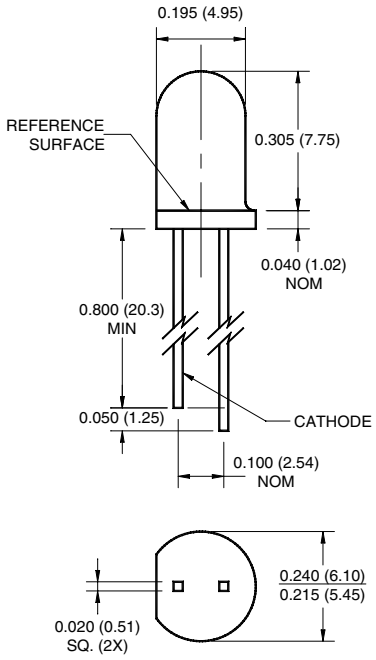
FAIRCHILD
SEMICONDUCTOR®

PLASTIC INFRARED LIGHT EMITTING DIODE

QED633 QED634

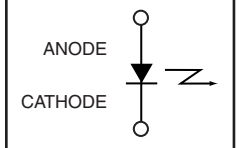
PACKAGE DIMENSIONS



NOTES:

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

SCHEMATIC



DESCRIPTION

The QED634 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 (5mm lens diameter)
- Matched Photosensor: QSD122/123/124
- Wide Emission Angle, 55°
- High Output Power
- Package material and color: Clear, untinted, plastic
- Ideal for remote control applications

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Rating	Unit
Operating Temperature	T_{OPR}	-40 to +100	°C
Storage Temperature	T_{STG}	-40 to +100	°C
Soldering Temperature (Iron)(2,3,4)	T_{SOL-I}	240 for 5 sec	°C
Soldering Temperature (Flow)(2,3)	T_{SOL-F}	260 for 10 sec	°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/°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 µs, T = 10 ms.

ELECTRICAL / OPTICAL CHARACTERISTICS (T_A =25°C)

PARAMETER	TEST CONDITIONS	DEVICE	SYMBOL	MIN	TYP	MAX	UNITS
Peak Emission Wavelength	I_F = 20 mA	ALL	λ_{PE}	—	940	—	nm
Spectral Bandwidth	I_F = 20 mA	ALL	—	50	—	nm	
Temp. Coefficient of λ_{PE}	I_F = 100 mA	ALL	TC_λ	—	0.2	—	nm/K
Emission Angle	I_F = 100 mA	ALL	$2\Theta_{1/2}$	—	55	—	Deg.
Forward Voltage	I_F = 100 mA, tp = 20 ms	ALL	V_F	—	—	1.6	V
Temp. Coefficient of V_F	I_F = 100 mA	ALL	TC_V	—	-1.5	—	mV/K
Reverse Current	V_R = 5 V	ALL	I_R	—	—	10	µA
Radiant Intensity	I_F = 100 mA, tp = 20 ms	QED633	I_E	15	25	—	mW/sr
		QED634		20	25	—	
Temp. Coefficient of I_E	I_F = 20 mA	ALL	TC_I	—	-0.6	—	%/K
Rise Time	I_F = 100 mA	ALL	t_r	—	1000	—	ns
Fall Time		ALL	t_f	—	1000	—	

TYPICAL PERFORMANCE CURVES TBD

Fig. 1 Normalized Radiant Intensity vs. Forward Current

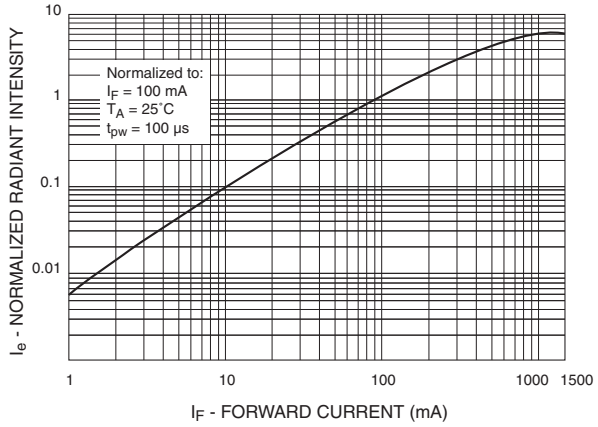


Fig. 2 Forward Voltage Vs. Ambient Temperature

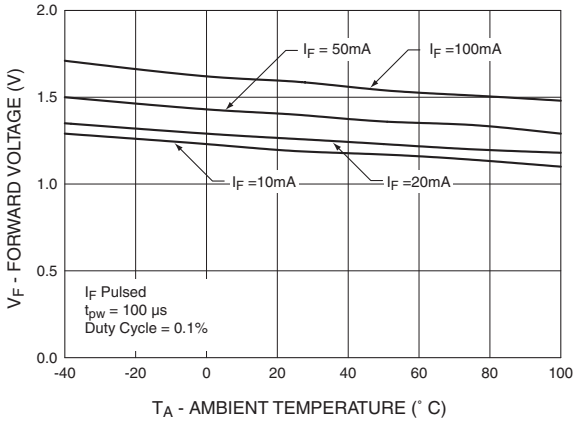


Fig. 3 Normalized Radiant Intensity vs. Wavelength

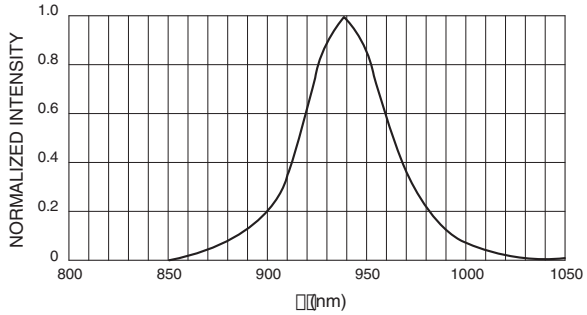


Fig. 4 Radiation Diagram

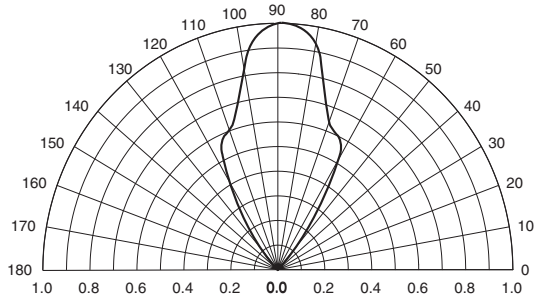
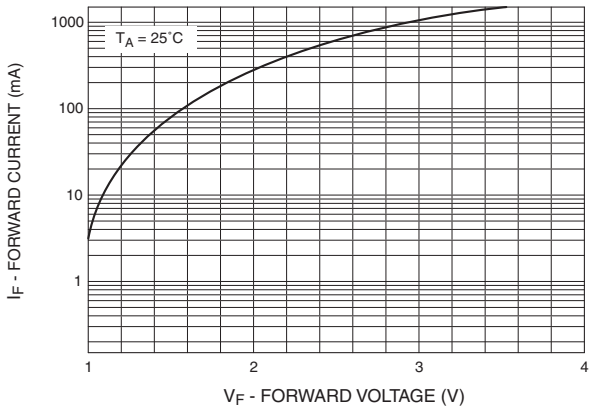


Fig. 5 Forward Current vs. Forward Voltage



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