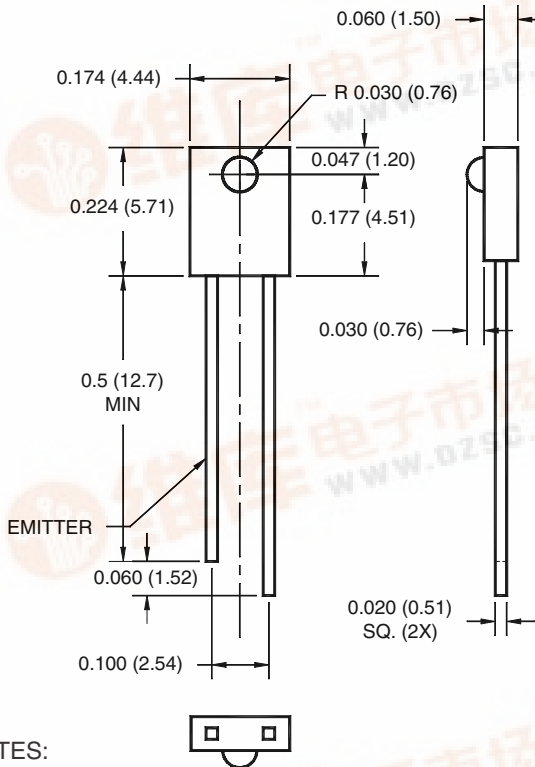
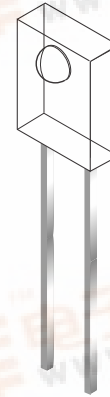


PACKAGE DIMENSIONS

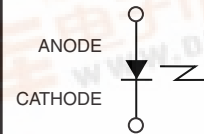


NOTES:

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



SCHEMATIC



DESCRIPTION

The QEE213 is a 940nm GaAs LED encapsulated in a medium angle, thin plastic sidelooker package.

FEATURES

- Wavelength = 940 nm, GaAs
- Package Type: Sidelooker
- Medium Beam Angle, 50°
- Clear Plastic Package
- Matched Photosensors: QSE213 and QSE243



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	100	mA
Reverse Voltage	V_R	5	V
Peak Forward Current ⁽⁵⁾	I_{FP}	1	A
Power Dissipation ⁽¹⁾	P_D	100	mW

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_P	—	940	—	nm
Emission Angle	$I_F = 100 \text{ mA}$	U	—	± 25	—	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	$I_F = 100 \text{ mA}$, $t_p = 20 \text{ ms}$	I_e	2	—	—	mW/sr
Rise Time	$I_F = 100 \text{ mA}$	t_r	—	1	—	μs
Fall Time	$t_p = 100 \mu\text{s}$, $T = 10 \text{ ms}$	t_f	—	1	—	

NOTES

1. Derate power dissipation linearly 2.67 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" (1.6 mm) minimum from housing.
5. Pulse conditions: $t_p = 100 \mu\text{s}$, $T = 10 \text{ ms}$.

TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

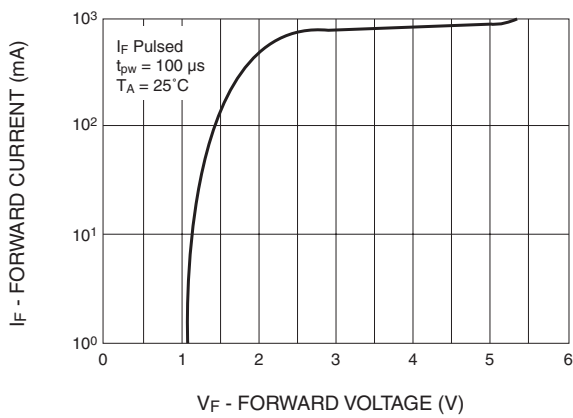


Fig. 2 Forward Voltage vs. Ambient Temperature

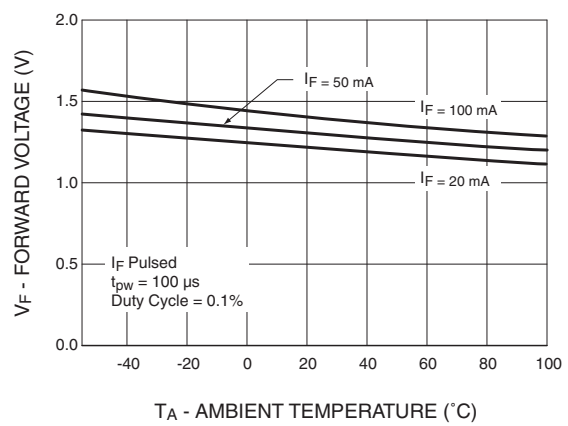


Fig. 3 Normalized Radiant Intensity vs. Forward Current

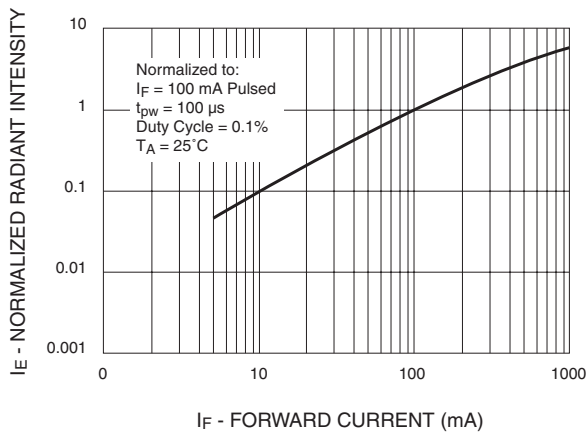
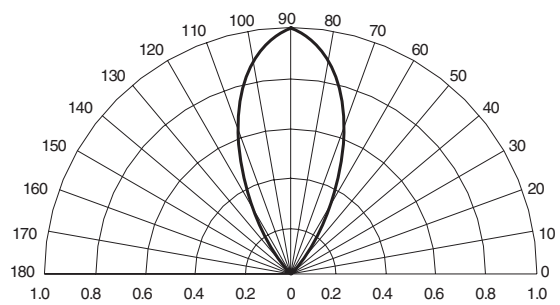


Fig. 4 Radiation Diagram



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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.