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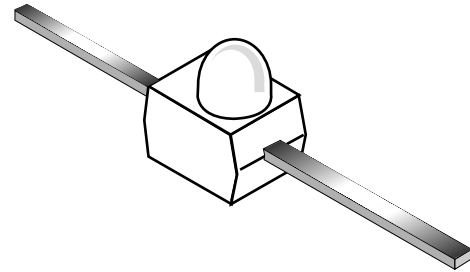
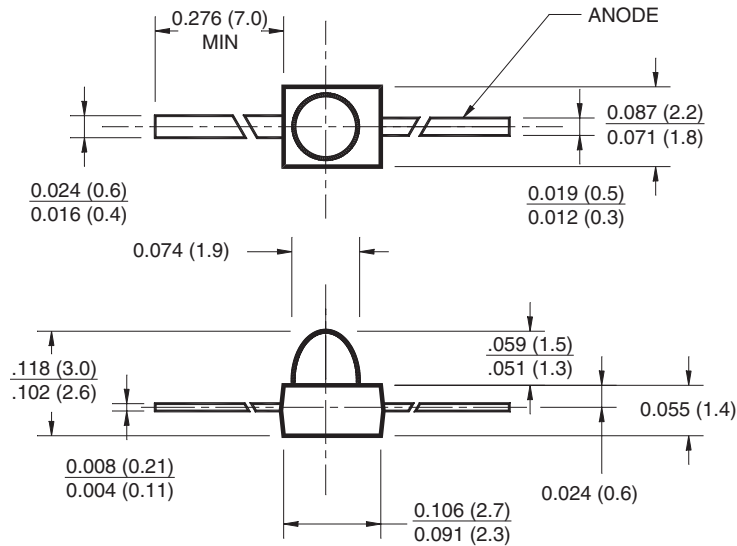


# QEB363 Subminiature Plastic Infrared Emitting Diode

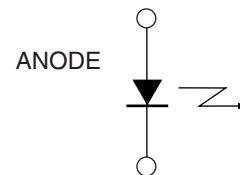
## Features

- 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  $\pm 0.010$  (.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) <sup>(2,3,4)</sup>	240 for 5 sec	$^\circ\text{C}$
$T_{SOL-F}$	Soldering Temperature (Flow) <sup>(2,3)</sup>	260 for 10 sec	$^\circ\text{C}$
$I_F$	Continuous Forward Current	50	mA
$V_R$	Reverse Voltage	5	V
$P_D$	Power Dissipation <sup>(1)</sup>	100	mW

**Notes:**

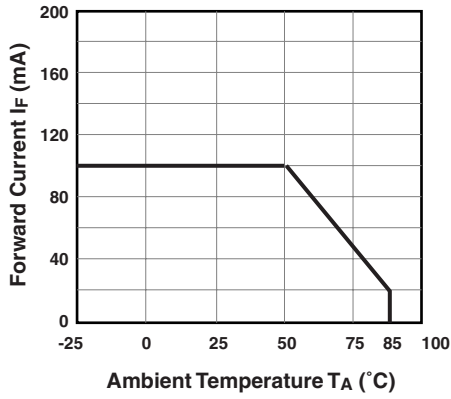
1. Derate power dissipation linearly 1.33mW/ $^\circ\text{C}$  above 25 $^\circ\text{C}$ .
2. RMA flux is recommended.
3. Methanol or isopropyl alcohols are recommended as cleaning agents.
4. Soldering iron 1/16" (1.6mm) minimum from housing.

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

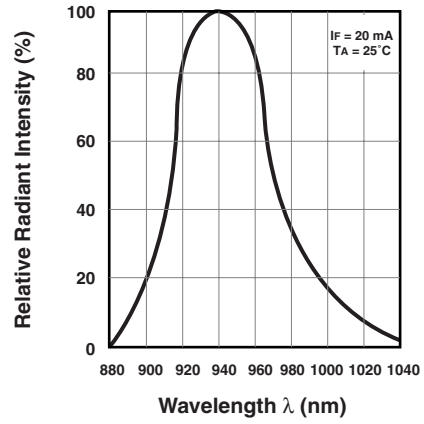
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
$\lambda_p$	Peak Emission Wavelength	$I_F = 100\text{mA}$		940		nm
$\Theta$	Emission Angle	$I_F = 100\text{mA}$		$\pm 12$		$^\circ$
$V_F$	Forward Voltage	$I_F = 100\text{mA}$ , $t_p = 20\text{ms}$			1.6	V
$I_R$	Reverse Current	$V_R = 5\text{V}$			100	$\mu\text{A}$
$I_e$	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		$\mu\text{s}$
$t_f$	Fall Time	$t_p = 20\text{ms}$		1		$\mu\text{s}$

### Typical Performance Curves

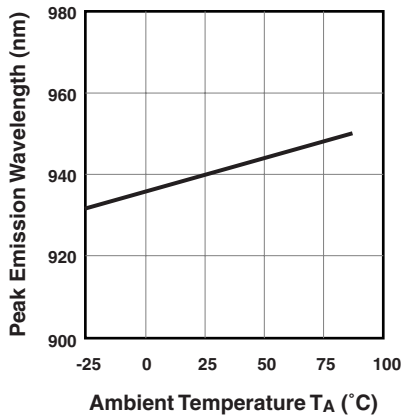
**Fig. 1 Maximum Forward Current vs. Temperature**



