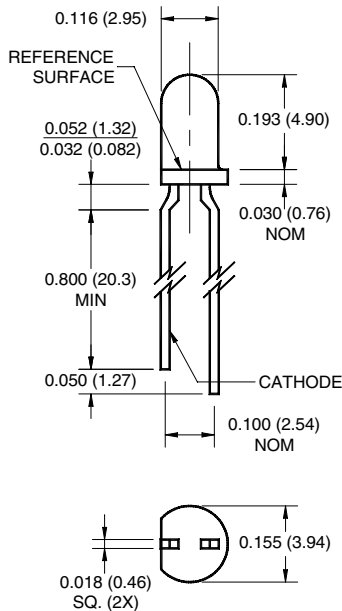


QEC121

QEC122

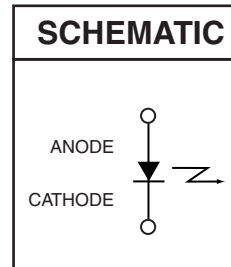
QEC123

PACKAGE DIMENSIONS



NOTES:

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



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°
- High Output Power
- Package material and color: Clear, purple tinted, plastic

QEC121

QEC122

QEC123

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

ELECTRICAL / OPTICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)						
PARAMETER	TEST CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
Peak Emission Wavelength	$I_F = 100 \text{ mA}$	λ_{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	μA
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

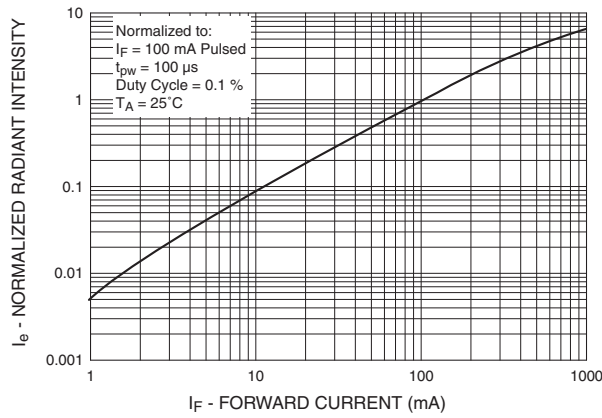


Fig.2 Coupling Characteristics of QEC12X And QSC11X

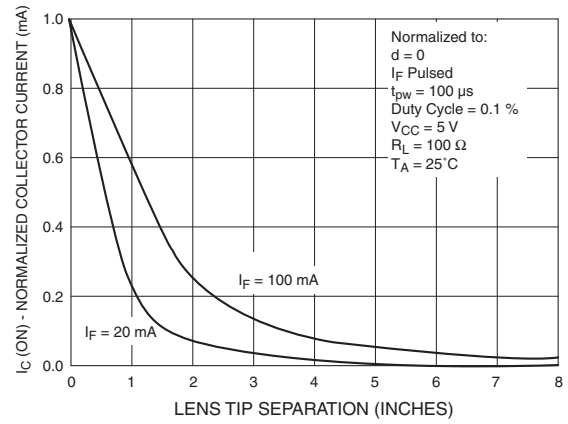


Fig.3 Forward Voltage vs. Ambient Temperature

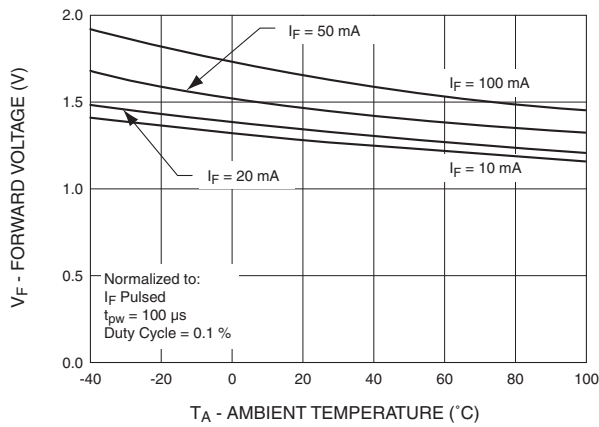


Fig. 4 Normalized Radiant Intensity vs. Wavelength

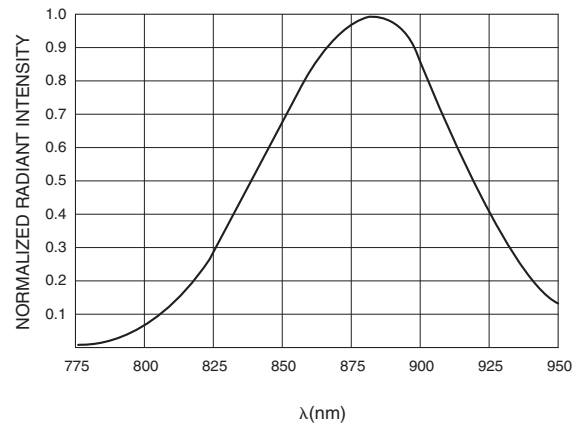
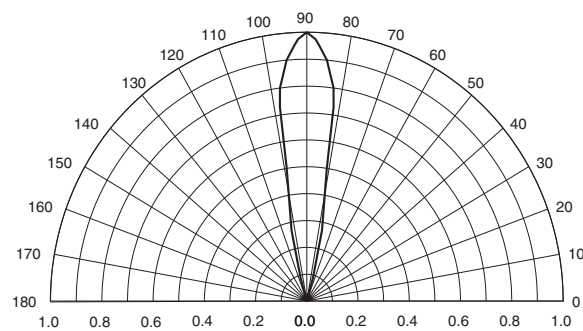


Fig. 5 Radiation Diagram



QEC121

QEC122

QEC123

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