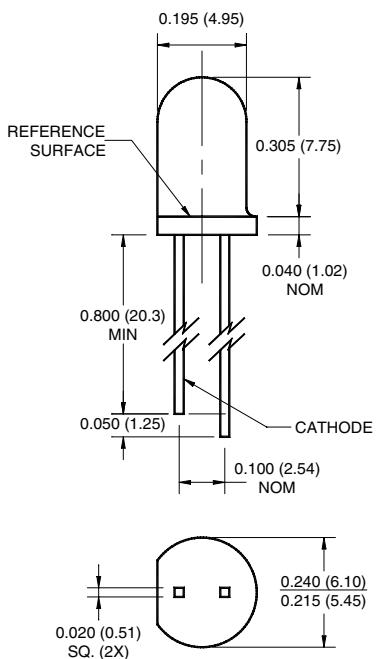


**QED233**

**QED234**

**PACKAGE DIMENSIONS**

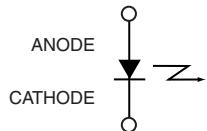


**NOTES:**

1. Dimensions for all drawings are in inches (mm).
2. Tolerance of  $\pm .010$  (.25) on all non-nominal dimensions unless otherwise specified.



**SCHEMATIC**



**DESCRIPTION**

The QED233 / QED234 is a 940 nm GaAs / AlGaAs LED encapsulated in a clear untinted, plastic T-1 3/4 package.

**FEATURES**

- $\lambda = 940$  nm
- Chip material =GaAs with AlGaAs window
- Package type: T-1 3/4 (5mm lens diameter)
- Matched Photosensor: QSD122/123/124
- Medium Emission Angle, 40°
- High Output Power
- Package material and color: Clear, untinted, plastic
- Ideal for remote control applications

**QED233**

**QED234**

**ABSOLUTE MAXIMUM RATINGS** ( $T_A = 25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Rating	Unit
Operating Temperature	$T_{OPR}$	-40 to +100	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-40 to +100	$^\circ\text{C}$
Soldering Temperature (Iron) <sup>(2,3,4)</sup>	$T_{SOL-I}$	240 for 5 sec	$^\circ\text{C}$
Soldering Temperature (Flow) <sup>(2,3)</sup>	$T_{SOL-F}$	260 for 10 sec	$^\circ\text{C}$
Continuous Forward Current	$I_F$	100	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation <sup>(1)</sup>	$P_D$	200	mW
Peak Forward Current	$I_{FP}$	1.5	A

1. Derate power dissipation linearly 2.67 mW/ $^\circ\text{C}$  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.
5. Pulse conditions;  $tp = 100 \mu\text{s}$ ,  $T = 10 \text{ ms}$ .

**ELECTRICAL / OPTICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$ )

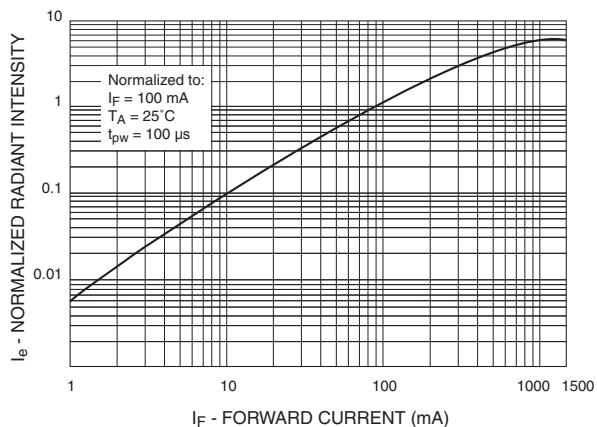
PARAMETER	TEST CONDITIONS	DEVICE	SYMBOL	MIN	TYP	MAX	UNITS
Peak Emission Wavelength	$I_F = 20 \text{ mA}$	ALL	$\lambda_{PE}$	—	940	—	nm
Spectral Bandwidth	$I_F = 20 \text{ mA}$	ALL	—	50	—	—	nm
Temp. Coefficient of $\lambda_{PE}$	$I_F = 100 \text{ mA}$	ALL	$TC_\lambda$	—	0.2	—	nm/K
Emission Angle	$I_F = 100 \text{ mA}$	ALL	$2\theta_{1/2}$	—	40	—	Deg.
Forward Voltage	$I_F = 100 \text{ mA}$ , $tp = 20 \text{ ms}$	ALL	$V_F$	—	—	1.6	V
Temp. Coefficient of $V_F$	$I_F = 100 \text{ mA}$	ALL	$TC_V$	—	-1.5	—	mV/K
Reverse Current	$V_R = 5 \text{ V}$	ALL	$I_R$	—	—	10	$\mu\text{A}$
Radiant Intensity	$I_F = 100 \text{ mA}$ , $tp = 20 \text{ ms}$	QED233	$I_E$	10	—	50	mW/sr
				27	—	—	
Temp. Coefficient of $I_E$	$I_F = 20 \text{ mA}$	ALL	$TC_I$	—	-0.6	—	%/K
Rise Time	$I_F = 100 \text{ mA}$	ALL	$t_r$	—	1000	—	ns
Fall Time			$t_f$	—	1000	—	

