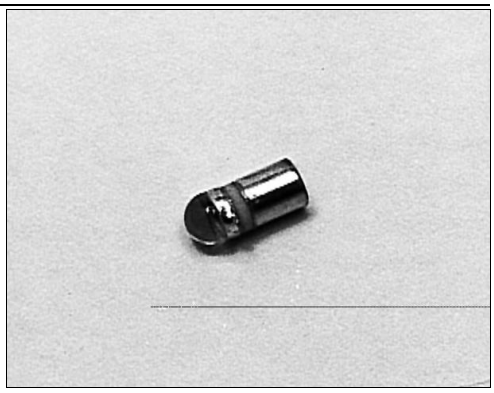
SE2470

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



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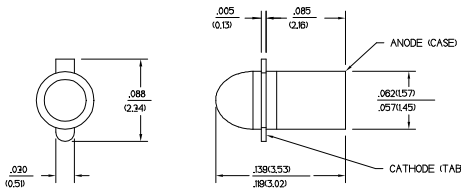
DESCRIPTION

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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ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Radiant Intensity (1)	IE				mW/sr	I_F=50 mA
SE2470-001		1.7				
SE2470-002		6.0				
Forward Voltage	V_F			1.8	V	I_F=50 mA
Reverse Breakdown Voltage	V_{BR}	3.0			V	I_R=10 µA
Peak Output Wavelength	λ_p		880		nm	
Spectral Bandwidth	$\Delta\lambda$		80		nm	
Spectral Shift With Temperature	$\Delta\lambda_p/\Delta_T$		0.2		nm/°C	
Beam Angle (2)	Ø		18		degr.	I_F=Constant
Radiation Rise And Fall Time	t_r, t_f		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 (1)
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

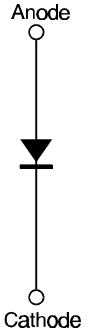

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Fig. 1 Radiant Intensity vs Angular Displacement

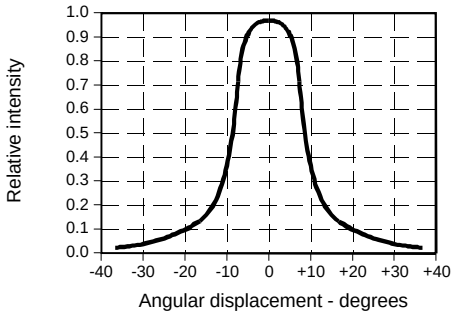

Fig. 2 Radiant Intensity vs Forward Current

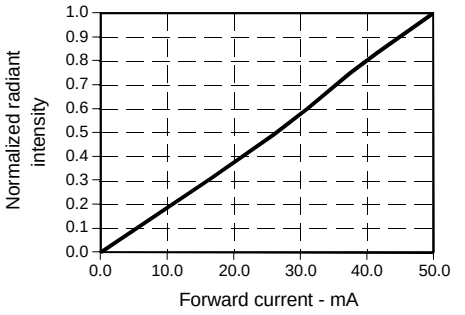

Fig. 3 Forward Voltage vs Forward Current

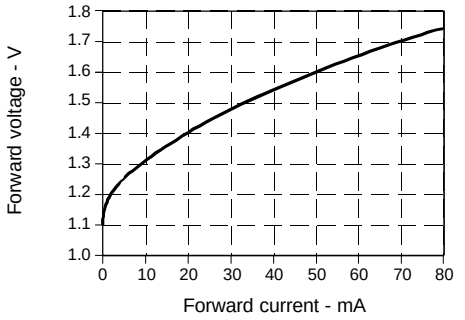

Fig. 4 Forward Voltage vs Temperature

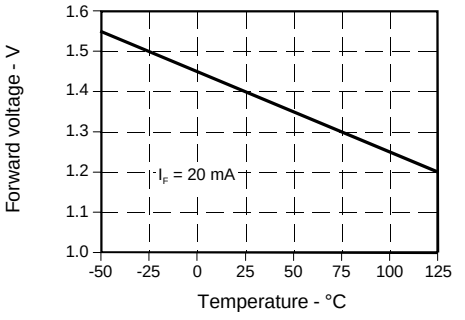

Fig. 5 Spectral Bandwidth

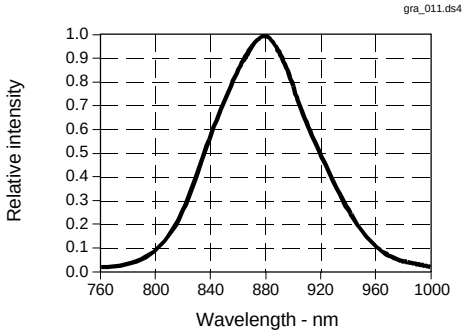

Fig. 6 Coupling Characteristics with SD2440

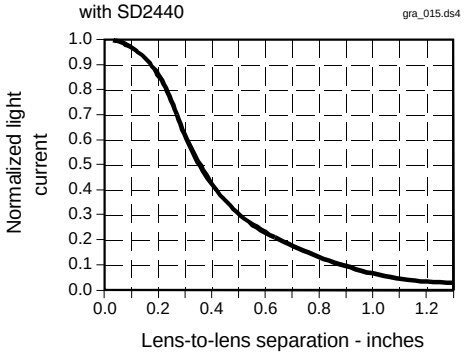

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Fig. 7 Normalized Power Output vs Temperature

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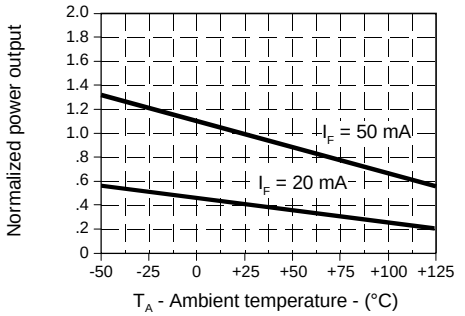

All Performance Curves Show Typical Values