

Plastic Infrared Light Emitting Diode

QED223

Description

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

Features

- $\lambda = 880 \text{ nm}$
- Chip Material = AlGaAs
- Package Type: T 1 3/4 (5 mm lens diameter)
- Matched Photosensor: QSD123/QSD124
- Medium wide Emission Angle, 30°
- High Output Power
- Package Material and Color: Clear, Purple Tinted, Plastic

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|-----------------------|--|--------------|------|
| T _{OPR} | Operating Temperature | -40 to 100 | °C |
| T _{STG} | Storage Temperature | -40 to +100 | °C |
| T _{SOL-I} | Soldering Temperature (Iron) (Notes 2, 3, 4) | 240 for 5 s | °C |
| T _{SOL-F} | Soldering Temperature (Flow) (Notes 2, 3) | 260 for 10 s | °C |
| I _F | Continuous Forward Current | 100 | mA |
| V_{R} | Reverse Voltage | 5 | V |
| P _D | Power Dissipation (Note 1) | 200 | mW |
| I _{F(Peak}) | Peak Forward Current (Note 5) | 1.5 | V |

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

- 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 tip 1/16" (1.6 mm) minimum from housing.
- 5. Pulse conditions; tp = 100 μ s, T = 10 ms.

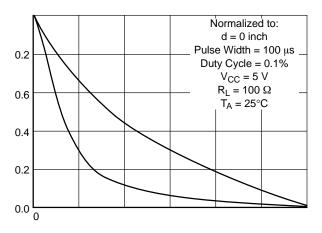
ELECTRICAL/OPTICAL CHARACTERISTICS (T_A = 25°C)

| Symbol | Parameter | Test Conditions | Min | Тур | Max | Unit |
|------------------|--------------------------|---|-----|------|-----|-------|
| λ_{PE} | Peak Emission Wavelength | I _F = 20 mA | _ | 890 | _ | nm |
| TC_λ | Temperature Coefficient | | _ | 0.2 | _ | nm/°C |
| 2Θ1/2 | Emission Angle | I _F = 100 mA | _ | 30 | _ | 0 |
| V_{F} | Forward Voltage | $I_F = 20 \text{ mA}, \text{ tp} = 20 \text{ ms}$ | _ | _ | 1.7 | V |
| TC_{VF} | Temperature Coefficient | | _ | -6 | - | mV/°C |
| I_{R} | Reverse Current | V _R = 5 V | _ | _ | 10 | μΑ |
| Ι _Ε | Radiant Intensity | $I_F = 20 \text{ mA}, \text{ tp} = 20 \text{ ms}$ | 25 | _ | _ | mW/sr |
| TC _{IE} | Temperature Coefficient | | _ | -0.3 | _ | -" |

QED223

TYPICAL PERFORMANCE CURVES

TYPICAL PERFORMANCE CURVES (continue)



Lens Tip Separation (in)

Figure 7. Radiation Diagram

Figure 8. Coupling Characteristics of QED22X and QSD22X

T-1 3/4, 5MM LED CASE 100CC ISSUE O

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Notes:

1. Dimensions f

