Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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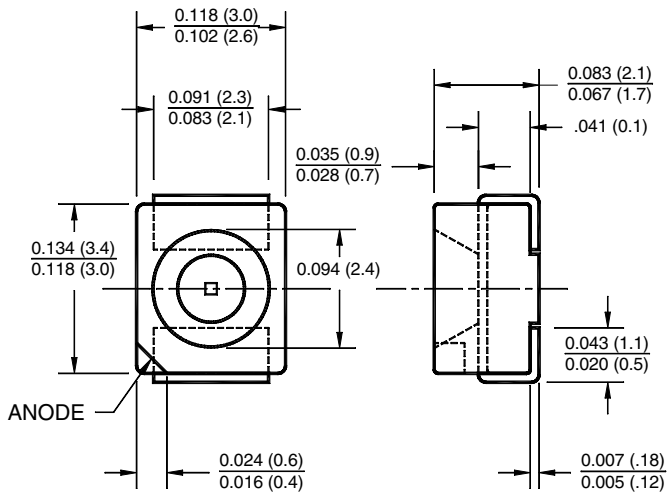
FAIRCHILD
SEMICONDUCTOR®

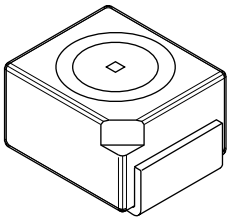
SURFACE MOUNT INFRARED LIGHT EMITTING DIODE

QEB441

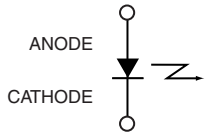
PACKAGE DIMENSIONS



NOTES:
1. Dimensions are in inches (millimeters)
2. Tolerance of ± .010 (.25) on all non nominal dimensions unless otherwise specified.



SCHEMATIC



DESCRIPTION

The QEB441 is a 730 nm AlGaAs LED encapsulated in a PLCC-2 package.

FEATURES

- λ= 730 nm
- Chip Material: AlGaAs double heterojunction
- Surface Mount PLCC-2 package
- Wide Emission Angle, 120°
- High Power
- Tape and Reel option: .TR

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

Parameter	Symbol	Rating	Unit
Operating Temperature	T_{OPR}	-55 to +100	°C
Storage Temperature	T_{STG}	-55 to +100	°C
Soldering Temperature (Flow)(2,3)	T_{SOL}	260 for 10 sec	°C
Continuous Forward Current	I_F	100	mA
Peak Forward Current(4)	I_{FP}	1	A
Reverse Voltage	V_R	5	V
Power Dissipation(1)	P_D	180	mW

NOTES

1. Derate power dissipation linearly TBD mW/°C above 25°C.
2. RMA flux is recommended.
3. Methanol or isopropyl alcohols are recommended as cleaning agents.
4. Pulse conditions: tp = 100 μs, T = 10 ms.

ELECTRICAL / OPTICAL CHARACTERISTICS (T_A =25°C)

PARAMETER	TEST CONDITIONS	SYMBOL	MIN.	TYP.	MAX.	UNITS
Forward Voltage	I_F = 10 mA, tp = 20 ms	V_F	—	—	2.0	V
	I_F = 100 mA, tp = 20 ms		—	2.1	—	
	I_F = 500 mA, tp = 1 ms		—	3.9	4.5	
	I_F = 1A, tp = 100 μs		—	5.5	—	
Emission Angle	I_F = 100 mA	$2\Theta_{1/2}$	—	120	—	%
Reverse Leakage Current	V_R = 5 V	I_R	—	—	10	µA
Peak Emission Wavelength	I_F = 100 mA	λ_P	710	730	750	nm
Spectral Bandwidth	I_F = 100 mA	$\Delta\lambda$	—	25	—	nm
Radiant Intensity	I_F = 100 mA, tp = 20 ms	I_e	2	3	6	mW/sr
	I_F = 500 mA, tp = 1 ms		9	14	28	
	I_F = 1 A, tp = 100 μs		16	24	48	
Response Time	I_F = 10 mA, tp = 100 μs, T = 10 ms	t_r, t_f	—	—	100	ns

