

QED422, QED423 Plastic Infrared Light Emitting Diode

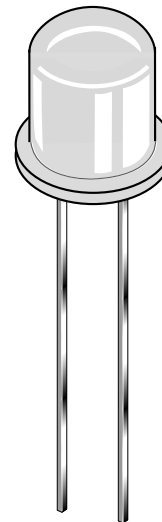
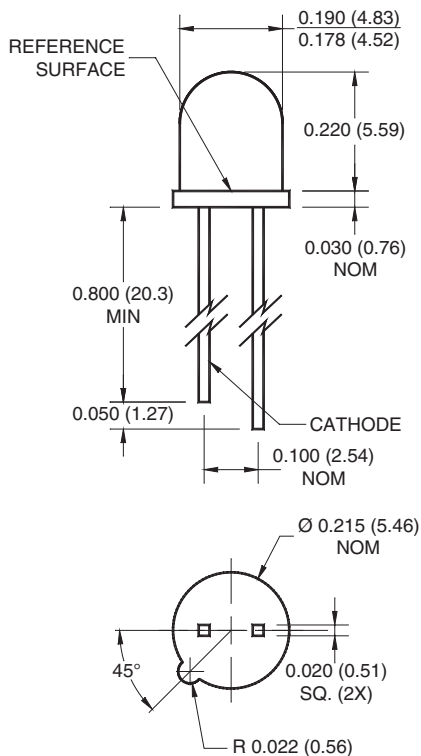
Features

- $\lambda = 880 \text{ nm}$
- 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

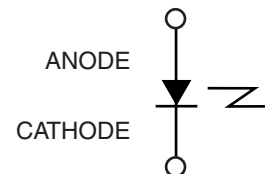
Description

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

Package Dimensions



Schematic



NOTES:

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

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_{SOL-I}	240 for 5 sec	$^\circ\text{C}$
Soldering Temperature (Flow) ^(2,3)	T_{SOL-F}	260 for 10 sec	$^\circ\text{C}$
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/ $^\circ\text{C}$ 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

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}	—	880	—	nm
Emission Angle	$I_F = 100\text{ mA}$	$2\theta_{1/2}$	—	30	—	Deg.
Forward Voltage	$I_F = 100\text{ mA}$, $t_p = 20\text{ ms}$	V_F	—	—	1.8	V
Reverse Current	$V_R = 5\text{ V}$	I_R	—	—	10	μA
Radiant Intensity QEC422	$I_F = 100\text{ mA}$, $t_p = 20\text{ ms}$	I_E	10	—	40	mW/sr
Radiant Intensity QEC423	$I_F = 100\text{ mA}$, $t_p = 20\text{ ms}$	I_E	20	—	—	mW/sr
Rise Time	$I_F = 100\text{ mA}$	t_r	—	800	—	ns
Fall Time		t_f	—	800	—	ns

Fig. 1 Normalized Radiant Intensity vs. Forward Current

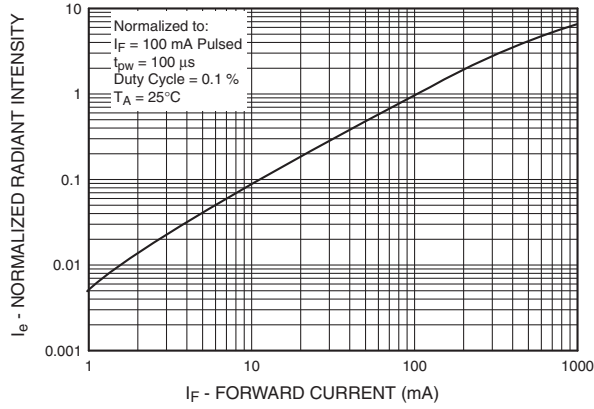


Fig. 2 Forward Voltage vs. Ambient Temperature

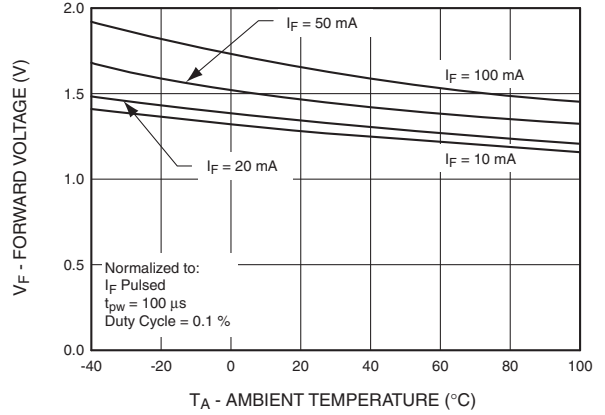


Fig. 3 Normalized Radiant Intensity vs. Wavelength

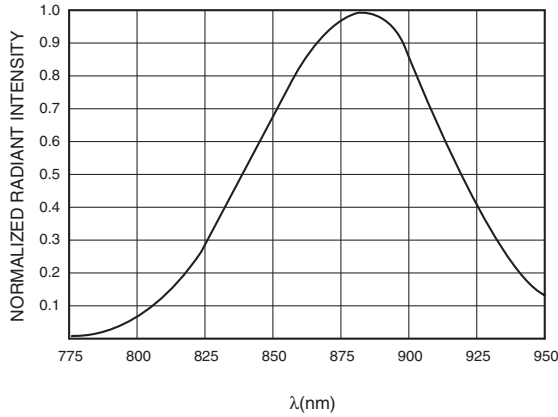
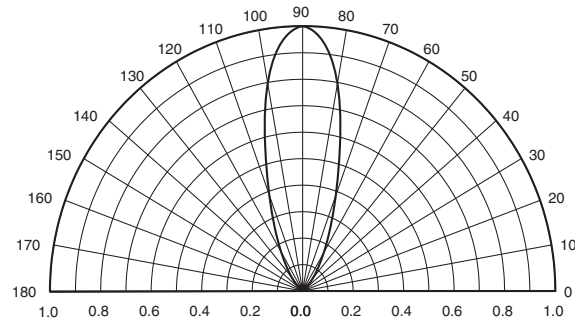


Fig. 4 Radiation Diagram



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