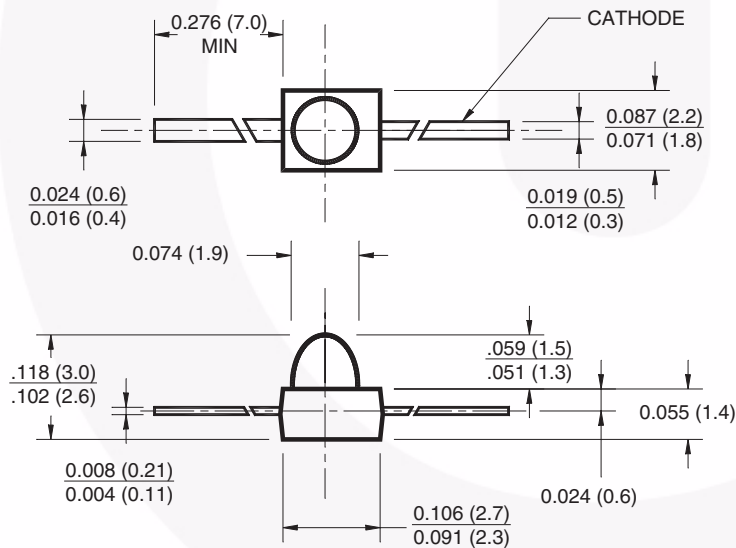


QEB373 Subminiature Plastic Infrared Emitting Diode

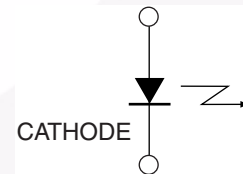
Features

- 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 = 875nm, AlGaAs
- Clear 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)

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only.

| 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:

- Derate power dissipation linearly 1.33mW/ $^\circ\text{C}$ above 25°C .
- RMA flux is recommended.
- Methanol or isopropyl alcohols are recommended as cleaning agents.
- 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 | $I_F = 100\text{mA}$ | | 875 | | nm |
| Θ | Emission Angle | $I_F = 100\text{mA}$ | | ± 12 | | $^\circ$ |
| V_F | Forward Voltage | $I_F = 100\text{mA}$, $t_p = 20\text{ms}$ | | | 1.7 | V |
| I_R | Reverse Current | $V_R = 5\text{V}$ | | | 100 | μA |
| I_e | Radiant Intensity | $I_F = 100\text{mA}$, $t_p = 20\text{ms}$ | 16 | | | mW/sr |
| t_r | Rise Time | $I_F = 100\text{mA}$ | | 800 | | ns |
| t_f | Fall Time | $t_p = 20\text{ms}$ | | 800 | | ns |

