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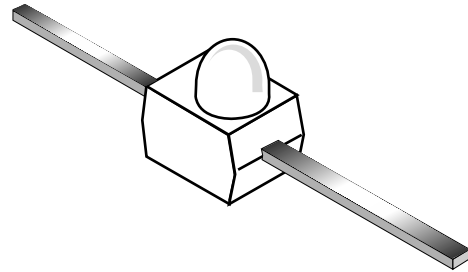
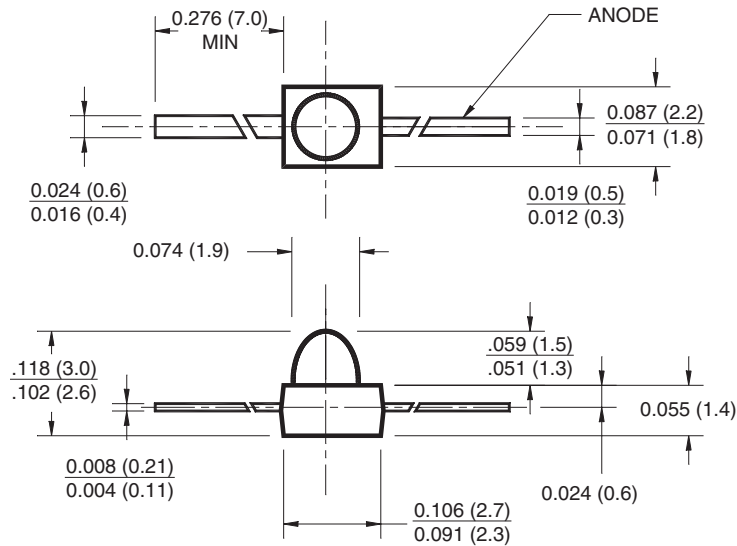


QEB363 Subminiature Plastic Infrared Emitting Diode

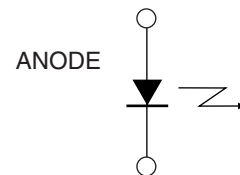
Features

- T-3/4 (2mm) Surface Mount Package
- Tape & Reel Option (See Tape & Reel Specifications)
- Lead Form Options: Gullwing, Yoke, Z-Bend
- Narrow Emission Angle, 24°
- Wavelength = 940nm, GaAs
- Clear Water Lens
- Matched Photosensor: QSB363
- High Radiant Intensity

Package Dimensions



Schematic



Notes:

1. Dimensions are in inches (mm).
2. Tolerance of ± 0.010 (.25) on all non nominal dimensions unless otherwise specified.

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise specified)

| Symbol | Parameter | Rating | Unit |
|-------------|---|----------------|------------------|
| T_{OPR} | Operating Temperature | -40 to +100 | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature | -40 to +100 | $^\circ\text{C}$ |
| T_{SOL-I} | Soldering Temperature (Iron) ^(2,3,4) | 240 for 5 sec | $^\circ\text{C}$ |
| T_{SOL-F} | Soldering Temperature (Flow) ^(2,3) | 260 for 10 sec | $^\circ\text{C}$ |
| I_F | Continuous Forward Current | 50 | mA |
| V_R | Reverse Voltage | 5 | V |
| P_D | Power Dissipation ⁽¹⁾ | 100 | mW |

Notes:

1. Derate power dissipation linearly 1.33mW/ $^\circ\text{C}$ above 25°C .
2. RMA flux is recommended.
3. Methanol or isopropyl alcohols are recommended as cleaning agents.
4. Soldering iron 1/16" (1.6mm) minimum from housing.

Electrical/Optical Characteristics ($T_A = 25^\circ\text{C}$)

| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Units |
|-------------|--------------------------|--|------|----------|------|---------------|
| λ_p | Peak Emission Wavelength | $I_F = 100\text{mA}$ | | 940 | | nm |
| Θ | Emission Angle | $I_F = 100\text{mA}$ | | ± 12 | | $^\circ$ |
| V_F | Forward Voltage | $I_F = 100\text{mA}$, $t_p = 20\text{ms}$ | | | 1.6 | V |
| I_R | Reverse Current | $V_R = 5\text{V}$ | | | 100 | μA |
| I_e | Radiant Intensity | $I_F = 100\text{mA}$, $t_p = 20\text{ms}$ | 8 | | | mW/sr |
| t_r | Rise Time | $I_F = 100\text{mA}$ | | 1 | | μs |
| t_f | Fall Time | $t_p = 20\text{ms}$ | | 1 | | μs |