SURFACE MOUNT INFRARED LIGHT EMITTING DIODE

QEB441

Fig.1 Relative Radiant Intensity vs. Input Current

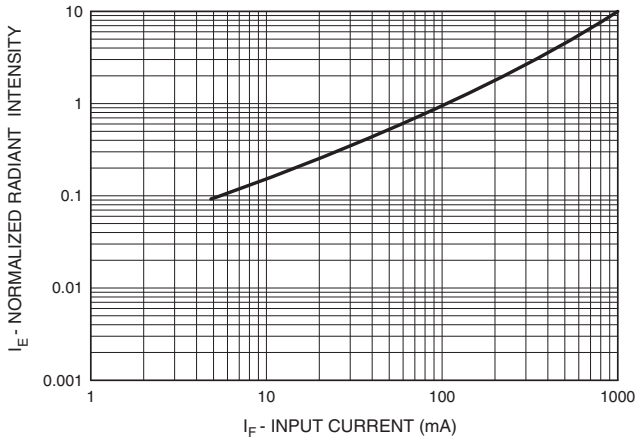


Fig.2 Forward Current vs. Forward Voltage

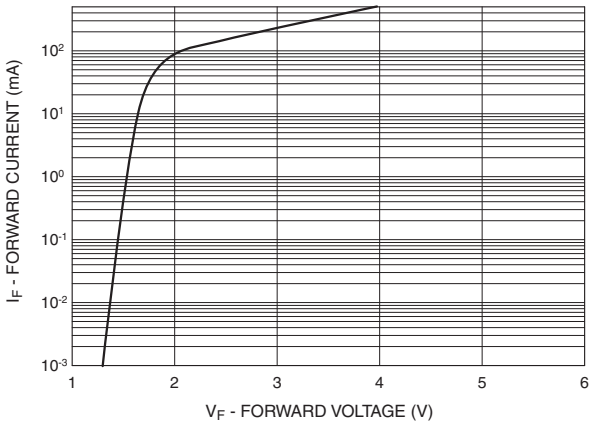


Fig.3 Radiation Diagram

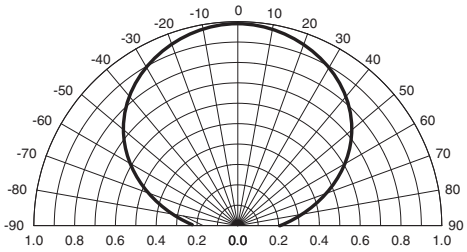


Fig.4 Forward Voltage vs. Ambient Temperature

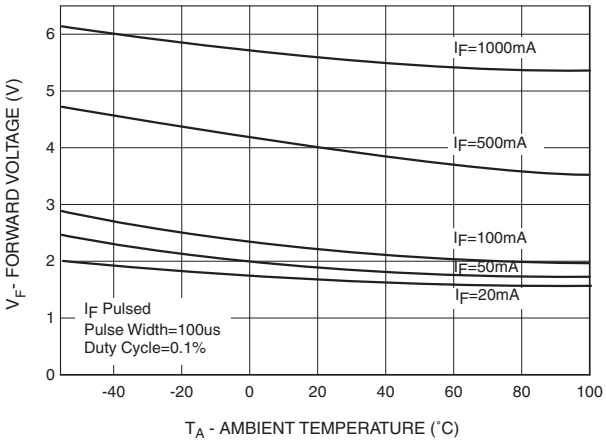
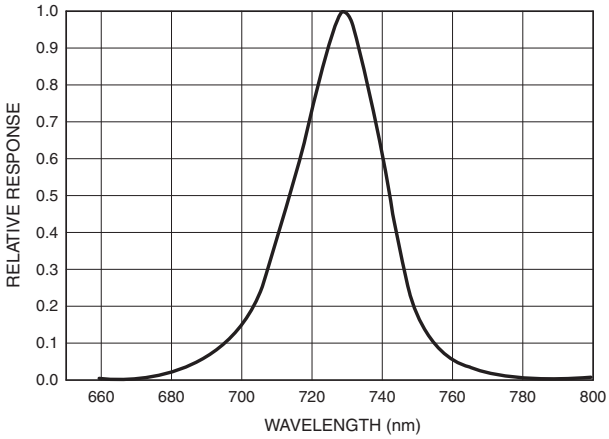


Fig.5 Spectral Response



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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.