

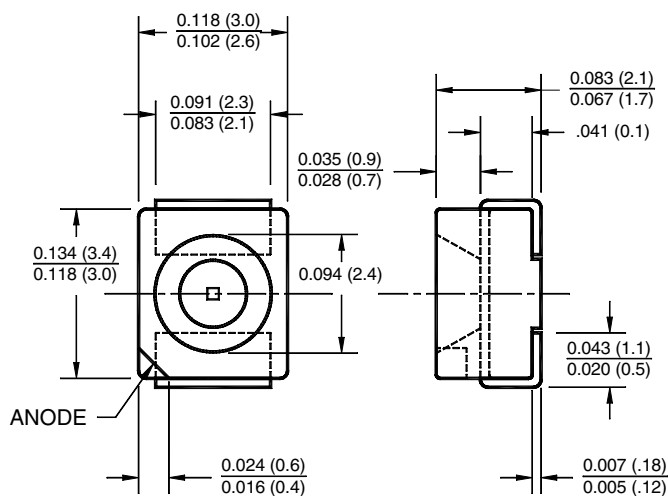
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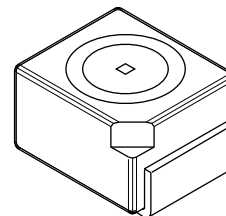
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**PACKAGE DIMENSIONS**

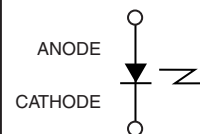


**NOTES:**

1. Dimensions are in inches (millimeters)
2. Tolerance of  $\pm .010$  (.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**

- $\lambda = 730$  nm
- Chip Material: AlGaAs double heterojunction
- Surface Mount PLCC-2 package
- Wide Emission Angle,  $120^\circ$
- 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

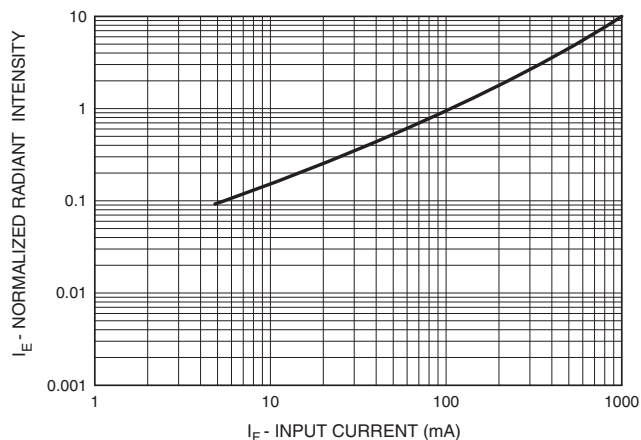
**NOTES**

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:  $t_p = 100 \mu\text{s}$ ,  $T = 10 \text{ ms}$ .

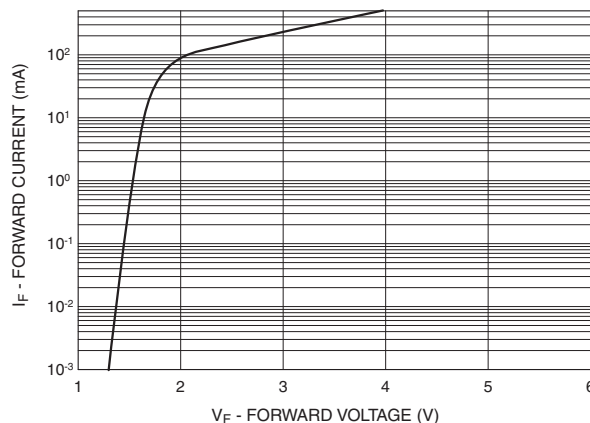
**ELECTRICAL / OPTICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$ )

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

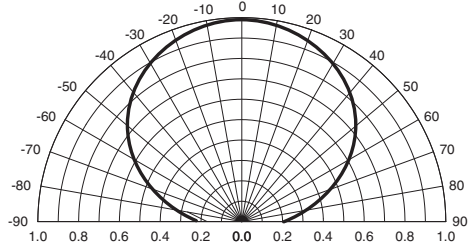
**Fig.1 Relative Radiant Intensity vs. Input Current**



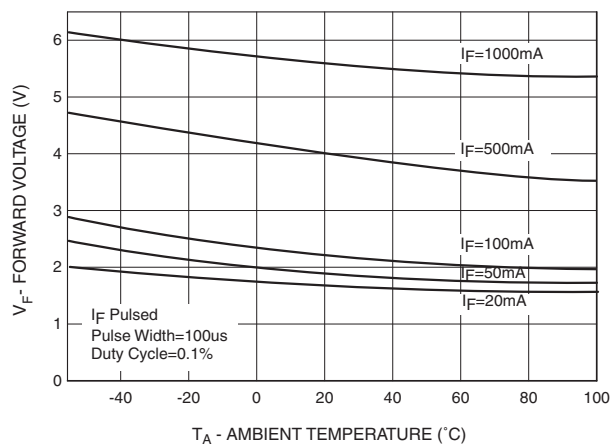
**Fig.2 Forward Current vs. Forward Voltage**



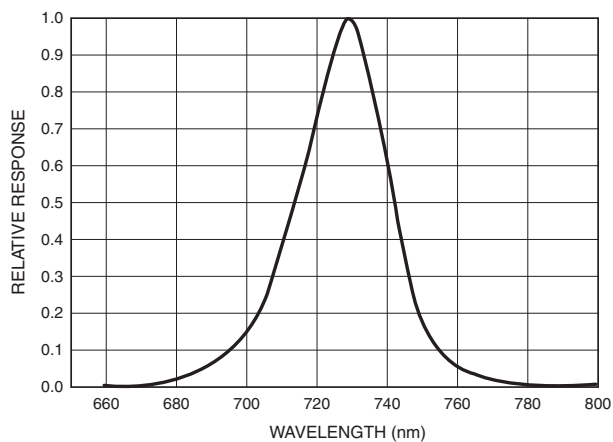
**Fig.3 Radiation Diagram**



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



**Fig.5 Spectral Response**



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