Typical Performance Curves

Fig. 1 Maximum Forward Current vs. Temperature

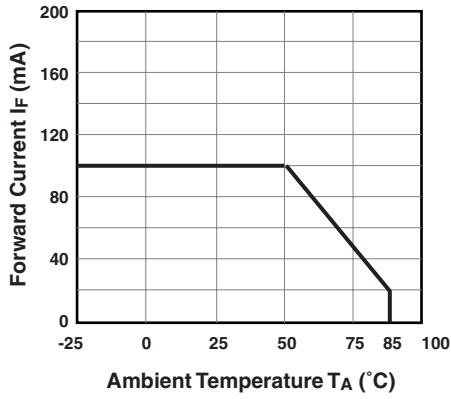


Fig. 2 Relative Radiant Intensity vs. Wavelength

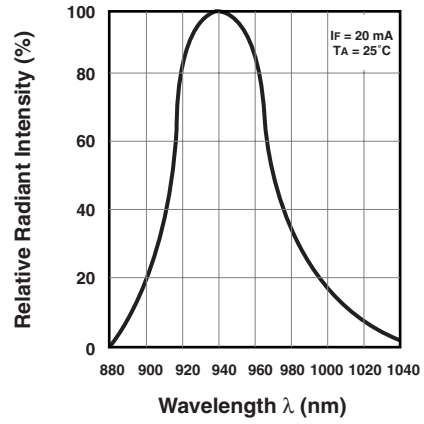


Fig. 3 Peak Emission Wavelength vs. Ambient Temperature

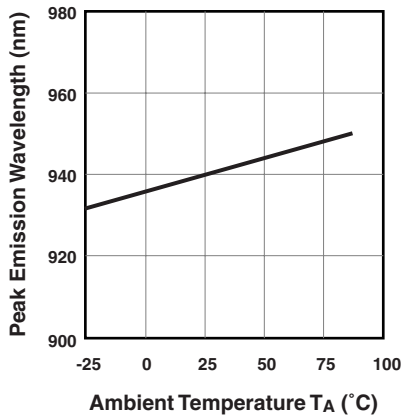


Fig. 4 Forward Current vs. Forward Voltage

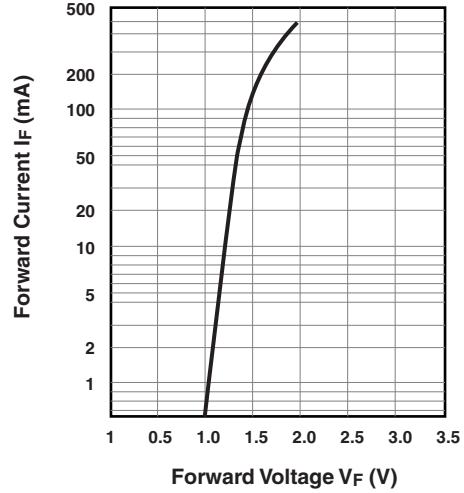


Fig. 5 Relative Radiant Flux vs. Ambient Temperature

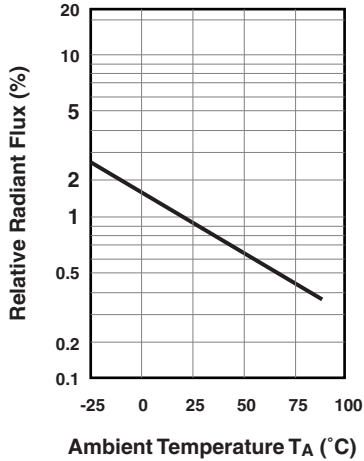
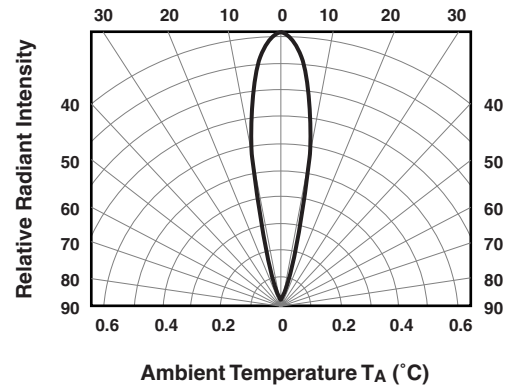