Typical Performance Curves

Fig. 1 Maximum Forward Current vs. Temperature

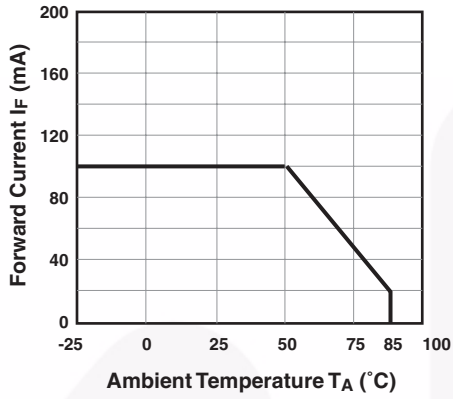


Fig. 2 Relative Radiant Intensity vs. Wavelength

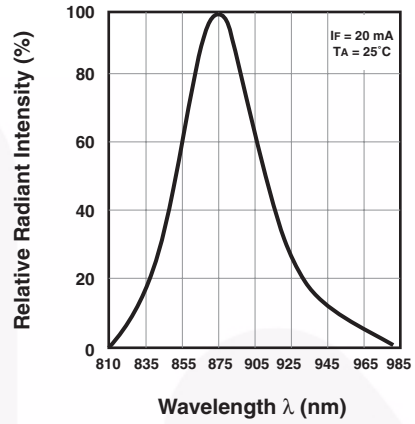


Fig. 3 Peak Emission Wavelength vs. Ambient Temperature

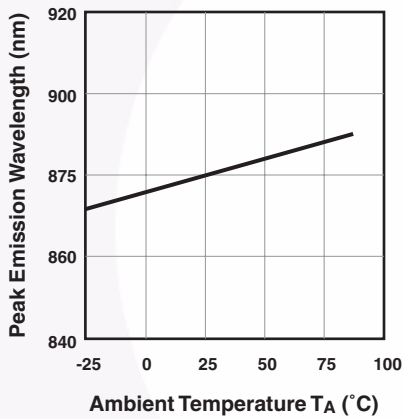


Fig. 4 Forward Current vs. Forward Voltage

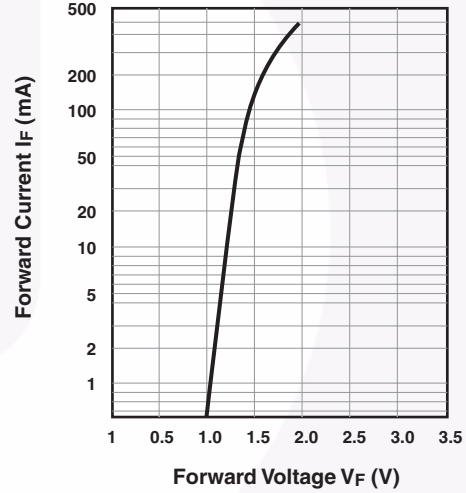


Fig. 5 Relative Radiant Flux vs. Ambient Temperature

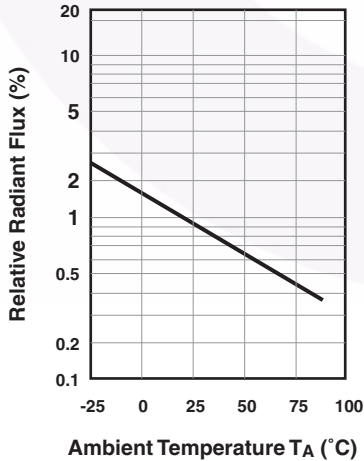
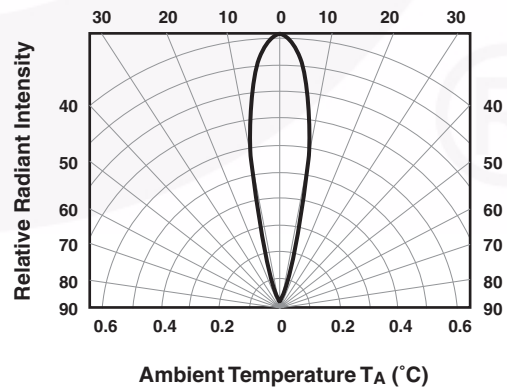


Fig. 6 Relative Radiant Intensity vs. Angular Displacement

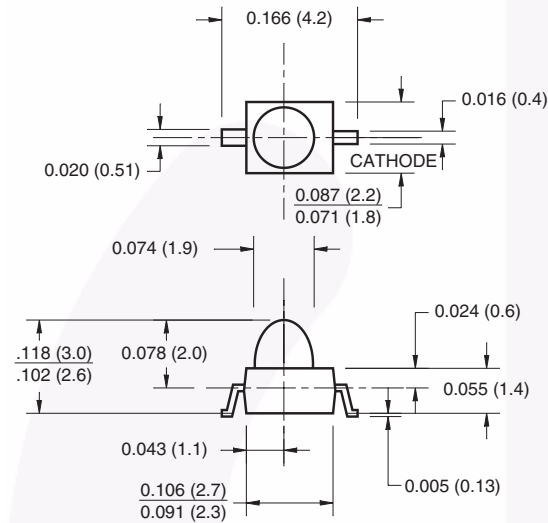


Surface Mount Options for T-3/4 Package

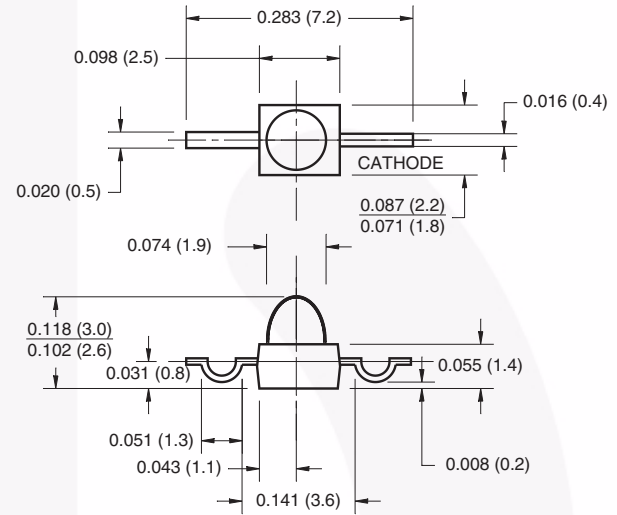
Features

- 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

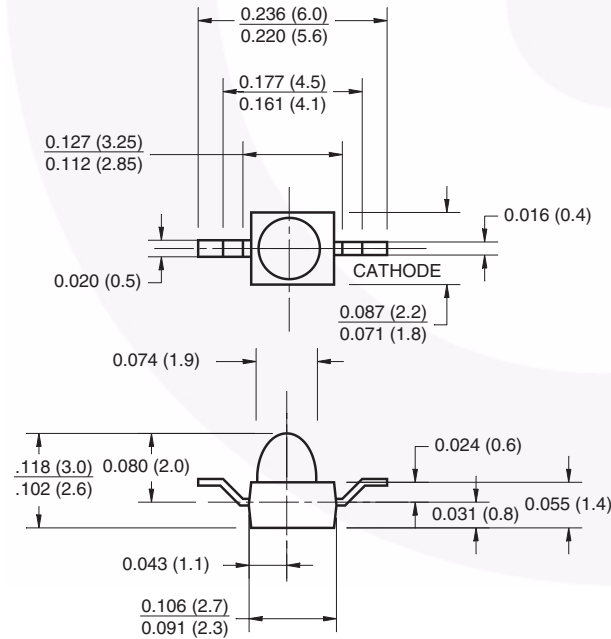
Gull Wing Lead Configuration



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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