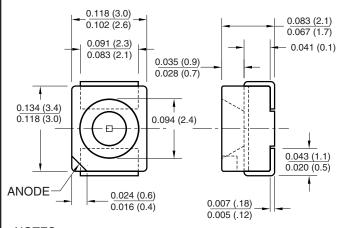


QEB421 SURFACE MOUNT INFRARED LIGHT EMITTING DIODE

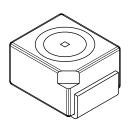
SEMICONDUCTOR

PACKAGE DIMENSIONS



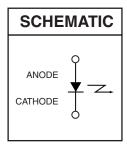
NOTES:

- 1. Dimensions are in inches (mm)
- 2. Tolerance of ± .010 (.25) on all non nominal dimensions unless otherwise specified.



FEATURES

- Wavelength = 880 nm, AlGaAs
- Wide Emission Angle, 120°
- Surface Mount PLCC-2 Package
- High Power



| ABSOLUTE MAXIMUM RATINGS (T _A = 25°C unless otherwise specified) | | | | | | | | |
|--|------------------|----------------|------|--|--|--|--|--|
| Parameter | Symbol | Rating | Unit | | | | | |
| Operating Temperature | T _{opr} | -55 to +100 | °C | | | | | |
| Storage Temperature | T _{stg} | -55 to +100 | °C | | | | | |
| Soldering Temperature (Flow) ^(2,3) | T _{sol} | 260 for 10 sec | °C | | | | | |
| Continuous Forward Current | ١ _F | 100 | mA | | | | | |
| Reverse Voltage | V _R | 5 | V | | | | | |
| Peak Forward Current ⁽⁴⁾ | I _{FM} | 1.75 | А | | | | | |
| Power Dissipation ⁽¹⁾ | PD | 180 | mW | | | | | |

NOTES

- 1. Derate power dissipation linearly 2.4 mW/°C above 25°C.
- 2. RMA flux is recommended.
- 3. Methanol or isopropyl alcohols are recommended as cleaning agents.
- 4. Pulse conditions; tp = 100 μ s, T = 10 ms.

ELECTRICAL / OPTICAL CHARACTERISTICS (TA =25°C)

| PARAMETER | TEST CONDITIONS | SYMBOL | MIN. | TYP. | MAX. | UNITS |
|--------------------------------|--|-----------------|------|------|------|-------|
| Peak Emission Wavelength | I _F = 100 mA | λ_{P} | _ | 880 | — | nm |
| Spectral Bandwidth | I _F = 100 mA | $\Delta\lambda$ | _ | 80 | | nm |
| Emission Angle | I _F = 100 mA | θ | _ | 120 | _ | Deg. |
| Forward Voltage | $I_{\rm F} = 100 \text{ mA}, \text{ tp} = 20 \text{ ms}$ | V _F | | 1.5 | 1.8 | V |
| | $I_{\rm F} = 1$ A, tp = 100 μ s | | _ | 3.0 | 3.8 | |
| Reverse Current | V _R = 5 V | I _R | _ | | 1 | μΑ |
| Radiant Intensity | $I_{\rm F} = 100 \text{ mA}, \text{ tp} = 20 \text{ ms}$ | le | 4 | _ | 8 | mW/sr |
| | $I_{\rm F} = 1$ A, tp = 100 μ s | | _ | 48 | _ | |
| Radiant Flux | $I_{\rm F} = 100 \text{ mA}, \text{ tp} = 20 \text{ ms}$ | фе | _ | 10 | _ | mW |
| Temp. Coeff. of I _E | I _F = 100 mA | T _{CI} | | -0.5 | | %/K |
| Temp. Coeff. of V _F | I _F = 100 mA | T _{CV} | _ | -4 | | mV/K |
| Temp. Coeff. of λ | I _F = 100 mA | $T_{c\lambda}$ | | 0.25 | | nm/K |
| Rise Time | I _F = 100 mA | t _r | _ | _ | 1 | μs |
| Fall Time | | t _f | _ | _ | 1 | μs |
| | | | | | | |



QEB421 SURFACE MOUNT INFRARED LIGHT EMITTING DIODE

TYPICAL PERFORMANCE CURVES

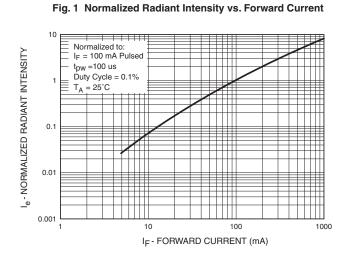


Fig. 2 Forward Current vs. Forward Voltage

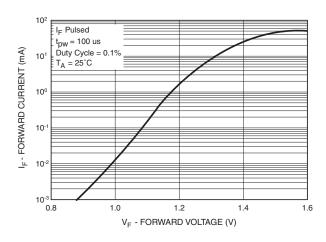


Fig. 4 Forward Voltage vs. Ambient Temperature

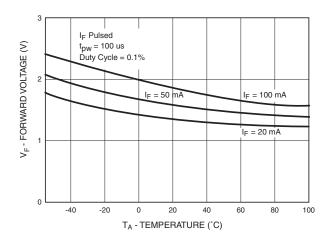


Fig.3 Radiation Diagram

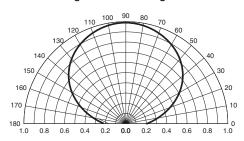


Fig. 5 Spectral Response (TBD)



QEB421 SURFACE MOUNT INFRARED LIGHT EMITTING DIODE

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