Fig. 6 Relative Radiant Intensity vs. Angular Displacement

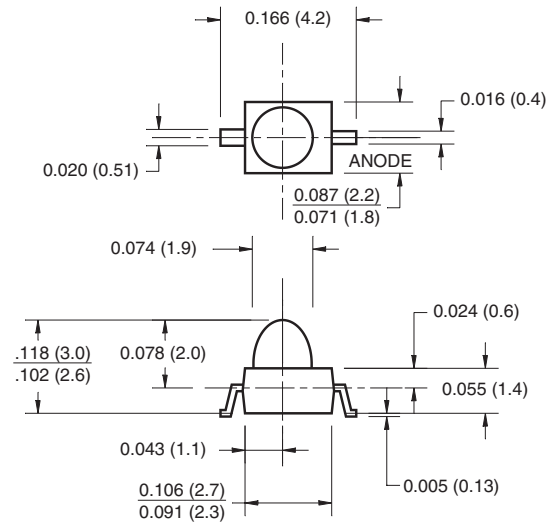


Surface Mount Options for T-3/4 Package

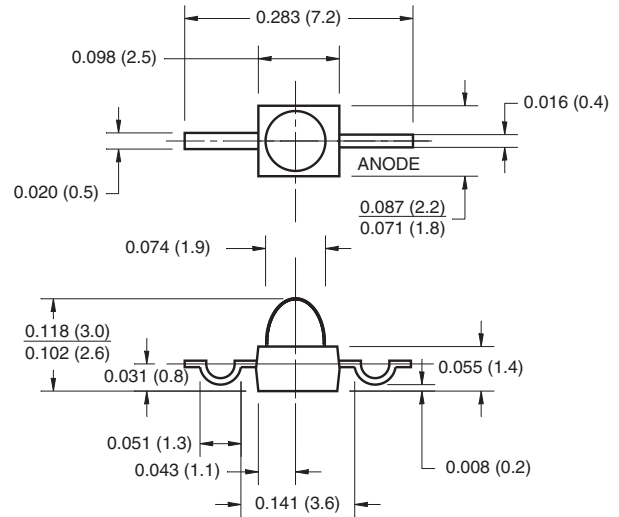
Features

- Three lead forming options: Gull Wing, Yoke and Z-Bend
- Compatible with automatic placement equipment
- Supplied on tape and reel or in bulk packaging
- Compatible with vapor phase reflow solder processes

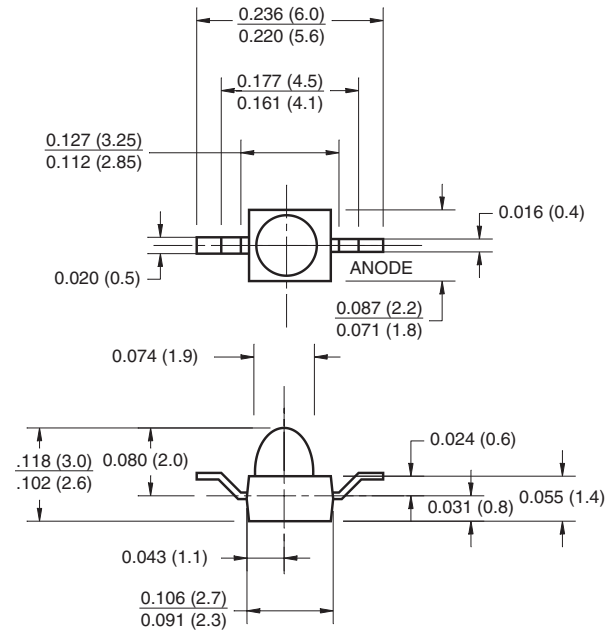
Gull Wing Lead Configuration



Yoke Lead Configuration



Z-Bend Lead Configuration



Notes: (Applies to all package drawings)

1. Dimensions are in inches (mm).
2. Tolerance of ± 0.010 (.25) on all non nominal dimensions unless otherwise specified.

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