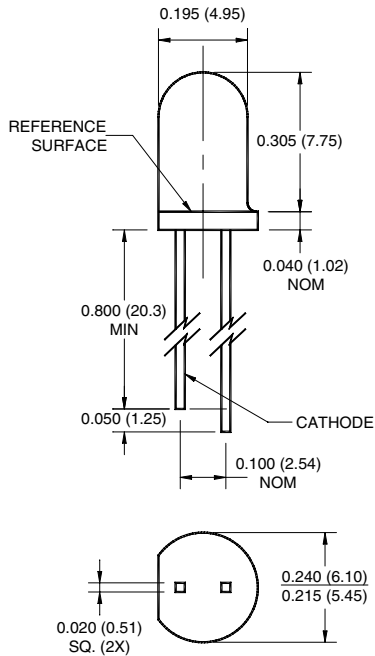


### PACKAGE DIMENSIONS

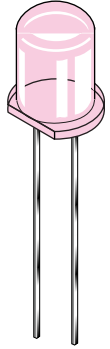


**NOTES:**

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

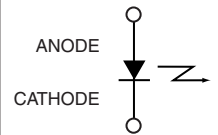
### FEATURES

- $\lambda = 880$  nm
- Chip material = AlGaAs
- Package type: T-1 3/4 (5mm lens diameter)
- Matched Photosensor: QSD122/123/124
- Narrow Emission Angle, 18°
- High Output Power
- Package material and color: Clear, peach tinted, plastic



1. Derate power dissipation linearly 2.67 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.

### SCHEMATIC



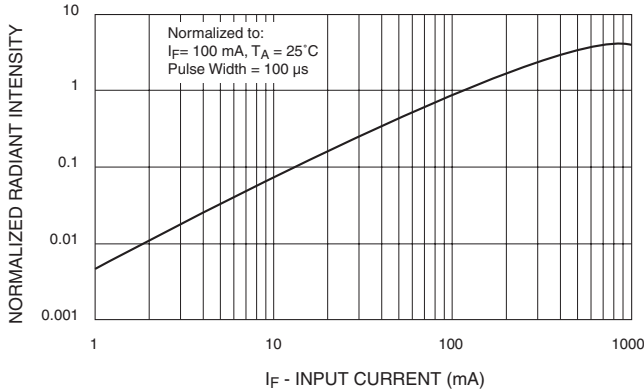
### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Operating Temperature	$T_{OPR}$	-40 to +100	°C
Storage Temperature	$T_{STG}$	-40 to +100	°C
Soldering Temperature (Iron) <sup>(2,3,4)</sup>	$T_{SOL-I}$	240 for 5 sec	°C
Soldering Temperature (Flow) <sup>(2,3)</sup>	$T_{SOL-F}$	260 for 10 sec	°C
Continuous Forward Current	$I_F$	100	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation <sup>(1)</sup>	$P_D$	200	mW

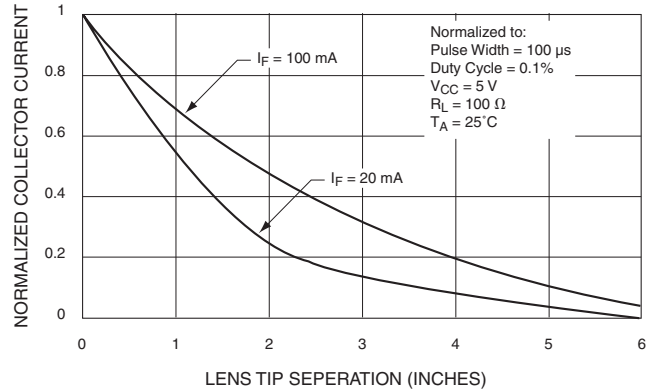
### ELECTRICAL / OPTICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ )

PARAMETER	TEST CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
Peak Emission Wavelength	$I_F = 20$ mA	$\lambda_{PE}$	—	880	—	nm
Emission Angle	$I_F = 100$ mA	$\Theta$	—	$\pm 9$	—	Deg.
Forward Voltage	$I_F = 100$ mA, $t_p = 20$ ms	$V_F$	—	—	1.7	V
Reverse Current	$V_R = 5$ V	$I_R$	—	—	10	$\mu\text{A}$
Radiant Intensity QED121	$I_F = 100$ mA, $t_p = 20$ ms	$I_E$	16	—	40	mW/sr
Radiant Intensity QED122	$I_F = 100$ mA, $t_p = 20$ ms	$I_E$	32	—	100	mW/sr
Radiant Intensity QED123	$I_F = 100$ mA, $t_p = 20$ ms	$I_E$	50	—	—	mW/sr
Rise Time	$I_F = 100$ mA	$t_r$	—	800	—	ns
Fall Time		$t_f$	—	800	—	ns

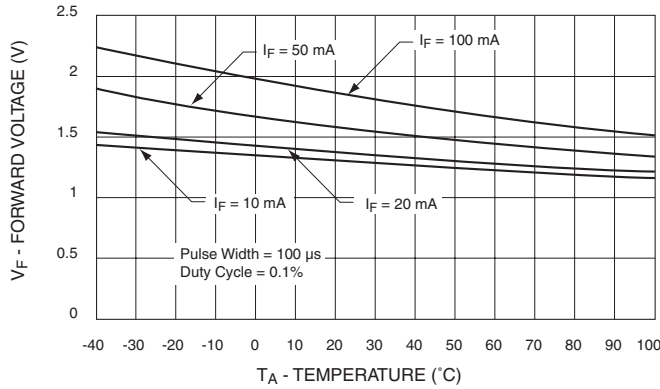
**TYPICAL PERFORMANCE CURVES**



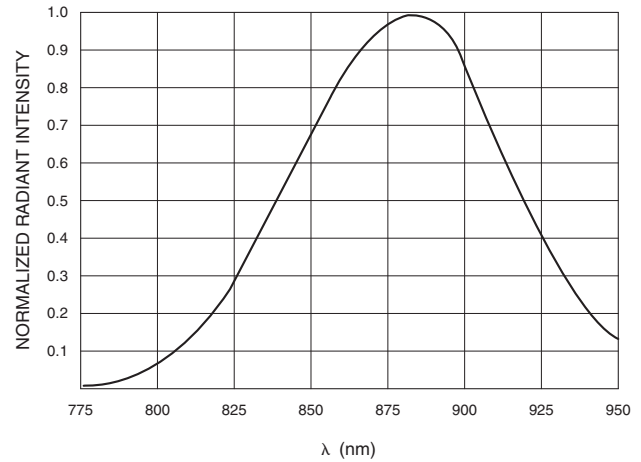
**Fig. 1 Normalized Radiant Intensity vs. Input Current**



**Fig. 2 Coupling Characteristics of QED12X and QSD12X**

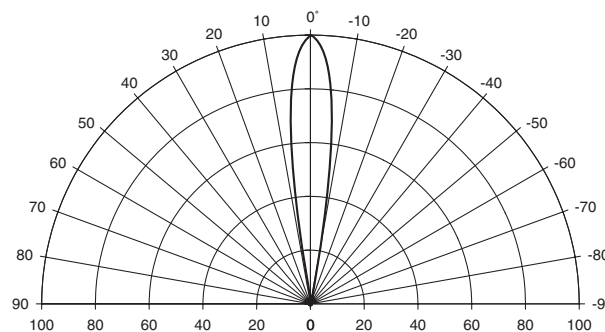


**Fig. 3 Forward Voltage vs. Temperature**



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

**Fig. 5 Radiation Pattern**



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