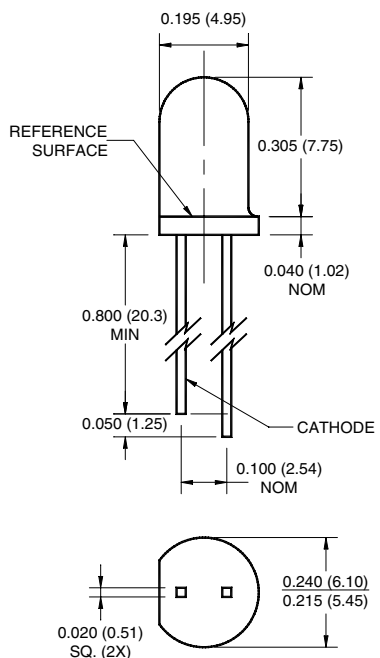


QED233

QED234

PACKAGE DIMENSIONS

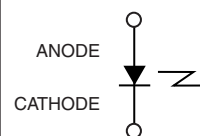


NOTES:

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) ^(2,3,4)	T_{SOL-I}	240 for 5 sec	$^\circ\text{C}$
Soldering Temperature (Flow) ^(2,3)	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 ⁽¹⁾	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; $t_p = 100 \mu\text{s}$, $T = 10 \text{ ms}$.

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	λ_{PE}	—	940	—	nm
Spectral Bandwidth	$I_F = 20 \text{ mA}$	ALL	—	50	—	nm	
Temp. Coefficient of λ_{PE}	$I_F = 100 \text{ mA}$	ALL	TC_λ	—	0.2	—	nm/K
Emission Angle	$I_F = 100 \text{ mA}$	ALL	$2\theta_{1/2}$	—	40	—	Deg.
Forward Voltage	$I_F = 100 \text{ mA}$, $t_p = 20 \text{ ms}$	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	μA
Radiant Intensity	$I_F = 100 \text{ mA}$, $t_p = 20 \text{ ms}$	QED233	I_E	10	—	50	mW/sr
		QED234		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		ALL	t_f	—	1000	—	

QED233

QED234

TYPICAL PERFORMANCE CURVES TBD

Fig. 1 Normalized Radiant Intensity vs. Forward Current

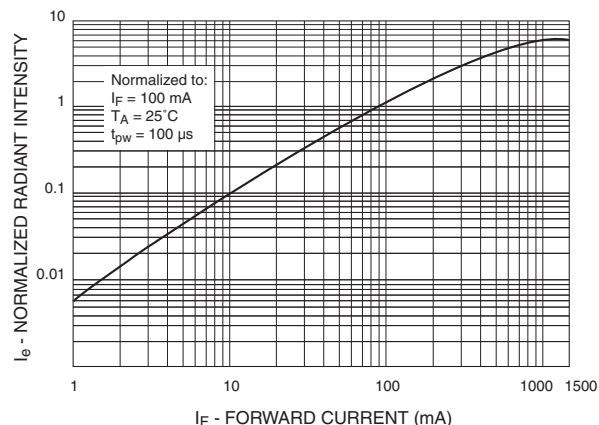


Fig. 2 Forward Voltage Vs. Ambient Temperature

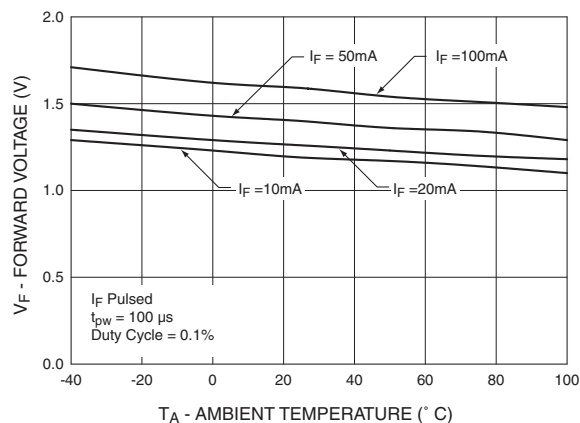


Fig. 3 Normalized Radiant Intensity vs. Wavelength

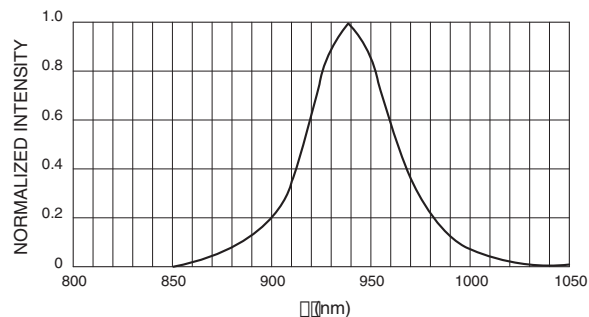


Fig. 4 Radiation Diagram

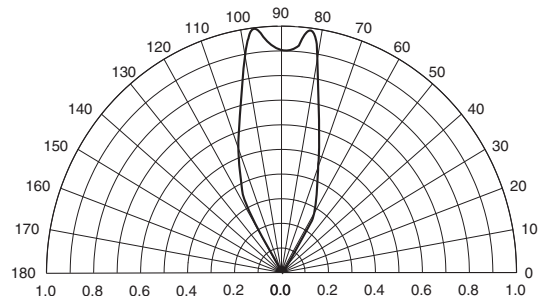
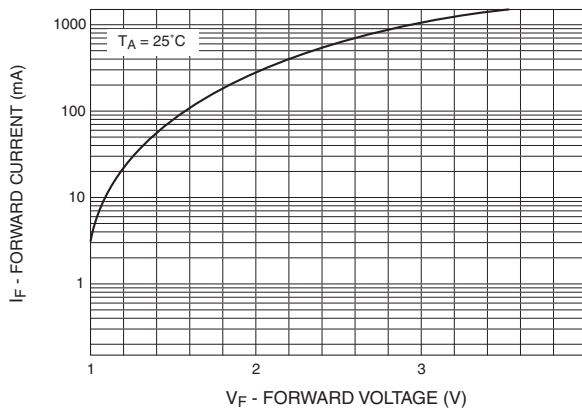


Fig. 5 Forward Current vs. Forward Voltage



QED233

QED234

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