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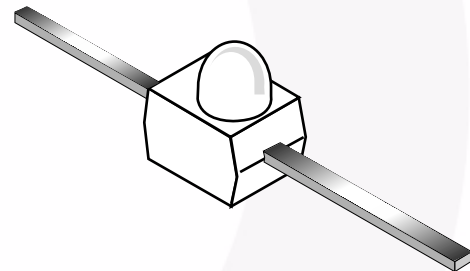
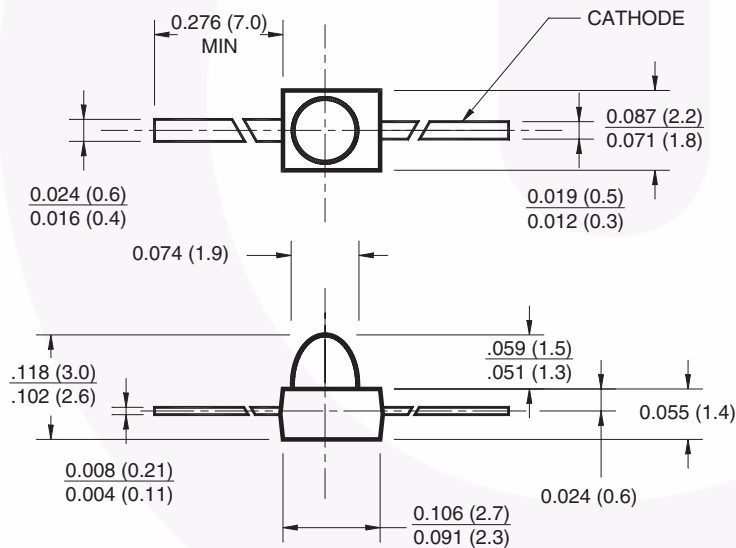
# QEB373

## Subminiature Plastic Infrared Emitting Diode

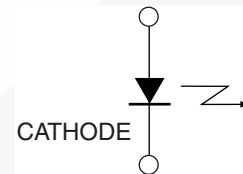
### Features

- 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  $\pm 0.010$  (.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) <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:**

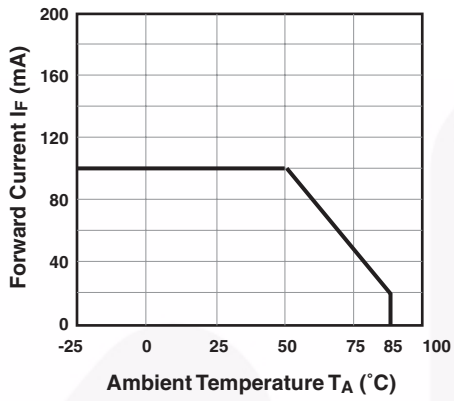
- Derate power dissipation linearly 1.33mW/ $^\circ\text{C}$  above 25 $^\circ\text{C}$ .
- RMA flux is recommended.
- Methanol or isopropyl alcohols are recommended as cleaning agents.
- Soldering iron 1/16" (1.6mm) minimum from housing.

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

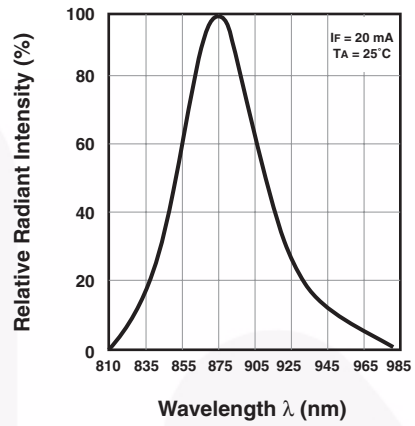
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
$\lambda_p$	Peak Emission Wavelength	$I_F = 100\text{mA}$		875		nm
$\Theta$	Emission Angle	$I_F = 100\text{mA}$		$\pm 12$		$^\circ$
$V_F$	Forward Voltage	$I_F = 100\text{mA}$ , $t_p = 20\text{ms}$			1.7	V
$I_R$	Reverse Current	$V_R = 5\text{V}$			100	$\mu\text{A}$
$I_e$	Radiant Intensity	$I_F = 100\text{mA}$ , $t_p = 20\text{ms}$	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

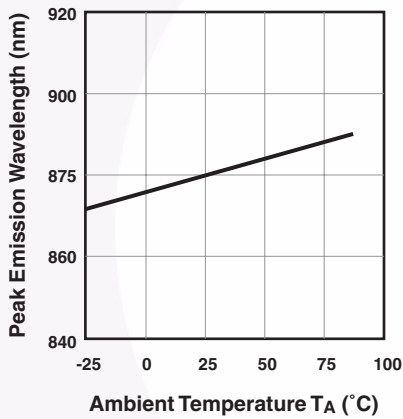
**Fig. 1 Maximum Forward Current vs. Temperature**



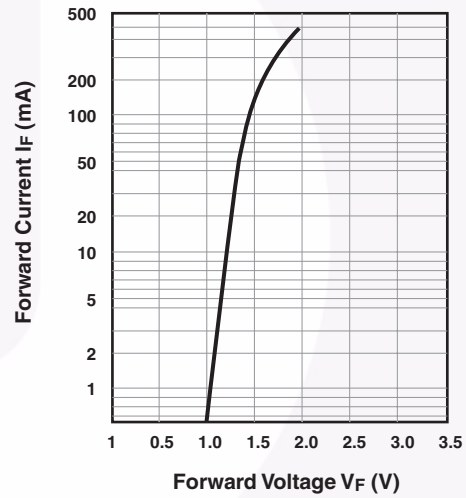
**Fig. 2 Relative Radiant Intensity vs. Wavelength**