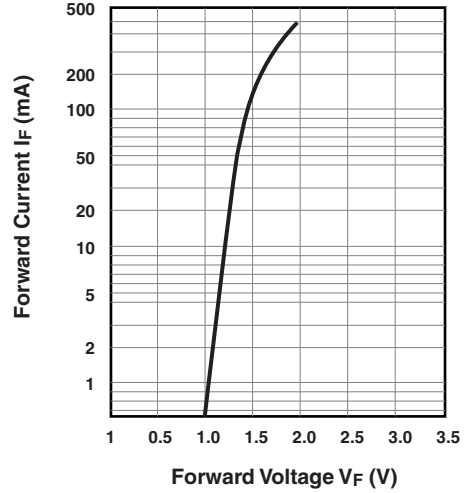
**Fig. 2 Relative Radiant Intensity vs. Wavelength**



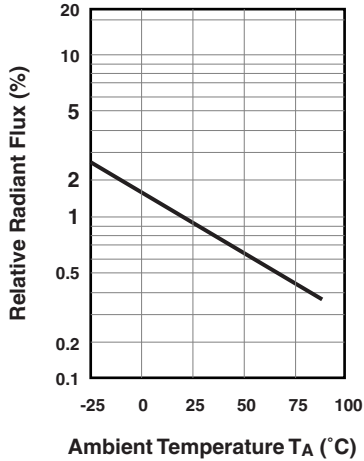
**Fig. 3 Peak Emission Wavelength vs. Ambient Temperature**



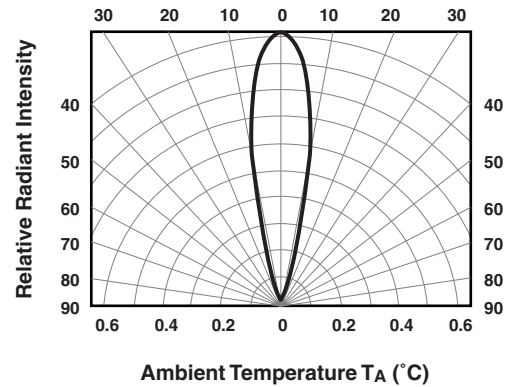
**Fig. 4 Forward Current vs. Forward Voltage**



**Fig. 5 Relative Radiant Flux vs. Ambient Temperature**



**Fig. 6 Relative Radiant Intensity vs. Angular Displacement**

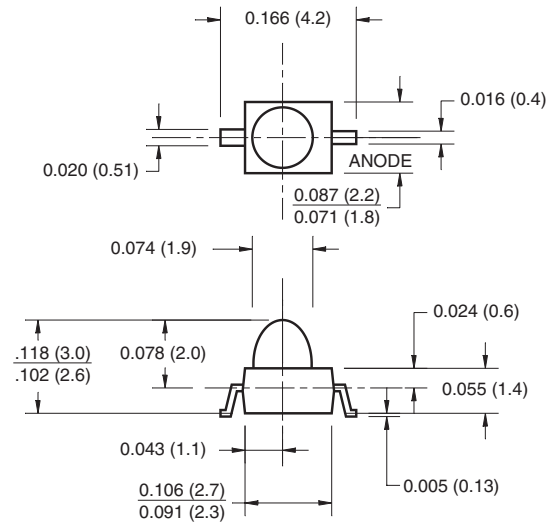


## Surface Mount Options for T-3/4 Package

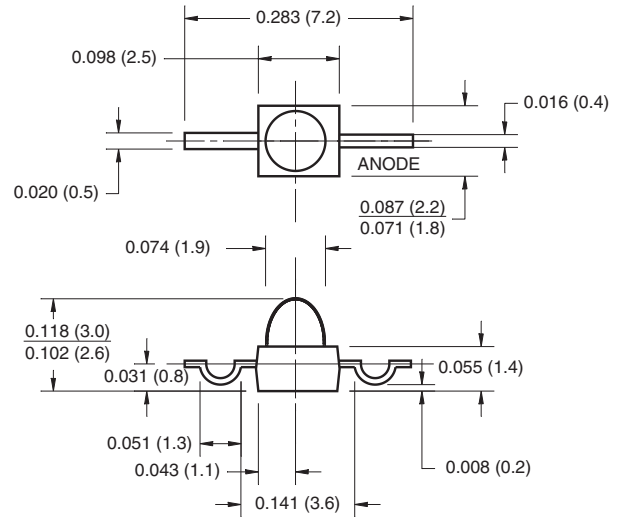
### Features

- 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

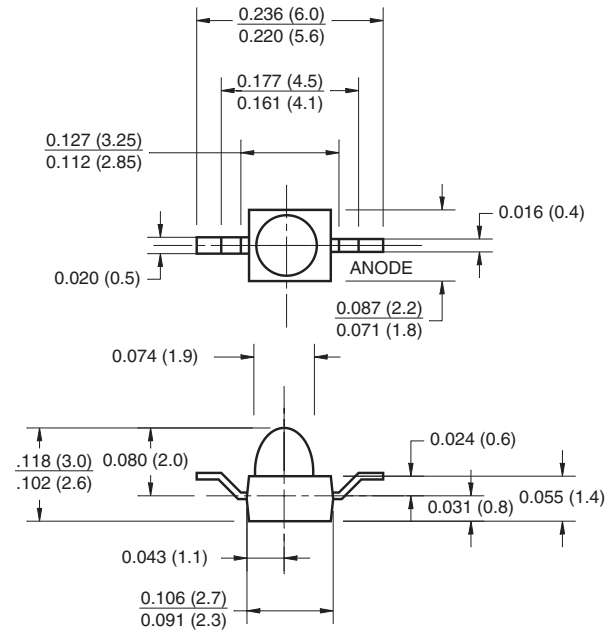
### Gull Wing Lead Configuration



### Yoke Lead Configuration



### Z-Bend Lead Configuration



### Notes: (Applies to all package drawings)

1. Dimensions are in inches (mm).
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