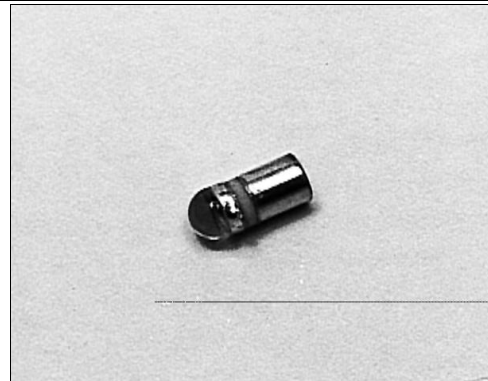


# SE2470

## 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



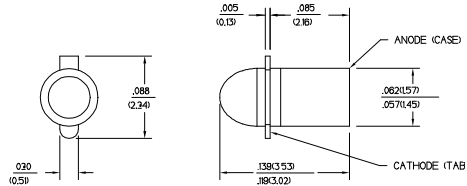
INFRA-1.TIF

### 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)



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## AlGaAs Infrared Emitting Diode

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

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Radiant Intensity <sup>(1)</sup> SE2470-001 SE2470-002	IE	1.7 6.0			mW/sr	I <sub>F</sub> =50 mA
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>	∅		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**



# SE2470

## AlGaAs Infrared Emitting Diode

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

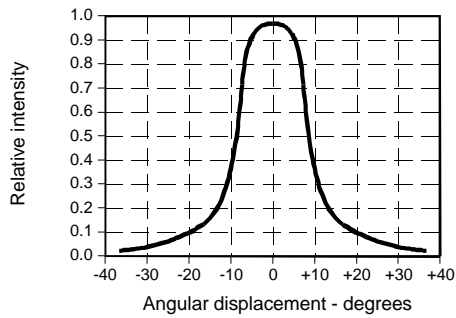


Fig. 2 Radiant Intensity vs Forward Current gra\_016.ds4

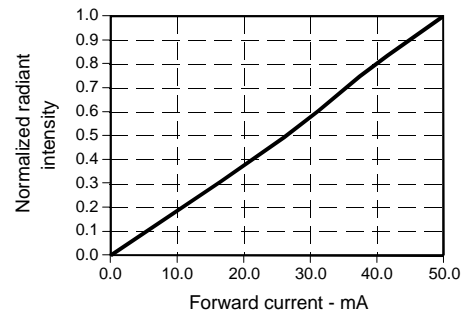


Fig. 3 Forward Voltage vs Forward Current gra\_204.ds4

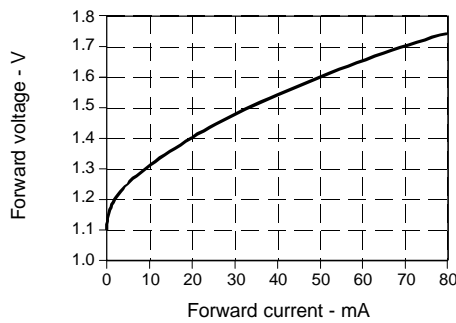


Fig. 4 Forward Voltage vs Temperature gra\_202.ds4

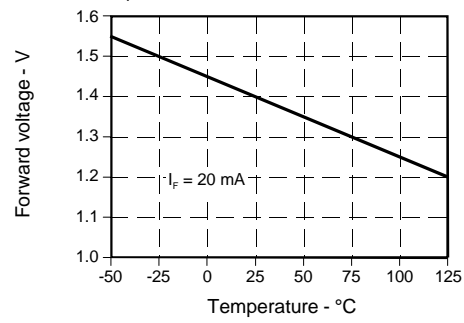


Fig. 5 Spectral Bandwidth gra\_011.ds4

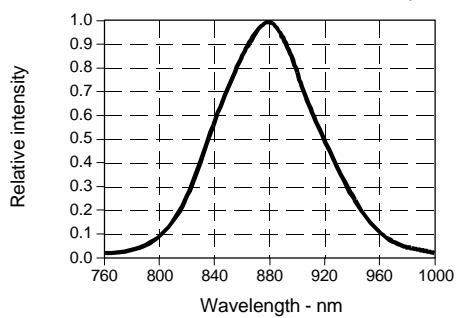
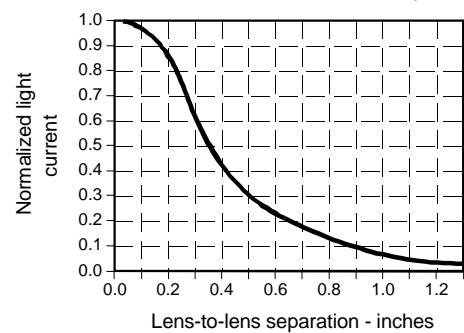


Fig. 6 Coupling Characteristics with SD2440 gra\_015.ds4

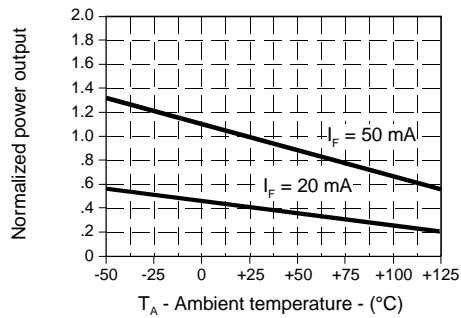


# SE2470

## AlGaAs Infrared Emitting Diode

Fig. 7 Normalized Power Output vs Temperature

gra\_131.ds4



All Performance Curves Show Typical Values