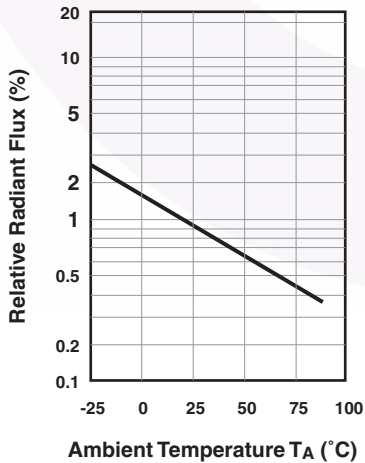
**Fig. 3 Peak Emission Wavelength vs. Ambient Temperature**



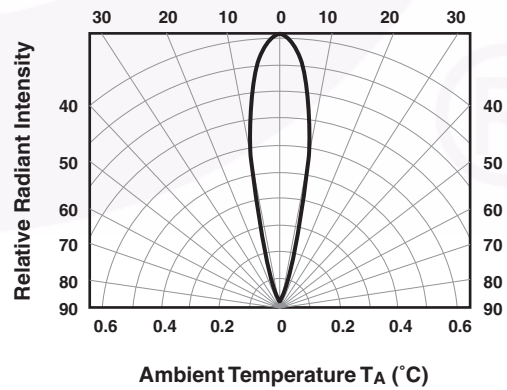
**Fig. 4 Forward Current vs. Forward Voltage**



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



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

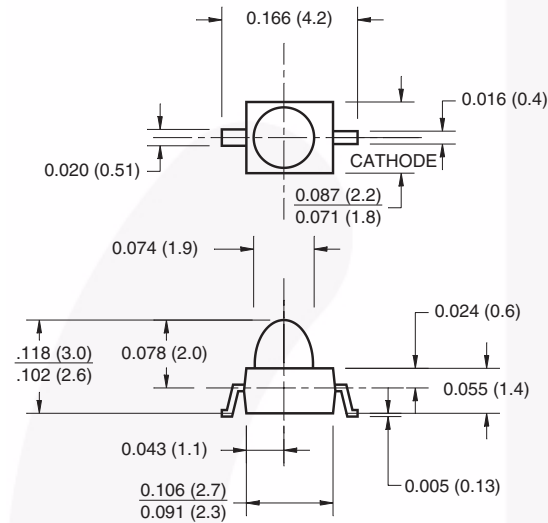


## Surface Mount Options for T-3/4 Package

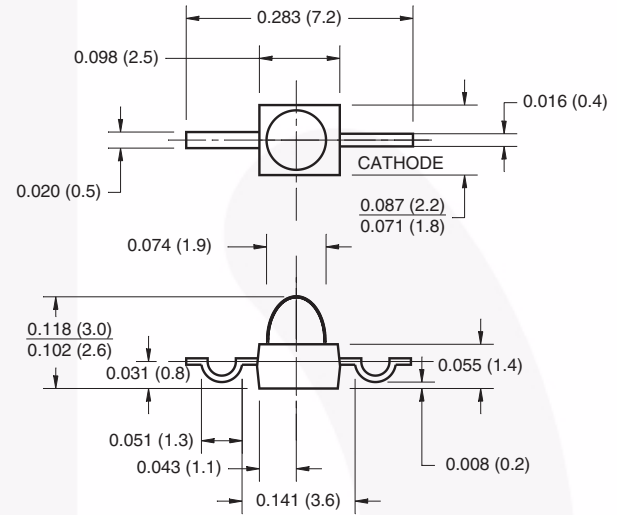
### Features

- 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

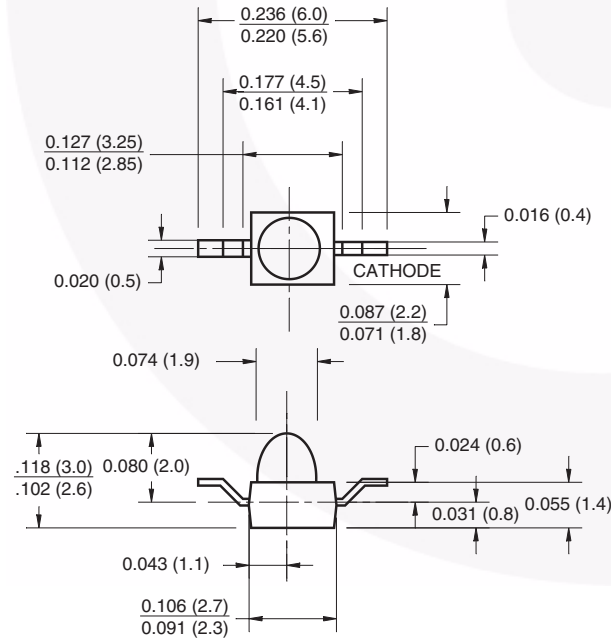
### Gull Wing Lead Configuration



### Yoke Lead Configuration



### Z-Bend Lead Configuration









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

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