



**THE DATASHEET OF  
SE2470-001**

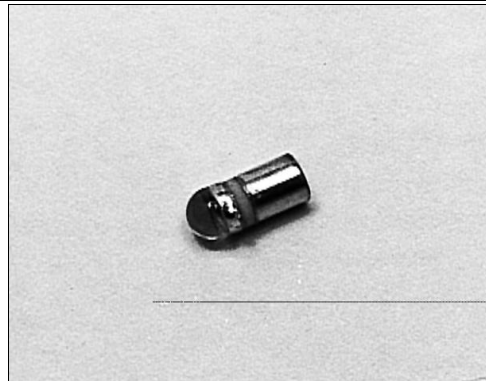


# SE2470

## AlGaAs Infrared Emitting Diode

### FEATURES

- Miniature, hermetically sealed, pill style, metal can package
- 18° (nominal) beam angle
- Wide operating temperature range (- 55°C to +125°C)
- Higher power output than GaAs at equivalent drive currents
- Ideal for direct mounting to printed circuit boards
- 880 nm wavelength
- Mechanically and spectrally matched to SD2420 photodiode, SD2440 phototransistor and SD2410 photodarlington



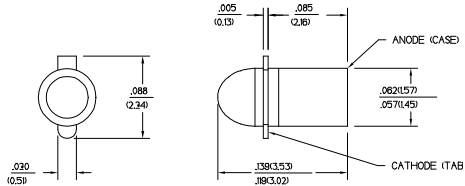
INFRA-1.TIF

### DESCRIPTION

The SE2470 is a high intensity aluminum gallium arsenide infrared emitting diode mounted in a hermetically sealed, glass lensed, metal can package. This package directly mounts in double sided PC boards. These devices typically exhibit 70% greater power intensity than gallium arsenide devices at the same forward current.

### OUTLINE DIMENSIONS in inches (mm)

Tolerance 3 plc decimals ±0.005(0.12)  
2 plc decimals ±0.020(0.51)



DIM\_002.dwg

# SE2470

## AlGaAs Infrared Emitting Diode

### ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

| PARAMETER                        | SYMBOL                          | MIN | TYP | MAX | UNITS | TEST CONDITIONS          |
|----------------------------------|---------------------------------|-----|-----|-----|-------|--------------------------|
| Radiant Intensity <sup>(1)</sup> | IE                              |     |     |     | mW/sr | I <sub>F</sub> =50 mA    |
| SE2470-001                       |                                 | 1.7 |     |     |       |                          |
| SE2470-002                       |                                 | 6.0 |     |     |       |                          |
| Forward Voltage                  | V <sub>F</sub>                  |     |     | 1.8 | V     | I <sub>F</sub> =50 mA    |
| Reverse Breakdown Voltage        | V <sub>BR</sub>                 | 3.0 |     |     | V     | I <sub>R</sub> =10 μA    |
| Peak Output Wavelength           | λ <sub>p</sub>                  |     | 880 |     | nm    |                          |
| Spectral Bandwidth               | Δλ                              |     | 80  |     | nm    |                          |
| Spectral Shift With Temperature  | Δλ <sub>p</sub> /ΔT             |     | 0.2 |     | nm/°C |                          |
| Beam Angle <sup>(2)</sup>        | Ø                               |     | 18  |     | degr. | I <sub>F</sub> =Constant |
| Radiation Rise And Fall Time     | t <sub>r</sub> , t <sub>f</sub> |     | 0.7 |     | μs    |                          |

#### Notes

1. Measured in mW/steradian (sr) into 0.01 steradians.
2. Beam angle is defined as the total included angle between the half intensity points.

### ABSOLUTE MAXIMUM RATINGS

(25°C Free-Air Temperature unless otherwise noted)

|                                |                       |
|--------------------------------|-----------------------|
| Continuous Forward Current     | 75 mA                 |
| Power Dissipation              | 125 mW <sup>(1)</sup> |
| Operating Temperature Range    | -55°C to 125°C        |
| Storage Temperature Range      | -65°C to 150°C        |
| Soldering Temperature (10 sec) | 260°C                 |

#### Notes

1. Derate linearly from 25°C free-air temperature at the rate of 1.19 mW/°C, when soldered into a double sided printed circuit board.

### SCHEMATIC



Honeywell reserves the right to make changes in order to improve design and supply the best products possible.

