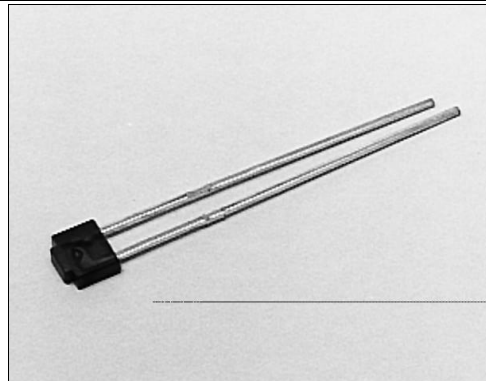


SEP8507

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



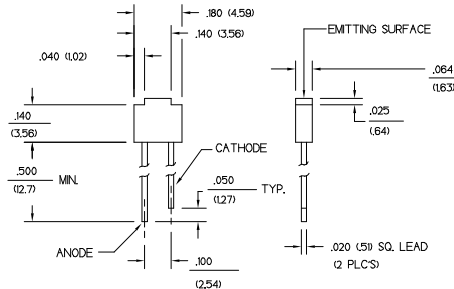
INFRA-18.TIF

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)



SEP8507

GaAs Infrared Emitting Diode

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	$I_R=10$ μ A
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/ $^{\circ}$ C	
Beam Angle ⁽¹⁾	\emptyset		135		degr.	$I_F=$ Constant
Radiation Rise And Fall Time	t_r, t_f		0.7		μ s	

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/ $^{\circ}$ C.

SCHEMATIC



SEP8507

GaAs Infrared Emitting Diode

Fig. 1 Radiant Intensity vs Angular Displacement gra_032.ds4

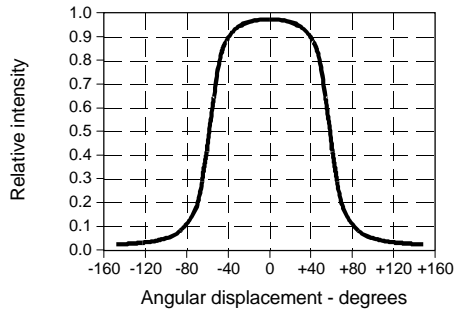


Fig. 2 Radiant Intensity vs Forward Current gra_028.ds4

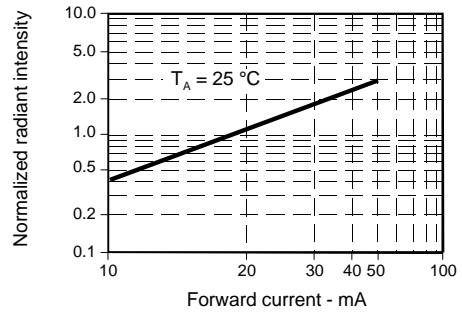


Fig. 3 Forward Voltage vs Forward Current gra_003.ds4

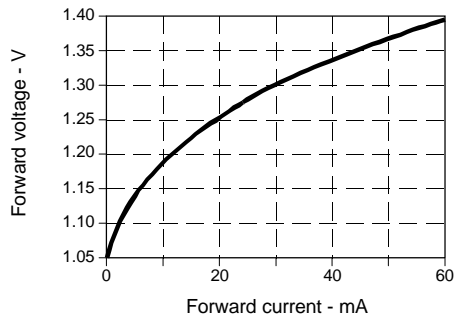


Fig. 4 Forward Voltage vs Temperature gra_207.ds4

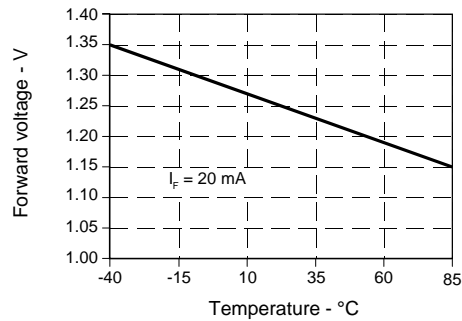


Fig. 5 Spectral Bandwidth gra_005.ds4

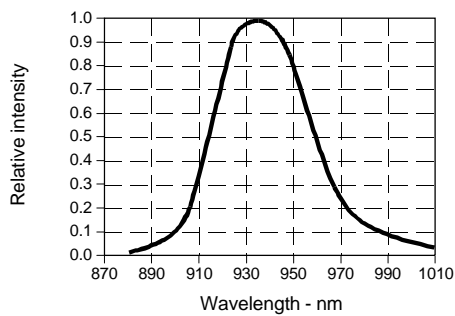
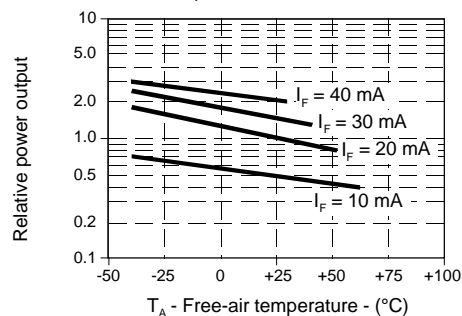


Fig. 6 Relative Power Output vs Free Air Temperature gra_130.ds4



All Performance Curves Show Typical Values

SEP8507

GaAs Infrared Emitting Diode

Honeywell