Plastic Infrared Light Emitting Diode

QED234

T−1 3/4, 5MM LED
CASE 100CC

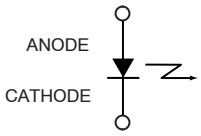
Description

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

Features

- λ = 940 nm
- Chip Material = GaAs with AlGaAs Window
- Package Type: T−1 3/4 (5 mm lens diameter)
- Matched Photosensor: QSD123/124
- Medium Emission Angle, 40°
- High Output Power
- Package Material and Color: Clear, Untinted, Plastic
- Ideal for Remote Control Applications
- This is a Pb−Free Device

CONNECTION DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
T_{OPR}	Operating Temperature	−40 to +100	°C
T_{STG}	Storage Temperature	−40 to +100	°C
T_{SOL-I}	Soldering Temperature (Iron) (Note 2) (Note 3) (Note 4)	240 for 5 s	°C
T_{SOL-F}	Soldering Temperature (Flow) (Note 2) (Note 3)	260 for 10 s	°C
I_F	Continuous Forward Current	100	mA
V_R	Reverse Voltage	5	V
P_D	Power Dissipation (Note 1)	200	mW
I_{FP}	Peak Forward Current	1.5	A

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. Derate power dissipation linearly 2.67 mW/°C above 25°C.
2. RMA flux is recommended.
3. Methanol or Isopropyl alcohols are recommended as cleaning agents.
4. Soldering iron 1/16” (1.6 mm) minimum from housing.
5. Pulse conditions; tp = 100 μs, T = 10 ms

ORDERING INFORMATION

Device	Package	Shipping†
QED234	T−1 3/4,5MM LED (Pb−Free)	250 / Bulk Bag

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

ELECTRICAL / OPTICAL CHARACTERISTICS

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
λ_{PE}	Peak Emission Wavelength	I_F = 20 mA	–	940	–	nm
–	Spectral Bandwidth	I_F = 20 mA	50	–	–	nm
TC_λ	Temp. Coefficient of λ_{PE}	I_F = 100 mA	–	0.2	–	nm/K
$2\Theta_{1/2}$	Emission Angle	I_F = 100 mA	–	40	–	°
V_F	Forward Voltage	I_F = 100 mA, tp = 20 ms		–	1.6	V
TC_v	Temp. Coefficient of V_F	I_F = 100 mA	–	−1.5	–	mV/K
I_R	Reverse Current	V_R = 5 V	–		10	ns
I_E	Radiant Intensity	I_F = 100 mA, tp = 20 ms	27		–	ns
TC_I	Temp. Coefficient of I_E	I_F = 20 mA	–	−0.6	–	ns
t_r	Rise Time	I_F = 100 mA	–	1000	–	ns
t_f	Fall Time		–	1000	–	ns