# Honeywell

# SE2470

## AlGaAs Infrared Emitting Diode

Fig. 1 Radiant Intensity vs Angular Displacement gra\_111.ds4

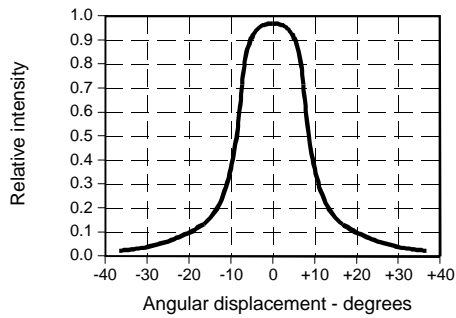


Fig. 2 Radiant Intensity vs Forward Current gra\_016.ds4

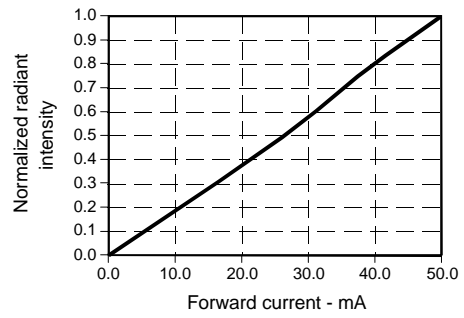


Fig. 3 Forward Voltage vs Forward Current gra\_204.ds4

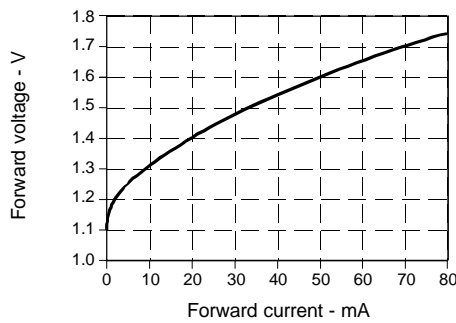


Fig. 4 Forward Voltage vs Temperature gra\_202.ds4

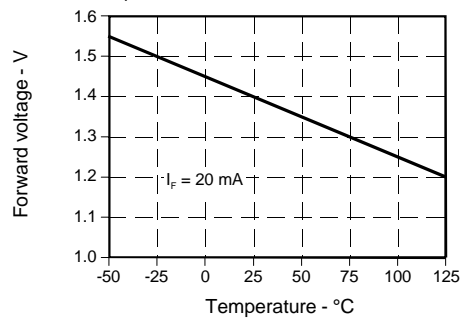


Fig. 5 Spectral Bandwidth gra\_011.ds4

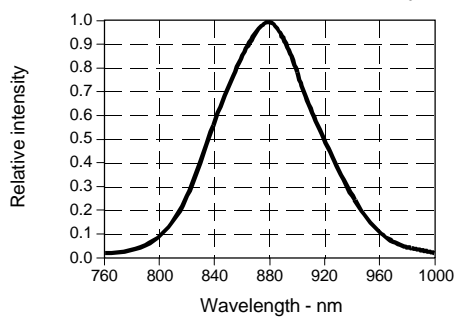
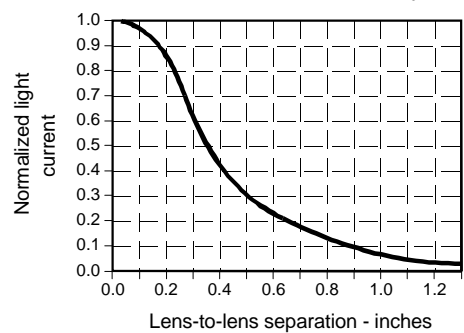
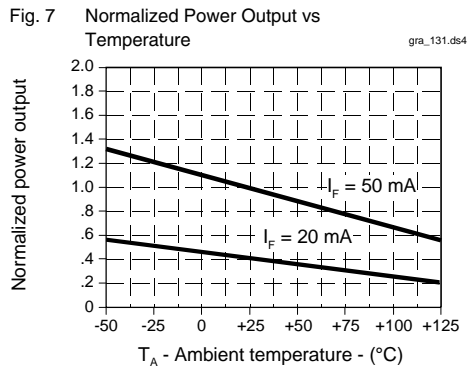


Fig. 6 Coupling Characteristics with SD2440 gra\_015.ds4



# SE2470



## AlGaAs Infrared Emitting Diode



All Performance Curves Show Typical Values

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