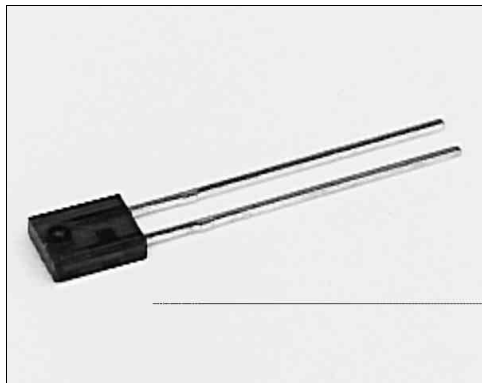


SEP8706

AlGaAs Infrared Emitting Diode

FEATURES

- Side-looking plastic package
- 50° (nominal) beam angle
- 880 nm wavelength
- Higher output power than GaAs at equivalent drive currents
- Mechanically and spectrally matched to SDP8406 phototransistor, SDP8106 photodarlington and SDP8000/8600 series Schmitt trigger



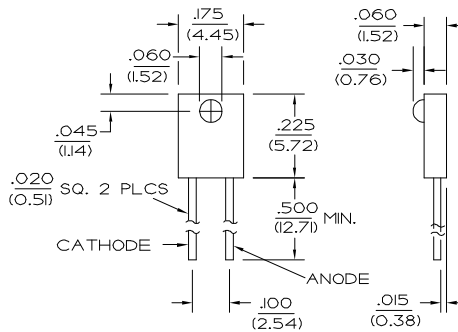
INFRA-20.TIF

DESCRIPTION

The SEP8706 is an aluminum gallium arsenide infrared emitting diode molded in a side-emitting smoke gray plastic package. The chip is positioned to emit radiation through a plastic lens from the side of the package. 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)



DIM_071.cdr

SEP8706

AlGaAs Infrared Emitting Diode

ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Irradiance ⁽¹⁾	H				mW/cm ²	I _F =20 mA
SEP8706-001		0.20				
SEP8706-002		0.45		2.6		
SEP8706-003		0.65				
Forward Voltage	V _F			1.7	V	I _F =20 mA
Reverse Breakdown Voltage	V _{BR}	3.0			V	I _R =10 μA
Peak Output Wavelength	λ _p		880		nm	
Spectral Bandwidth	Δλ		80		nm	
Spectral Shift With Temperature	Δλ _p /ΔT		0.2		nm/°C	
Beam Angle ⁽²⁾	Θ		50		degr.	I _F =Constant
Radiation Rise And Fall Time	t _r , t _f		0.7		μs	

Notes

1. Measured in mW/cm² into a 0.104 (2.64) diameter aperture placed 0.535(13.6) from the lens tip.
2. Beam angle is defined as the total included angle between the half intensity points.

ABSOLUTE MAXIMUM RATINGS

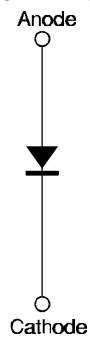
(25°C Free-Air Temperature unless otherwise noted)

Continuous Forward Current	50 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 0.78 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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SEP8706

AlGaAs Infrared Emitting Diode

Fig. 1 Radiant Intensity vs Angular Displacement gra_030.ds4

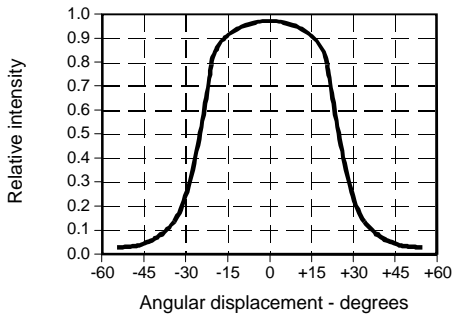


Fig. 2 Radiant Intensity vs Forward Current gra_028.ds4

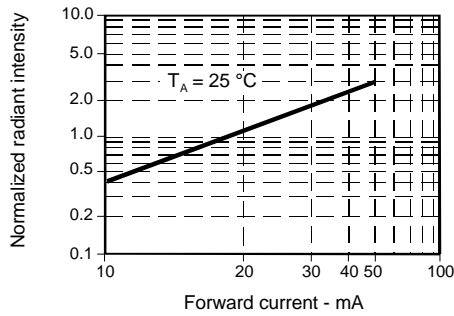


Fig. 3 Forward Voltage vs Forward Current gra_201.ds4

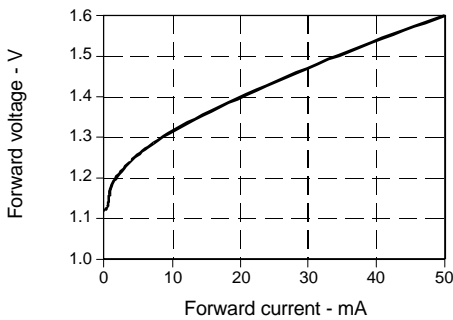


Fig. 4 Forward Voltage vs Temperature gra_208.ds4

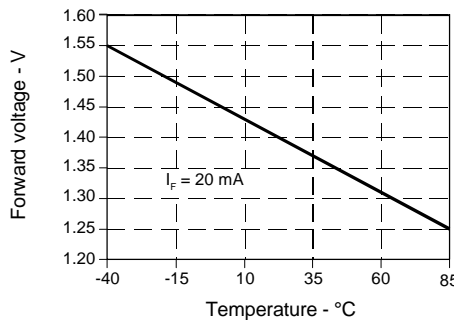


Fig. 5 Spectral Bandwidth gra_011.ds4

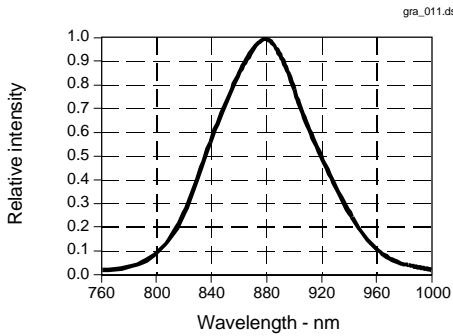
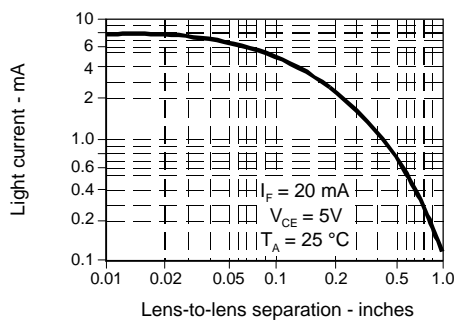
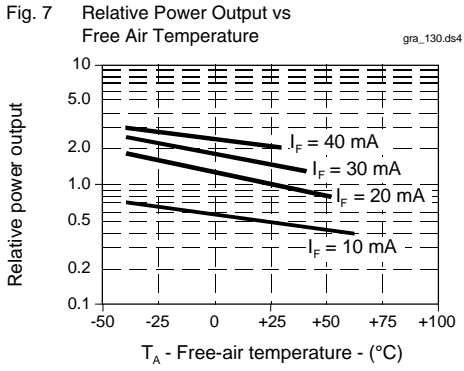


Fig. 6 Coupling Characteristics with SDP8406 gra_031.ds4



SEP8706

AlGaAs Infrared Emitting Diode



All Performance Curves Show Typical Values