | 260°C for 5 Seconds |      |

## Electrical Optical Characteristics at Ta=25°C

| Parameter                      | Symbol            | Min. | Typ. | Max. | Unit    | Test Condition                               |
|--------------------------------|-------------------|------|------|------|---------|----------------------------------------------|
| Peak Emission Wavelength       | $\lambda$ Peak    |      | 940  |      | nm      | I <sub>F</sub> =20mA                         |
| Spectral Line Half-Width       | $\Delta \lambda$  |      | 50   |      | nm      | I <sub>F</sub> =20mA                         |
| Forward Voltage                | V <sub>F</sub>    |      | 1.2  | 1.6  | V       | I <sub>F</sub> =20mA                         |
| Reverse Current                | I <sub>R</sub>    |      |      | 100  | $\mu$ A | V <sub>R</sub> =5V                           |
| View Angle (See Fig. 6)        | 2 $\theta$ '1/2   |      | 40   |      | deg     |                                              |
| Axis Intensity (Light Current) | (I <sub>L</sub> ) | 0.25 |      | 0.85 | mA      | I <sub>F</sub> =4mA<br>V <sub>CC</sub> =3.5V |

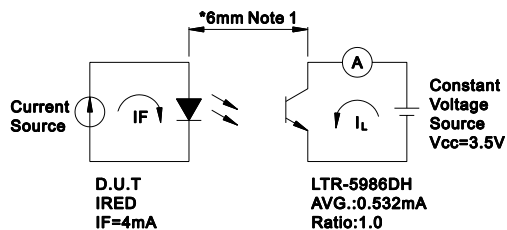
## Infrared Axis Intensity Test Method

LTE-302-M



Note: 1. Lead frame to lead frame

LTE-309



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# Typical Electrical/Optical Characteristic Curves (25°C Ambient Temperature Unless Otherwise Noted)

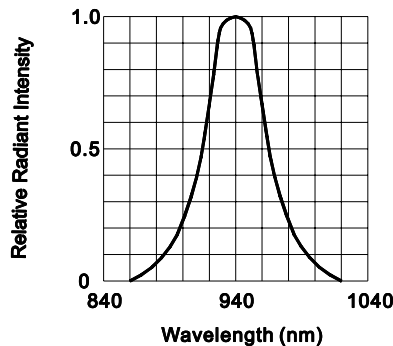


FIG.1 SPECTRAL DISTRIBUTION

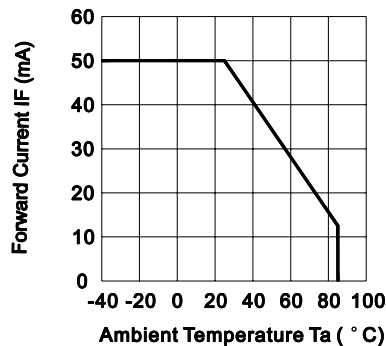


FIG.2 FORWARD CURRENT VS. AMBIENT TEMPERATURE

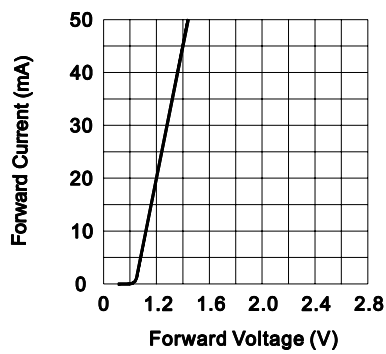


FIG.3 FORWARD CURRENT VS. FORWARD VOLTAGE

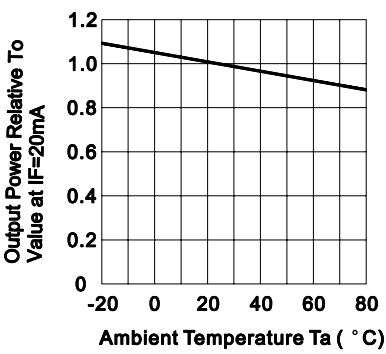


FIG.4 RELATIVE RADIANT INTENSITY VS. AMBIENT TEMPERATURE

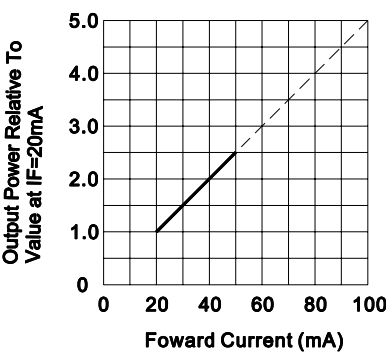


FIG.5 RELATIVE RADIANT INTENSITY VS. FORWARD CURRENT

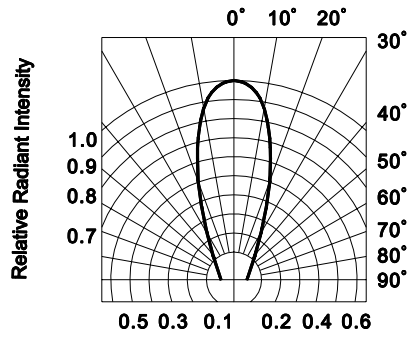


FIG.6 RADIATION DIAGRAM

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