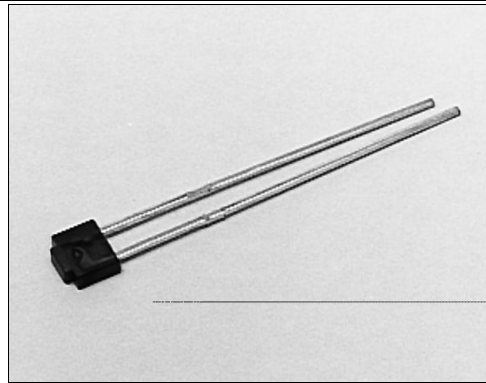


# SEP8507

## 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



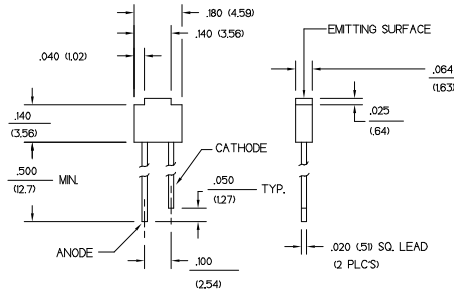
INFRA-18.TIF

### 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

# 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	$I_R=10$ $\mu$ A
Peak Output Wavelength	$\lambda_p$		935		nm	
Spectral Bandwidth	$\Delta\lambda$		50		nm	
Spectral Shift With Temperature	$\Delta\lambda_p/\Delta T$		0.3		nm/°C	
Beam Angle <sup>(1)</sup>	$\emptyset$		135		degr.	$I_F=$ Constant
Radiation Rise And Fall Time	$t_r, t_f$		0.7		$\mu$ 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 <sup>(1)</sup>
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



Honeywell reserves the right to make changes in order to improve design and supply the best products possible.

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# SEP8507

## GaAs Infrared Emitting Diode

Fig. 1 Radiant Intensity vs Angular Displacement gra\_032.ds4

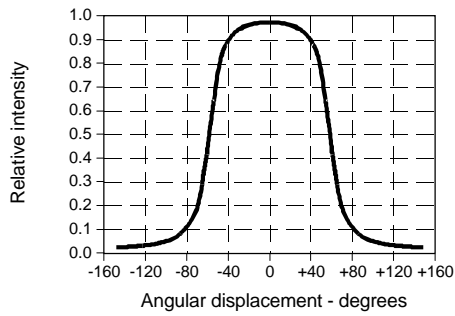


Fig. 2 Radiant Intensity vs Forward Current gra\_028.ds4

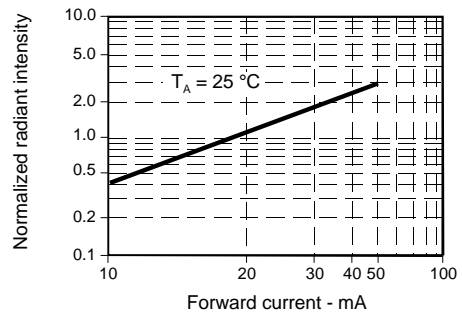


Fig. 3 Forward Voltage vs Forward Current gra\_003.ds4

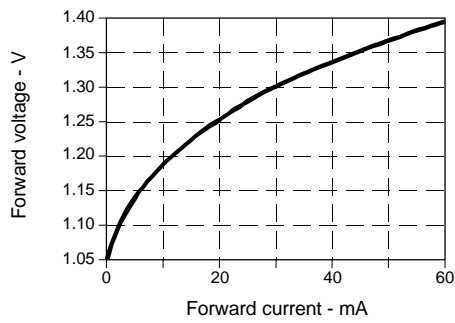


Fig. 4 Forward Voltage vs Temperature gra\_207.ds4

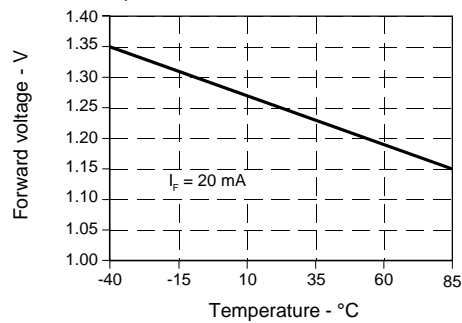


Fig. 5 Spectral Bandwidth gra\_005.ds4

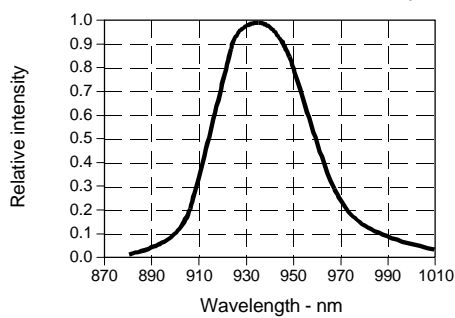
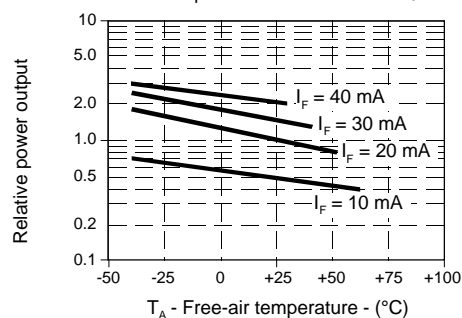


Fig. 6 Relative Power Output vs Free Air Temperature gra\_130.ds4



All Performance Curves Show Typical Values

# SEP8507

GaAs Infrared Emitting Diode

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