

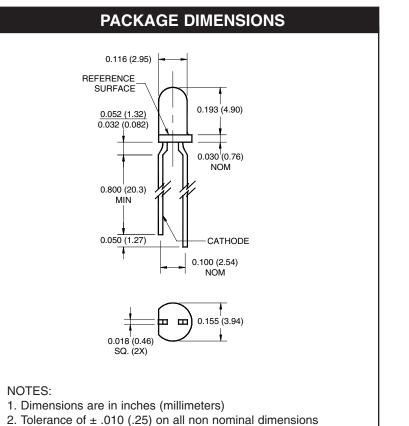
PLASTIC INFRARED LIGHT EMITTING DIODE

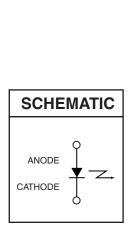
SEMICONDUCTOR®

QEC121

QEC122

QEC123





 Tolerance of ± .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

- Chip material = AlGaAs
- Package type: T-1 (3mm lens diameter)
- Matched Photosensor: QSC112/113/114
- \bullet Narrow Emission Angle, 16°
- High Output Power
- Package material and color: Clear, purple tinted, plastic

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ABSOLUTE MAXIMUM RATINGS ($T_A = 25^{\circ}C$ unless otherwise specified)							
Parameter	Symbol	Rating	Unit				
Operating Temperature	T _{OPR}	-40 to +100	٥C				
Storage Temperature	T _{STG}	-40 to +100	°C				
Soldering Temperature (Iron) ^(2,3,4)	T _{SOL-I}	240 for 5 sec	°C				
Soldering Temperature (Flow) ^(2,3)	T _{SOL-F}	260 for 10 sec	°C				
Continuous Forward Current	I _F	50	mA				
Reverse Voltage	V _R	5	V				
Power Dissipation ⁽¹⁾	P _D	100	mW				

NOTES

QEC121

1. Derate power dissipation linearly 1.33 mW/°C above 25°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 $(T_A = 25^{\circ}C)$								
PARAMETER	TEST CONDITIONS	SYMBOL	MIN	ТҮР	МАХ	UNITS		
Peak Emission Wavelength	I _F = 100 mA	λ_{PE}	—	880	—	nm		
Emission Angle	I _F = 100 mA	201/ ₂	—	16	—	Deg.		
Forward Voltage	$I_{\rm F}$ = 100 mA, tp = 20 ms	V _F		_	1.7	V		
Reverse Current	$V_{R} = 5 V$	I _R	—	—	10	μA		
Radiant IntensityQEC121	$I_{\rm F}$ = 100 mA, tp = 20 ms	Ι _Ε	14	—	_	mW/sr		
Radiant IntensityQEC122	$I_{\rm F}$ = 100 mA, tp = 20 ms	Ι _Ε	27	_	94	mW/sr		
Radiant IntensityQEC123	$I_F = 100 \text{ mA}, \text{ tp} = 20 \text{ ms}$	Ι _Ε	39	—	—	mW/sr		
Rise Time	L = 100 mA	t _r	—	800	_	ns		
Fall Time	I _F = 100 mA	t _f	—	800	—	ns		



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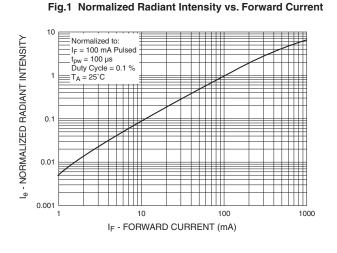


Fig.3 Forward Voltage vs. Ambient Temperature

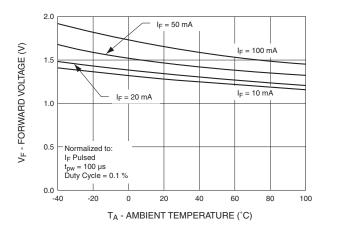


Fig.2 Coupling Characteristics of QEC12X And QSC11X

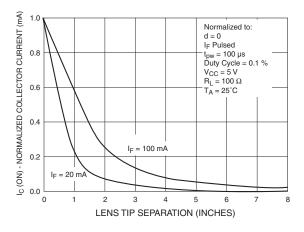


Fig. 4 Normalized Radiant Intensity vs. Wavelength

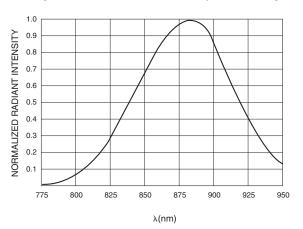
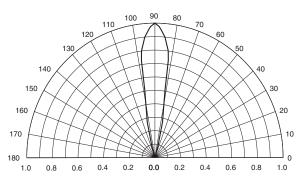


Fig. 5 Radiation Diagram





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