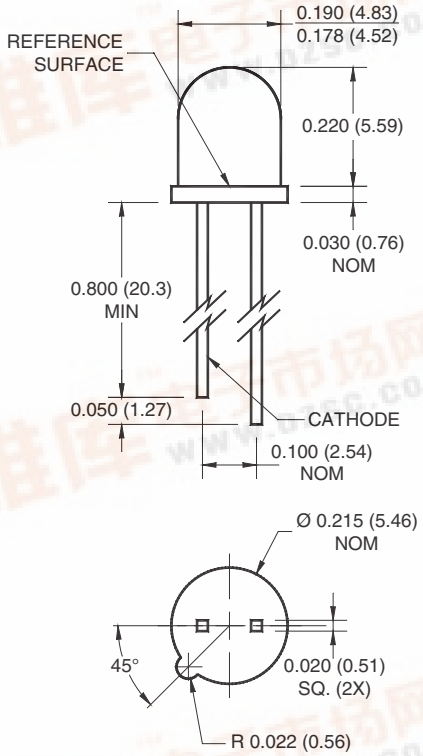
FAIRCHILD
SEMICONDUCTOR®

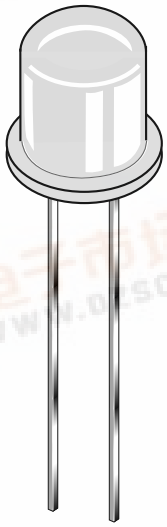
PLASTIC INFRARED LIGHT EMITTING DIODE

QED422 QED423

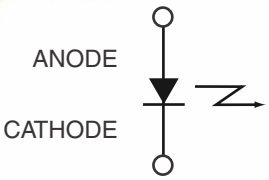
PACKAGE DIMENSIONS



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



SCHEMATIC



DESCRIPTION

The QED422/423 is an 880 nm AlGaAs LED encapsulated in a clear, purple tinted, plastic TO-46 package.

FEATURES

- λ= 880 nm
- Chip material = AlGaAs
- Package type: Plastic TO-46
- Matched Photosensor: QSD722/723/724
- Medium Wide Emission Angle, 30°
- High Output Power
- Package material and color: clear, purple tinted, plastic

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ABSOLUTE MAXIMUM RATINGS (T_A = 25°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)(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	100	mA
Reverse Voltage	V_R	5	V
Power Dissipation(1)	P_D	200	mW

NOTES:
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" (1.6 mm) minimum from housing

ELECTRICAL / OPTICAL CHARACTERISTICS (T_A =25°C)

Parameter	Test Conditions	Symbol	Min	Typ	Max	Units
Peak Emission Wavelength	I_F = 100 mA	λ_{PE}	—	880	—	nm
Emission Angle	I_F = 100 mA	2Θ1/2	—	30	—	Deg.
Forward Voltage	I_F = 100 mA, tp = 20 ms	V_F	—	—	1.8	V
Reverse Current	V_R = 5 V	I_R	—	—	10	µA
Radiant Intensity QEC522	I_F = 100 mA, tp = 20 ms	I_E	10	—	40	mW/sr
Radiant Intensity QEC523	I_F = 100 mA, tp = 20 ms	I_E	20	—	—	mW/sr
Rise Time	I_F = 100 mA	t_r	—	800	—	ns
Fall Time		t_f	—	800	—	ns

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Fig. 1 Normalized Radiant Intensity vs. Forward Current

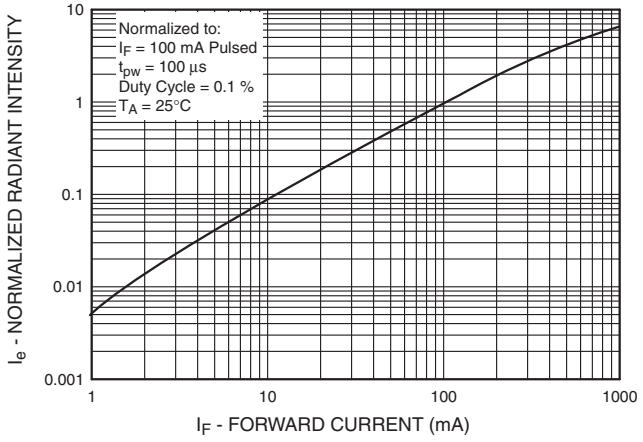


Fig. 2 Forward Voltage vs. Ambient Temperature

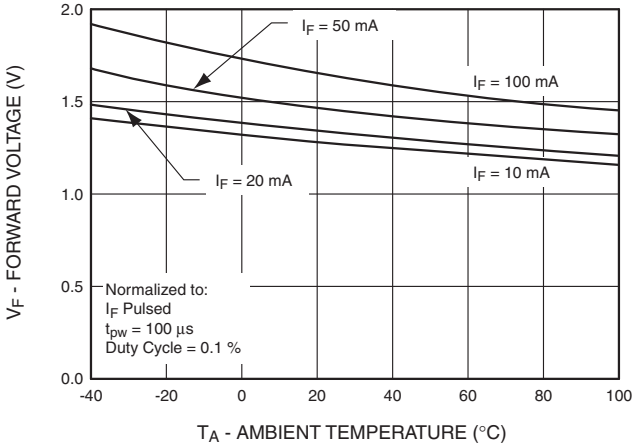


Fig. 3 Normalized Radiant Intensity vs. Wavelength

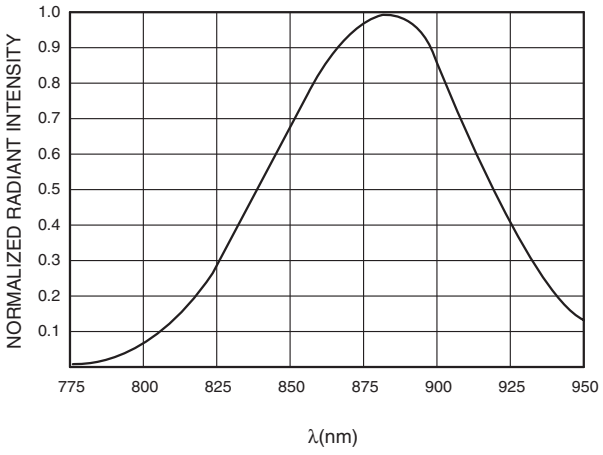
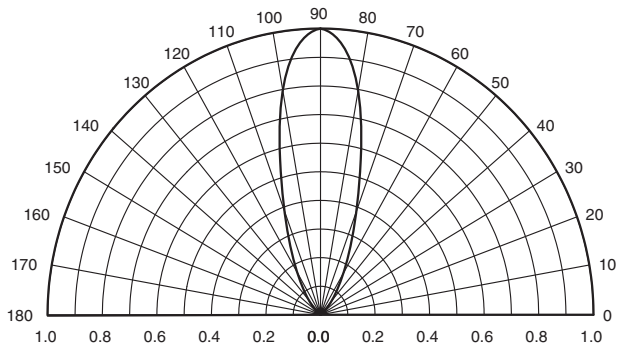


Fig. 4 Radiation Diagram



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