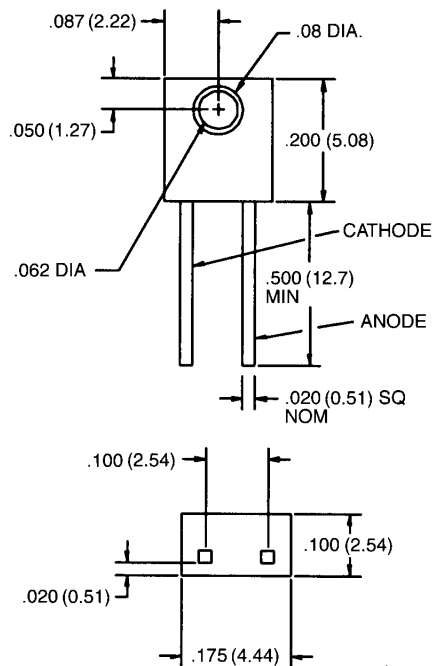




## AlGaAs INFRARED EMITTING DIODE

**QEE122/123**

### PACKAGE DIMENSIONS



ST2129

### DESCRIPTION

The QEE12X is an 880 nm AlGaAs LED encapsulated in a wide angle, dark green, plastic sidelooker shell package.

### FEATURES

- Tight production  $E_o$  distribution.
- Steel lead frames for improved reliability in solder mounting.
- Good optical-to-mechanical alignment.
- Mechanically and wavelength matched to QSE11X series phototransistor.
- Plastic package color allows easy recognition from phototransistor.
- High irradiance level.

#### NOTES:

1. DIMENSIONS ARE IN INCHES (mm).
2. TOLERANCE IS  $\pm .010$  (.25) UNLESS OTHERWISE SPECIFIED.



## AlGaAs INFRARED EMITTING DIODE

### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ Unless Otherwise Specified)

|                            |                                       |
|----------------------------|---------------------------------------|
| Storage Temperature        | –40°C to +100°C                       |
| Operating Temperature      | –40°C to +100°C                       |
| Soldering:                 |                                       |
| Lead Temperature (Iron)    | 240°C for 5 sec. <sup>(2,3,4,5)</sup> |
| Lead Temperature (Flow)    | 260°C for 10 sec. <sup>(2,3,5)</sup>  |
| Continuous Forward Current | 50 mA                                 |
| Reverse Voltage            | 5.0 Volts                             |
| Power Dissipation          | 100 mW <sup>(1)</sup>                 |

### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ Unless Otherwise Specified) (All measurements made under pulse conditions.)

| PARAMETER                 | SYMBOL      | MIN. | TYP.     | MAX. | UNITS         | TEST CONDITIONS                       |
|---------------------------|-------------|------|----------|------|---------------|---------------------------------------|
| Forward Voltage           | $V_F$       | —    |          | 1.70 | V             | $I_F = 20\text{ mA}$                  |
| Reverse Leakage Current   | $I_R$       | —    |          | 10   | $\mu\text{A}$ | $V_R = 5.0\text{ V}$                  |
| Peak Emission Wavelength  | $\lambda_P$ | —    | 880      | —    | nm            | $I_F = 20\text{ mA}$                  |
| Emission Angle at ½ Power | $\theta$    | —    | $\pm 25$ | —    | Degrees       |                                       |
| Radiant Incidence QEE122  | $E_0$       | 0.02 |          | 0.08 | mW/10° Cone   | $I_F = 20\text{ mA}$ <sup>(6,7)</sup> |
| Radiant Incidence QEE123  | $E_0$       | 0.04 |          | —    | mW/10° Cone   | $I_F = 20\text{ mA}$ <sup>(6,7)</sup> |

### NOTES

- Derate power dissipation linearly 1.33 mW/°C above 25°C.
- RMA flux is recommended.
- Methanol or Isopropyl alcohols are recommended as cleaning agents.
- Soldering iron tip 1/16" (1.6 mm) minimum from housing.
- As long as leads are not under any stress or spring tension.
- Measurement is taken at the end of a single 100  $\mu\text{sec}$  pulse.
- $E_0$  is a measurement of the average apertured radiant energy incident upon a sensing area 0.444" (11.3 mm) in diameter, perpendicular to and centered on the mechanical axis of the lens, and 2.54" (64.4 mm) from the measurement surface.  $E_0$  is not necessarily uniform within the measurement area.