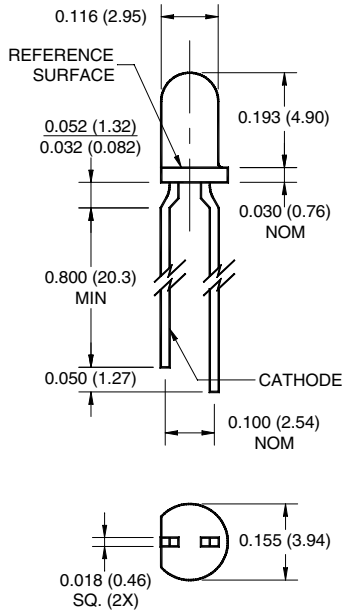


**QEC121**

**QEC122**

**QEC123**

**PACKAGE DIMENSIONS**

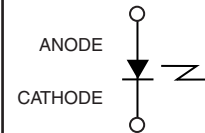


**NOTES:**

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



**SCHEMATIC**



**DESCRIPTION**

The QEC12X is an 880 nm AlGaAs LED encapsulated in a clear purple tinted, plastic T-1 package.

**FEATURES**

- $\lambda = 880 \text{ nm}$
- Chip material = AlGaAs
- Package type: T-1 (3mm lens diameter)
- Matched Photosensor: QSC112/113/114
- Narrow Emission Angle,  $16^\circ$
- High Output Power
- Package material and color: Clear, purple tinted, plastic

**QEC121**

**QEC122**

**QEC123**

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise specified)			
Parameter	Symbol	Rating	Unit
Operating Temperature	$T_{\text{OPR}}$	-40 to +100	$^\circ\text{C}$
Storage Temperature	$T_{\text{STG}}$	-40 to +100	$^\circ\text{C}$
Soldering Temperature (Iron) <sup>(2,3,4)</sup>	$T_{\text{SOL-I}}$	240 for 5 sec	$^\circ\text{C}$
Soldering Temperature (Flow) <sup>(2,3)</sup>	$T_{\text{SOL-F}}$	260 for 10 sec	$^\circ\text{C}$
Continuous Forward Current	$I_F$	50	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation <sup>(1)</sup>	$P_D$	100	mW

**NOTES**

1. Derate power dissipation linearly 1.33 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. Soldering iron 1/16" (1.6mm) minimum from housing.

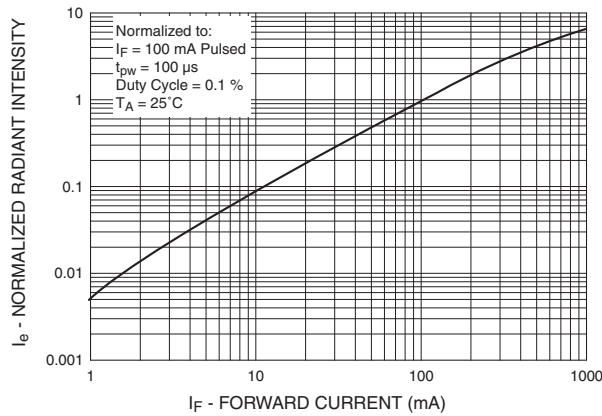
<b>ELECTRICAL / OPTICAL CHARACTERISTICS</b> ( $T_A = 25^\circ\text{C}$ )						
PARAMETER	TEST CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
Peak Emission Wavelength	$I_F = 100 \text{ mA}$	$\lambda_{\text{PE}}$	—	880	—	nm
Emission Angle	$I_F = 100 \text{ mA}$	$2\theta_{1/2}$	—	16	—	Deg.
Forward Voltage	$I_F = 100 \text{ mA}$ , $t_p = 20 \text{ ms}$	$V_F$	—	—	1.7	V
Reverse Current	$V_R = 5 \text{ V}$	$I_R$	—	—	10	$\mu\text{A}$
Radiant IntensityQEC121	$I_F = 100 \text{ mA}$ , $t_p = 20 \text{ ms}$	$I_E$	14	—	—	mW/sr
Radiant IntensityQEC122	$I_F = 100 \text{ mA}$ , $t_p = 20 \text{ ms}$	$I_E$	27	—	94	mW/sr
Radiant IntensityQEC123	$I_F = 100 \text{ mA}$ , $t_p = 20 \text{ ms}$	$I_E$	39	—	—	mW/sr
Rise Time	$I_F = 100 \text{ mA}$	$t_r$	—	800	—	ns
Fall Time		$t_f$	—	800	—	ns

