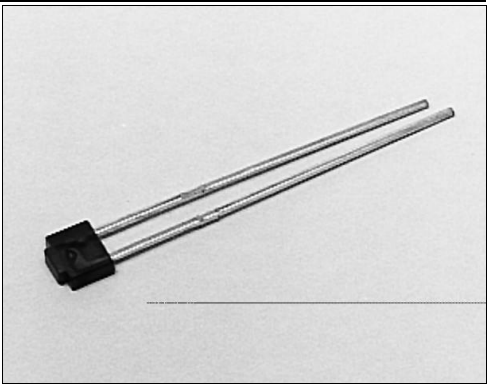


SEP8507

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



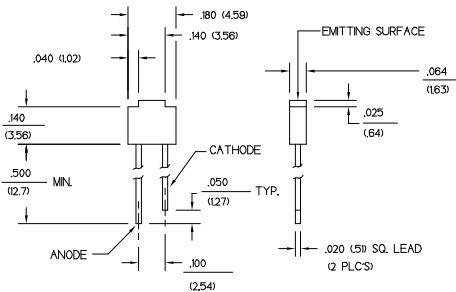
INFRA-18.TIF

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

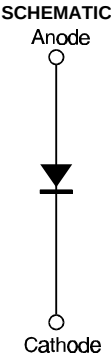
GaAs Infrared Emitting Diode

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 μA
Peak Output Wavelength	λ _p		935		nm	
Spectral Bandwidth	Δλ		50		nm	
Spectral Shift With Temperature	Δλ _p /ΔT		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.



SEP8507

GaAs Infrared Emitting Diode

Fig. 1 Radiant Intensity vs Angular Displacement

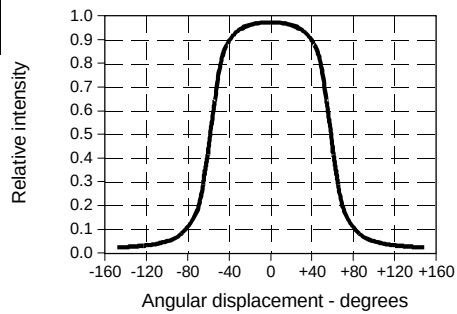


Fig. 2 Radiant Intensity vs Forward Current

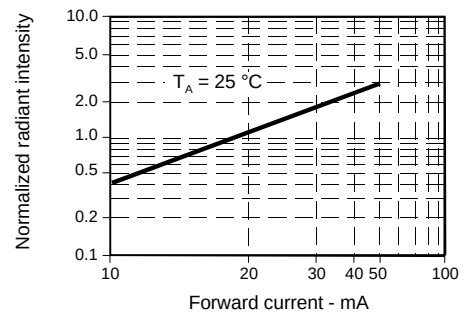


Fig. 3 Forward Voltage vs Forward Current

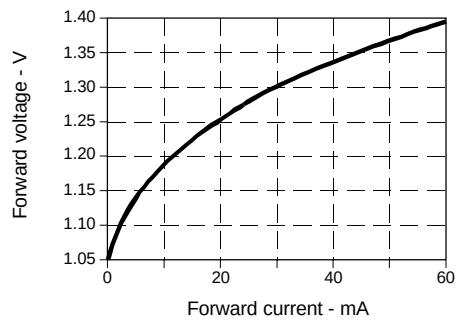


Fig. 4 Forward Voltage vs Temperature

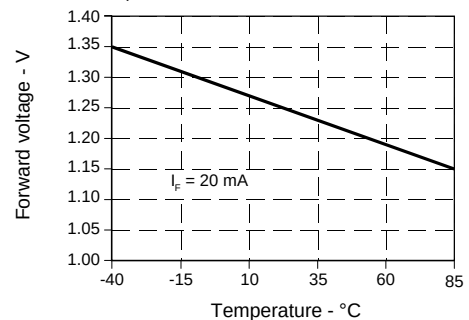


Fig. 5 Spectral Bandwidth

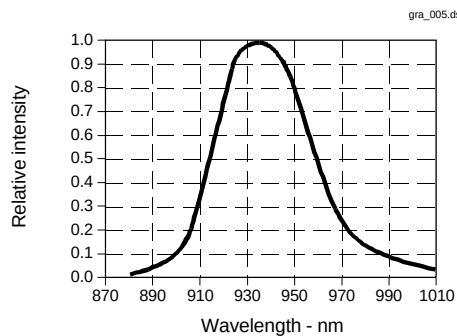
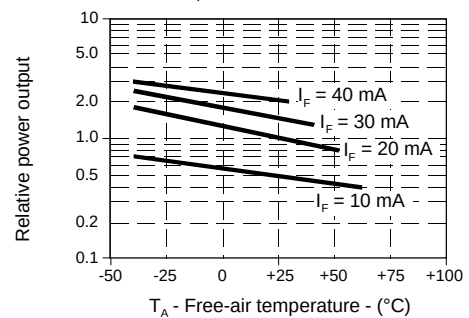


Fig. 6 Relative Power Output vs Free Air Temperature



All Performance Curves Show Typical Values

SEP8507

GaAs Infrared Emitting Diode

Honeywell