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

TYPICAL CHARACTERISTICS

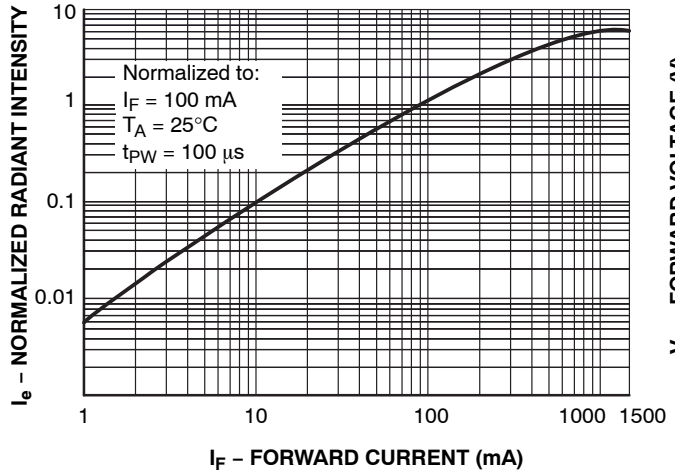


Figure 1. Normalized Radiant Intensity vs. Forward Current

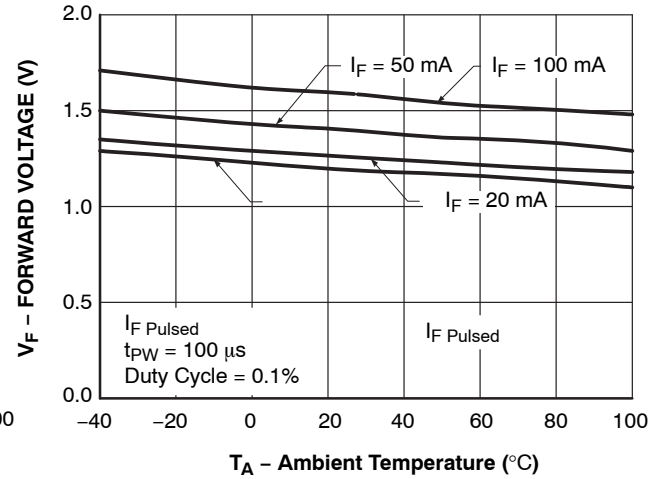


Figure 2. Forward Voltage vs. Ambient Temperature

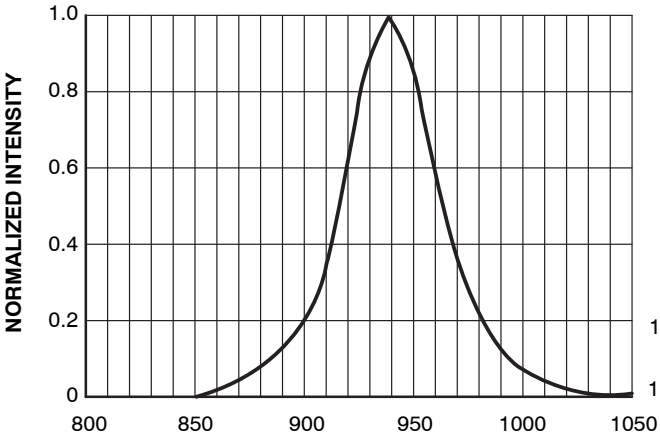


Figure 3. Normalized Radiant Intensity vs. Wavelength

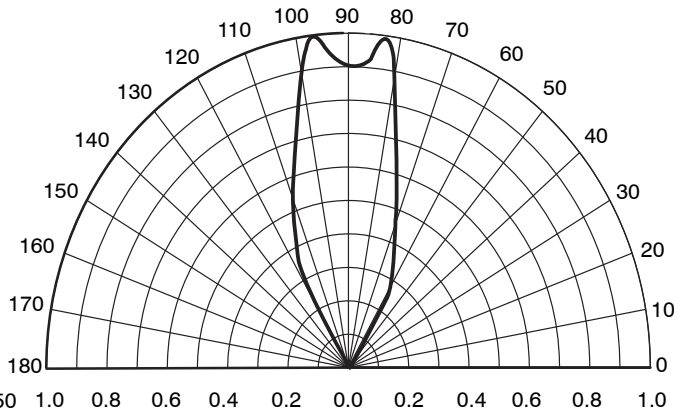


Figure 4. Radiant Diagram

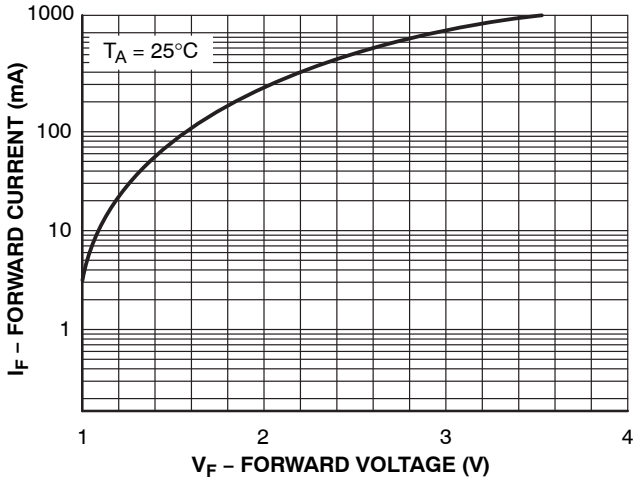


Figure 5. Forward Current vs. Forward Voltage

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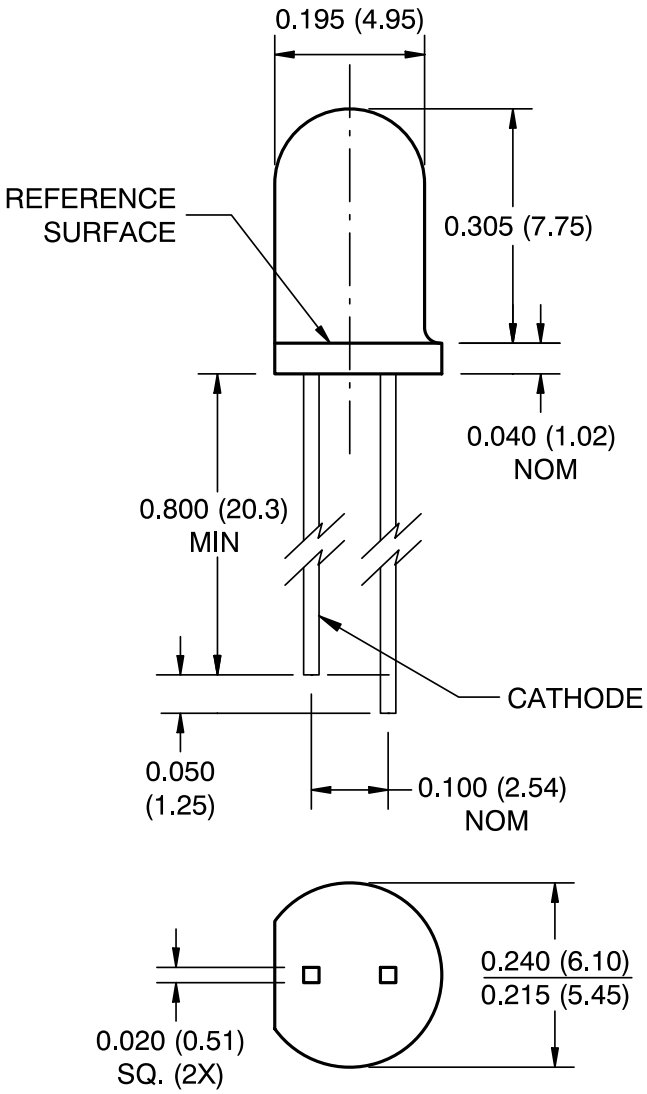

Notes:

1. Dimensions for all drawings are in inches (mm).
2. Tolerance of ±0.010 (0.25) on all non-nominal dimensions unless otherwise specified.

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DESCRIPTION:	**T–1 3/4, 5MM LED**		**PAGE 1 OF 1**

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