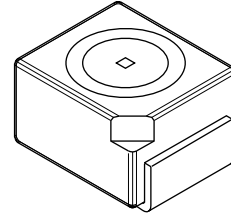
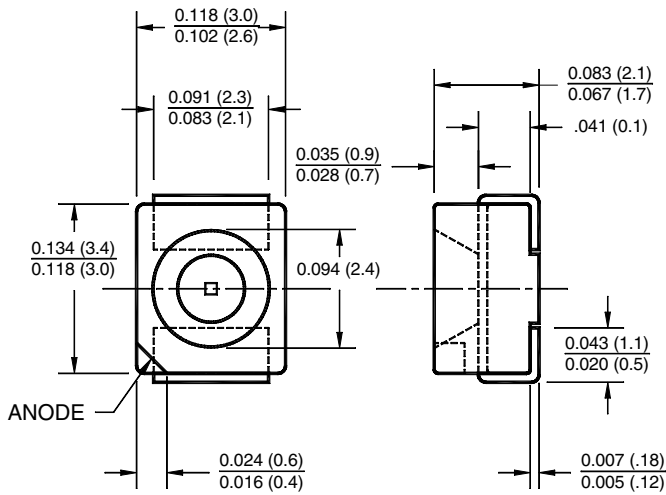
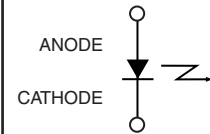


**PACKAGE DIMENSIONS**



**SCHEMATIC**



**NOTES:**

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

**DESCRIPTION**

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

**FEATURES**

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

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

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

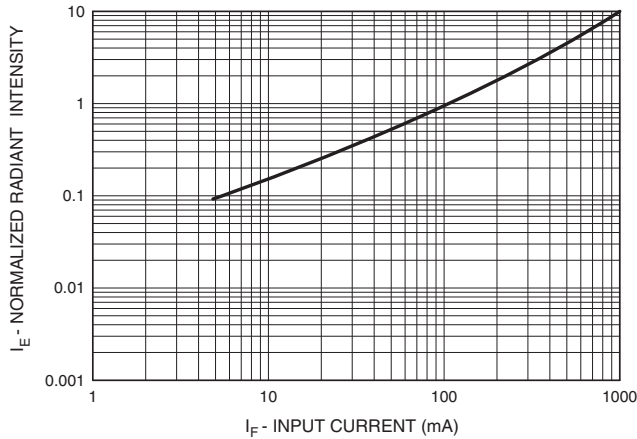
**NOTES**

1. Derate power dissipation linearly TBD mW/ $^\circ\text{C}$  above  $25^\circ\text{C}$ .
2. RMA flux is recommended.
3. Methanol or isopropyl alcohols are recommended as cleaning agents.
4. Pulse conditions:  $t_p = 100 \mu\text{s}$ ,  $T = 10 \text{ ms}$ .

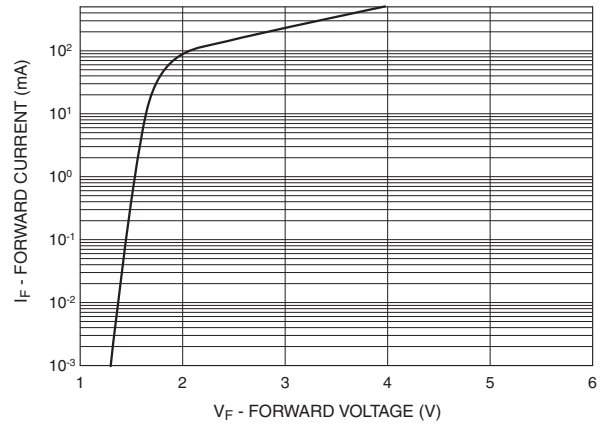
**ELECTRICAL / OPTICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$ )

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

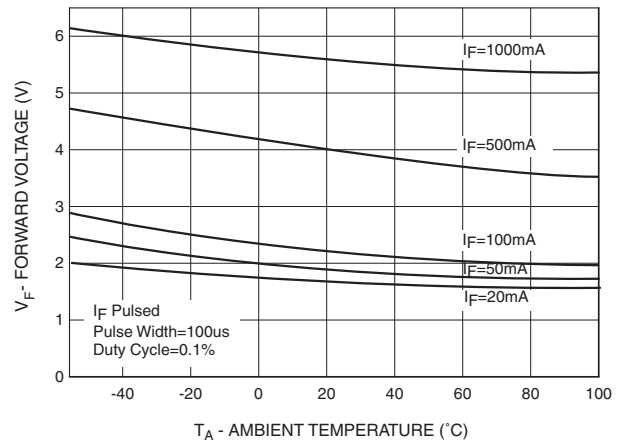
**Fig.1 Relative Radiant Intensity vs. Input Current**



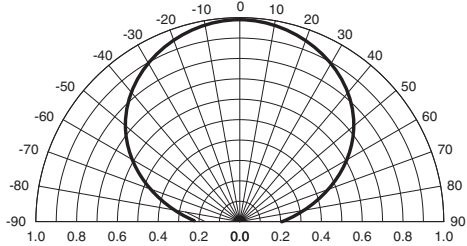
**Fig.2 Forward Current vs. Forward Voltage**



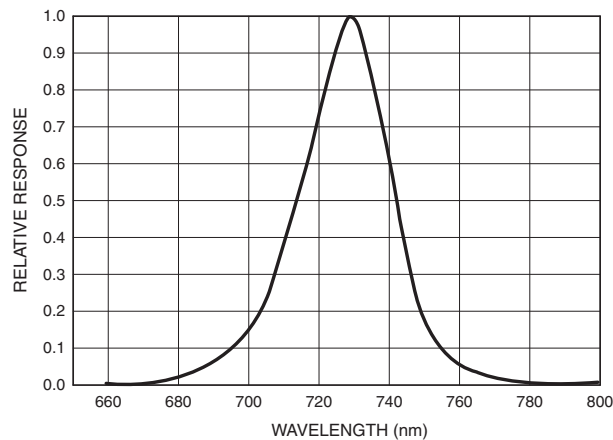
**Fig.4 Forward Voltage vs. Ambient Temperature**



**Fig.3 Radiation Diagram**



**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.