**QEC121**

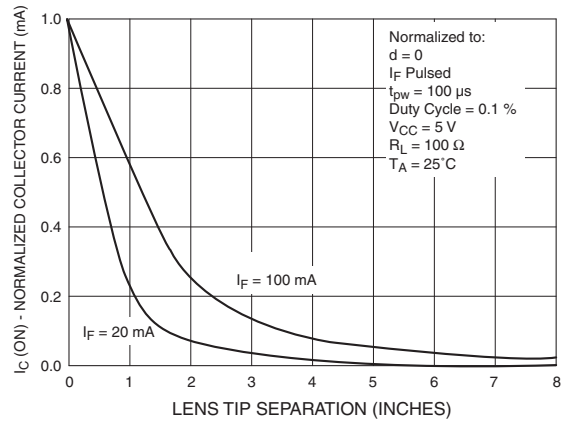
**QEC122**

**QEC123**

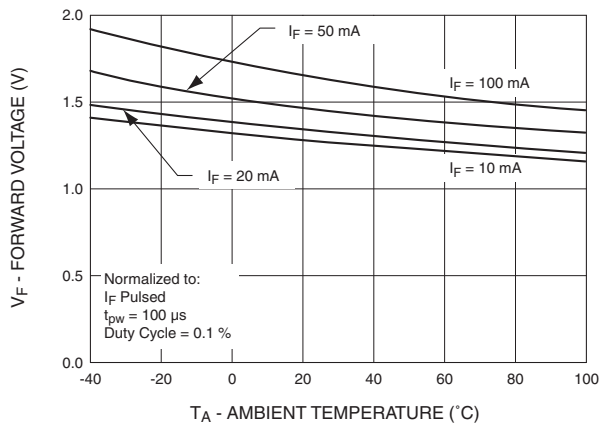
**Fig.1 Normalized Radiant Intensity vs. Forward Current**



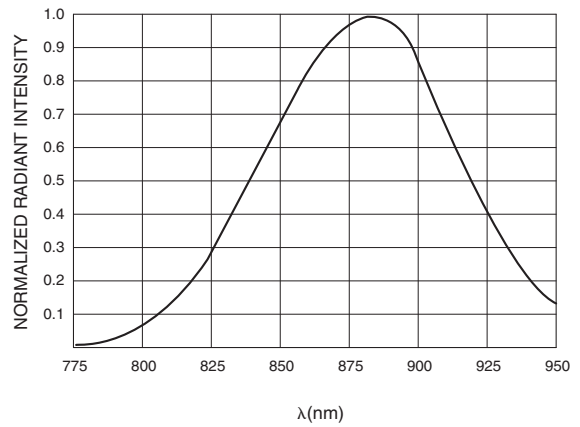
**Fig.2 Coupling Characteristics of QEC12X And QSC11X**



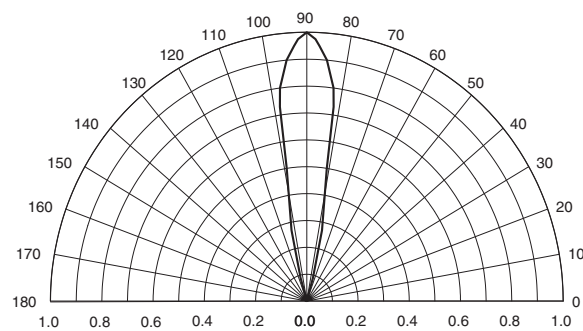
**Fig.3 Forward Voltage vs. Ambient Temperature**



**Fig. 4 Normalized Radiant Intensity vs. Wavelength**



**Fig. 5 Radiation Diagram**



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**QEC121**

**QEC122**

**QEC123**

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