**QED233**

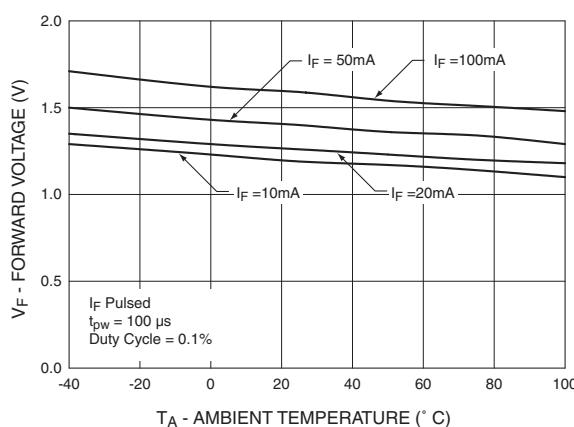
**QED234**

**TYPICAL PERFORMANCE CURVES TBD**

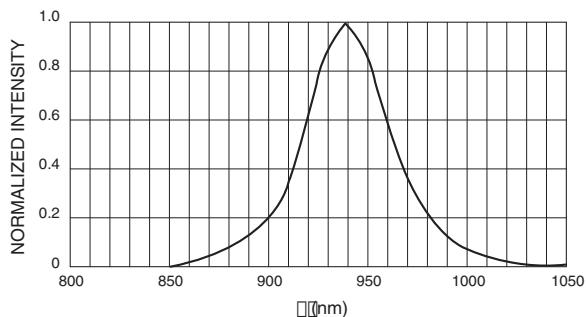
**Fig. 1 Normalized Radiant Intensity vs. Forward Current**



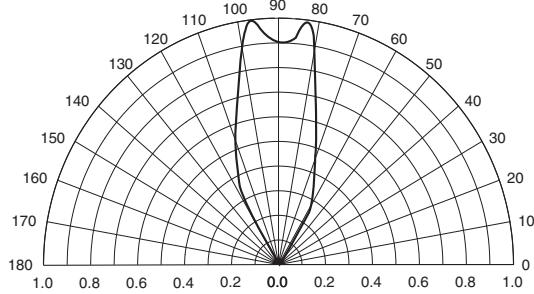
**Fig. 2 Forward Voltage Vs. Ambient Temperature**



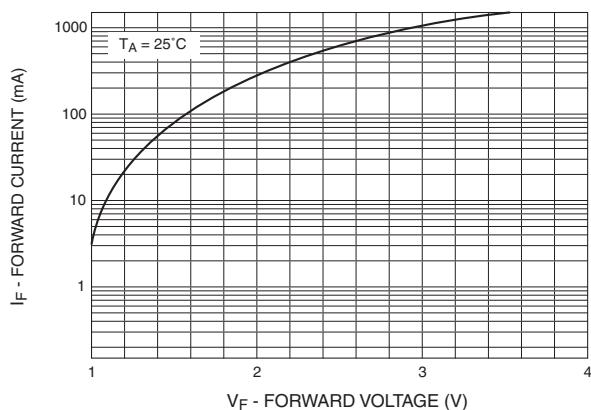
**Fig. 3 Normalized Radiant Intensity vs. Wavelength**



**Fig. 4 Radiation Diagram**



**Fig. 5 Forward Current vs. Forward Voltage**



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**QED233**

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**QED234**

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