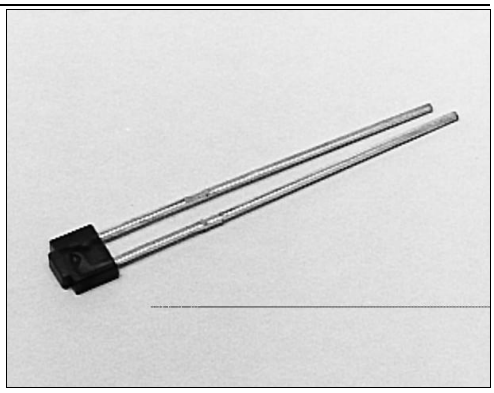
SEP8507

GaAs Infrared Emitting Diode

FEATURES

- End-emitting plastic package
- 135° (nominal) beam angle
- 935 nm wavelength
- Low profile for design flexibility
- Mechanically and spectrally matched to SDP8407 phototransistor



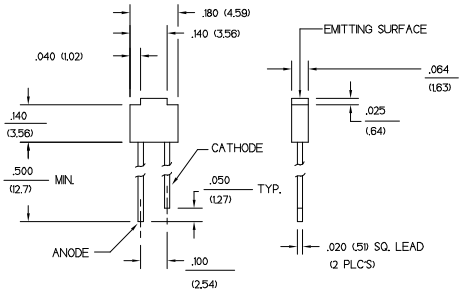
INFRA-18.TIF

DESCRIPTION

The SEP8507 is a gallium arsenide infrared emitting diode molded in an end-emitting red plastic package. The chip is positioned to emit radiation from the top of the package. Lead lengths are staggered to provide a simple method of polarity identification.

OUTLINE DIMENSIONS in inches (mm)

Tolerance	3 plc decimals	±0.008(0.20)
	2 plc decimals	±0.020(0.51)



DIM_009.cdr

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ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Total Power Output SEP8507-001	P_O	0.40			mW	I_F=20 mA
Forward Voltage	V_F			1.5	V	I_F=20 mA
Reverse Breakdown Voltage	V_{BR}	3.0			V	I_R=10 µA
Peak Output Wavelength	λ_p		935		nm	
Spectral Bandwidth	$\Delta\lambda$		50		nm	
Spectral Shift With Temperature	$\Delta\lambda_p/\Delta_T$		0.3		nm/°C	
Beam Angle (1)	Ø		135		degr.	I_F=Constant
Radiation Rise And Fall Time	t_r, t_f		0.7		µs	

Notes
1. 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	60 mA
Power Dissipation	100 mW (1)
Operating Temperature Range	-40°C to 85°C
Storage Temperature Range	-40°C to 85°C
Soldering Temperature (5 sec)	240°C

Notes
1. Derate linearly from 25°C free-air temperature at the rate of 0.66 mW/°C.

SCHEMATIC

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Fig. 1 Radiant Intensity vs Angular Displacement

gra_032.ds4

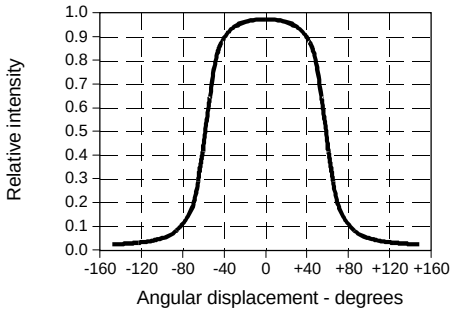


Fig. 2 Radiant Intensity vs Forward Current

gra_028.ds4

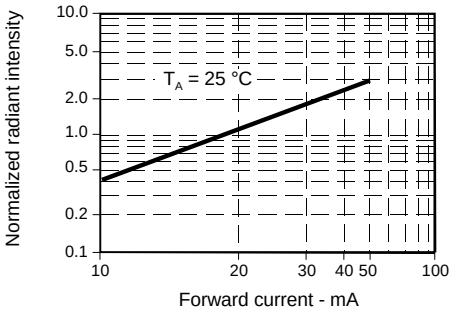


Fig. 3 Forward Voltage vs Forward Current

gra_003.ds4

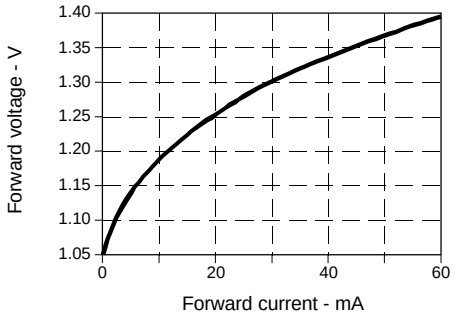


Fig. 4 Forward Voltage vs Temperature

gra_207.ds4

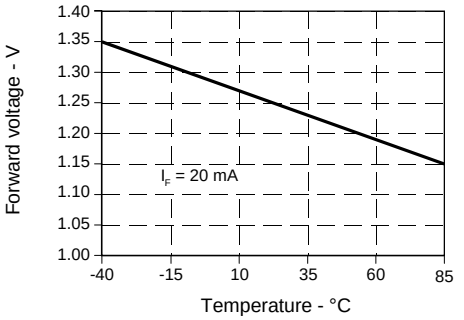


Fig. 5 Spectral Bandwidth

gra_005.ds4

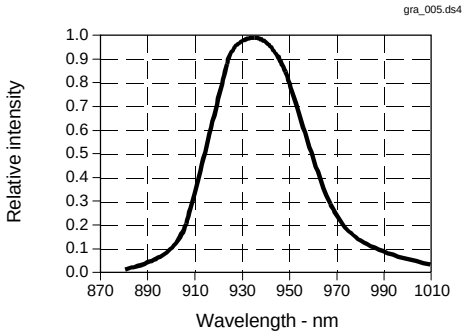
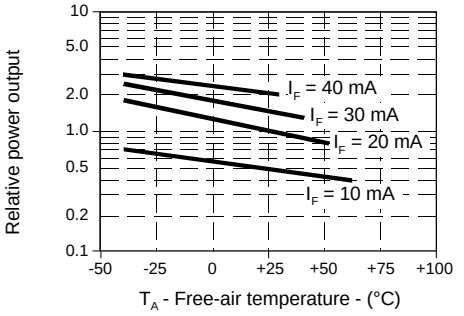


Fig. 6 Relative Power Output vs Free Air Temperature

gra_130.ds4



All Performance Curves Show Typical Values

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