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# QED422, QED423

## Plastic Infrared Light Emitting Diode

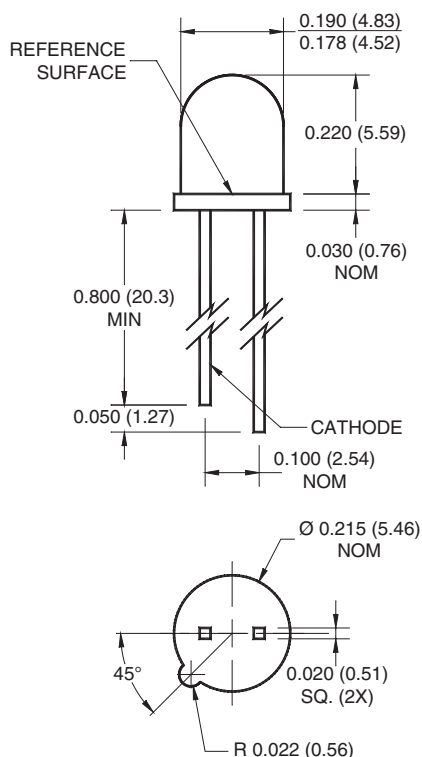
### Features

- $\lambda = 880 \text{ nm}$
- Chip material = AlGaAs
- Package type: Plastic TO-46
- Matched Photosensor: QSD722/723/724
- Medium Wide Emission Angle,  $30^\circ$
- High Output Power
- Package material and color: clear, purple tinted, plastic

### Description

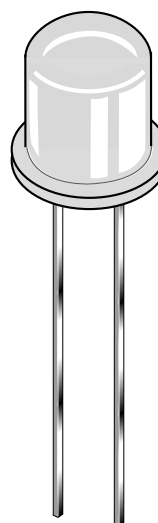
The QED422/423 is an 880 nm AlGaAs LED encapsulated in a clear, purple tinted, plastic TO-46 package.

### Package Dimensions

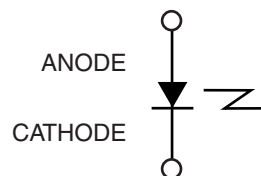


#### NOTES:

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



### Schematic



# **Absolute Maximum Ratings** ( $T_A = 25^{\circ}\text{C}$ unless otherwise specified)

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

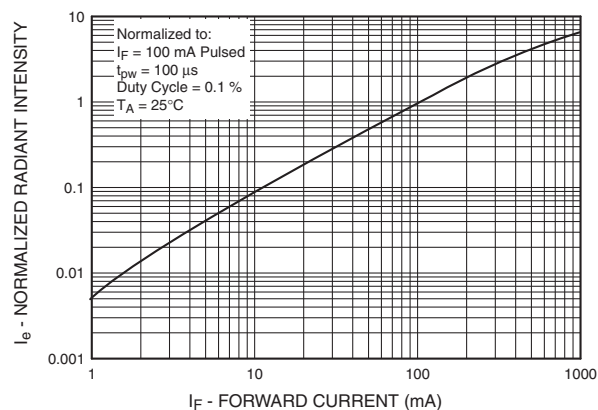
## **Notes:**

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

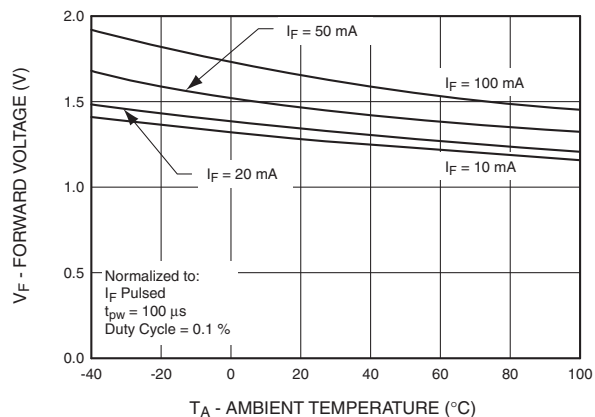
# **Electrical/Optical Characteristics** ( $T_A = 25^{\circ}\text{C}$ )

Parameter	Test Conditions	Symbol	Min	Typ	Max	Units
Peak Emission Wavelength	$I_F = 100 \text{ mA}$	$\lambda_{\text{PE}}$	—	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	$\mu\text{A}$
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

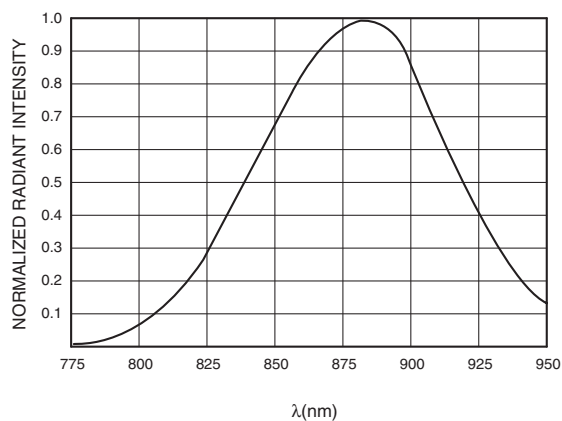
**Fig. 1 Normalized Radiant Intensity vs. Forward Current**



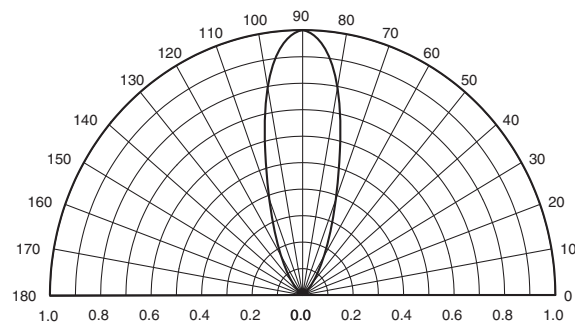
**Fig. 2 Forward Voltage vs. Ambient Temperature**



**Fig. 3 Normalized Radiant Intensity vs. Wavelength**



**Fig. 4 Radiation Diagram**



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