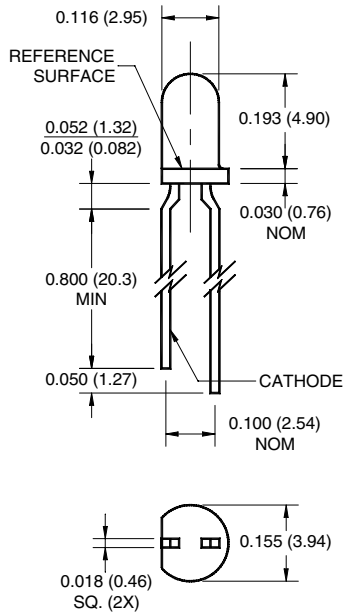


QEC112

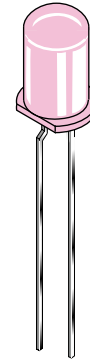
QEC113

PACKAGE DIMENSIONS

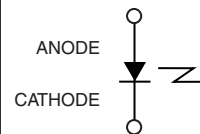


NOTES:

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



SCHEMATIC



DESCRIPTION

The QEC11X is an 940 nm GaAs LED encapsulated in a clear peach tinted, plastic T-1 package.

FEATURES

- $\lambda = 940 \text{ nm}$
- Chip material = GaAs
- Package type: T-1 (3mm)
- Matched Photosensor: QSC112
- Narrow Emission Angle, 24°
- High Output Power
- Package material and color: Clear, peach tinted plastic

QEC112

QEC113

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

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}	—	940	—	nm
Emission Angle	$I_F = 100 \text{ mA}$	$2\theta_{1/2}$	—	24	—	Deg.
Forward Voltage	$I_F = 100 \text{ mA}$, $t_p = 20 \text{ ms}$	V_F	—	—	1.5	V
Reverse Current	$V_R = 5 \text{ V}$	I_R	—	—	10	μA
Radiant Intensity QEC112	$I_F = 100 \text{ mA}$, $t_p = 20 \text{ ms}$	I_E	6	—	30	mW/sr
Radiant Intensity QEC113	$I_F = 100 \text{ mA}$, $t_p = 20 \text{ ms}$	I_E	14	—	—	mW/sr
Rise Time	$I_F = 100 \text{ mA}$	t_r	—	1000	—	ns
Fall Time		t_f	—	1000	—	ns

QEC112

QEC113

TYPICAL PERFORMANCE CURVES

Fig.1 Normalized Radiant Intensity vs. Forward Current

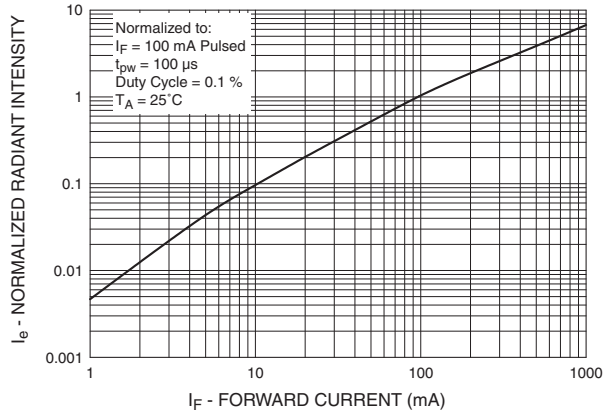


Fig.2 Coupling Characteristics of QEC11X And QSC11X

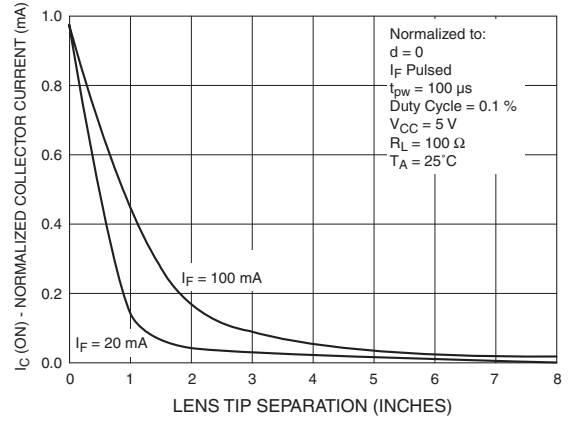


Fig.3 Forward Voltage vs. Ambient Temperature

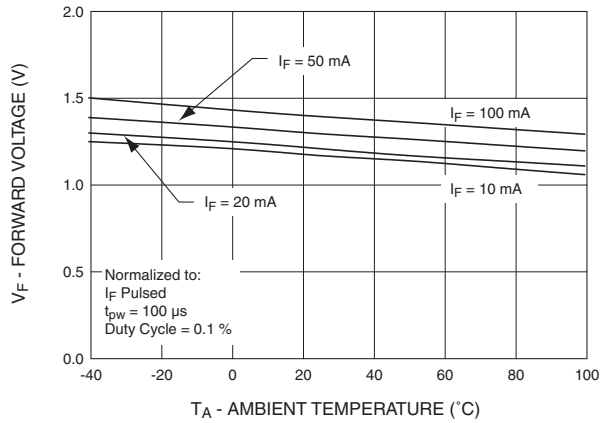


Fig. 4 Normalized Intensity vs. Wavelength

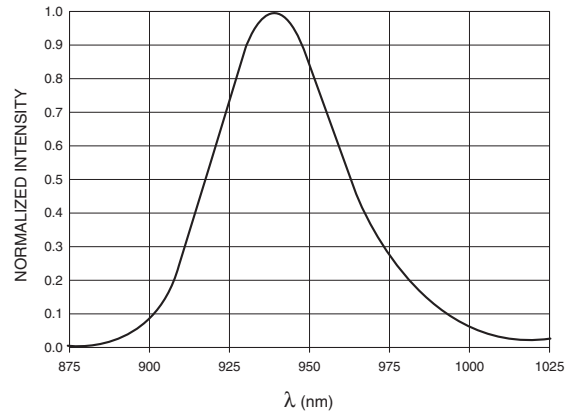
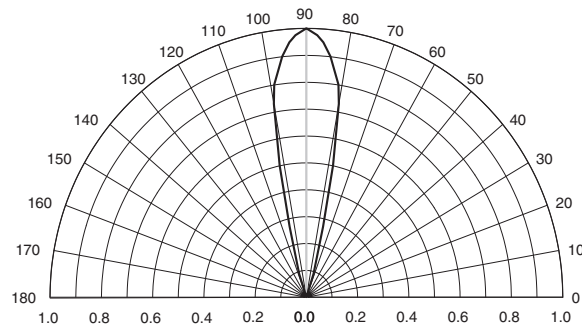


Fig. 5 Radiation Diagram



QEC112

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