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QED223 Plastic Infrared Light Emitting Diode

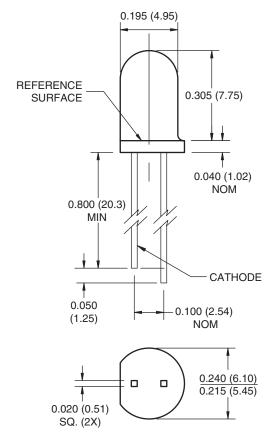
Features

- $\lambda = 880$ nm
- Chip material = AlGaAs
- Package type: T-1 3/4 (5mm lens diameter)■ Matched photosensor: QSD123/QSD124
- Medium wide emission angle, 30°
- High output power
- Package material and color: clear, purple tinted, plastic

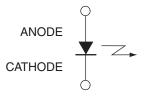
Description

The QED223 is 880nm AlGaAs LEDs encapsulated in a clear purple tinted, plastic T-1 3/4 package.

Package Dimensions



Schematic



Notes:

- 1. Dimensions of all drawings are in inches (mm).
- 2. Tolerance is ±0.010 (0.25) on all non-nominal dimensions unless otherwise specified.

Absolute Maximum Ratings (T_A = 25°C unless otherwise specified)

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only.

Symbol	Parameter	Rating	Units
T _{OPR}	Operating Temperature	-40 to +100	°C
T _{STG}	Storage Temperature	-40 to +100	°C
T _{SOL-I}	Soldering Temperature (Iron) ⁽²⁾⁽³⁾⁽⁴⁾	240 for 5 sec	°C
T _{SOL-F}	Soldering Temperature (Flow) ⁽²⁾⁽³⁾	260 for 10 sec	°C
I _F	Continuous Forward Current	100	mA
V _R	Reverse Voltage	5	V
P _D	Power Dissipation ⁽¹⁾	200	mW
I _{F(Peak)}	Peak Forward Current ⁽⁵⁾	1.5	Α

Notes:

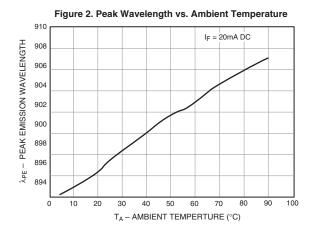
- 1. Derate power dissipation linearly 2.67mW/°C above 25°C.
- 2. RMA flux is recommended.
- 3. Methanol or isopropyl alcohols are recommended as cleaning agents.
- 4. Soldering iron 1/16" (1.6mm) minimum from housing.
- 5. Pulse conditions; $tp = 100\mu s$, T = 10ms.

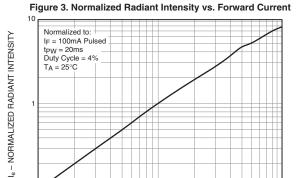
Electrical / Optical Characteristics (T_A = 25°C)

Symbol	Parameter	Test Conditions	Min.	Тур.	Max.	Units
λ _{PE}	Peak Emission Wavelength	I _F = 20mA		890		nm
TC_λ	Temperature Coefficient			0.2		nm/°C
2Θ ¹ /2	Emission Angle	I _F = 100mA		30		0
V _F	Forward Voltage	I _F = 100mA, tp = 20ms			1.7	V
TC _{VF}	Temperature Coefficient			-6		mV/°C
I _R	Reverse Current	V _R = 5V			10	μA
ΙE	Radiant Intensity	I _F = 100mA, tp = 20ms	25			mW/sr
TC _{IE}	Temperature Coefficient			-0.3		%/°C
t _r	Rise Time	I _F = 100mA		900		ns
t _f	Fall Time			800		ns
C _j	Junction Capacitance	$V_R = 0V$		11		pF

Typical Performance Curves

Figure 1. Normalized Intensity vs. Wavelength 1.0 0.9 0.8 NORMALIZED INTENSITY 0.7 0.5 0.4 0.3 0.2 0.1 750 800 850 900 950 1,000 1,050 λ (nm)

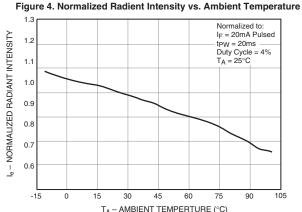


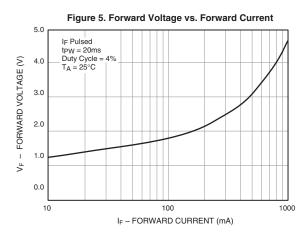


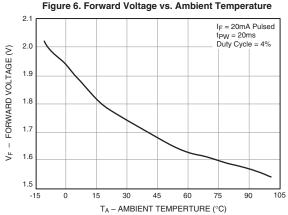
I_F - FORWARD CURRENT (mA)

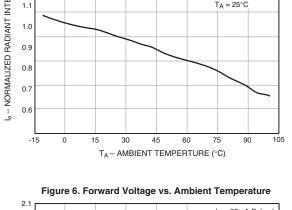
0.1

10





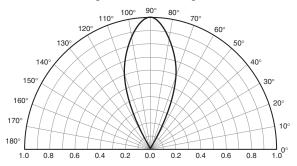


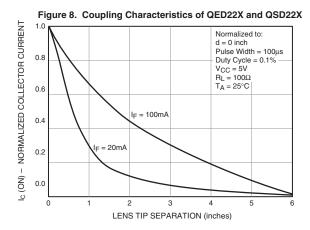


1000

Typical Performance Curves (Continued)

Figure 7. Radiation Diagram





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