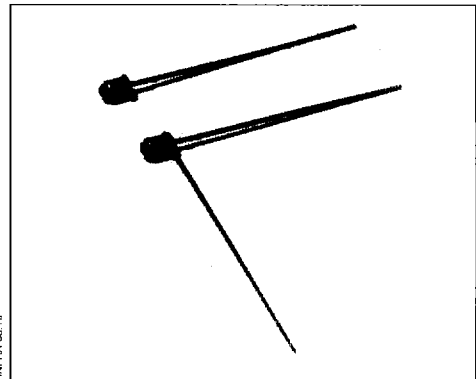


SE1470

AlGaAs Infrared Emitting Diode

FEATURES

- Compact, metal can coaxial package
- 24° (nominal) beam angle
- 880 nm wavelength
- Higher output power than GaAs at equivalent drive currents
- Wide operating temperature range (-55°C to +125°C)
- Mechanically and spectrally matched to SD1420 photodiode, SD1440 phototransistor and SD1410 photodarlington



INFRA-63.TIF

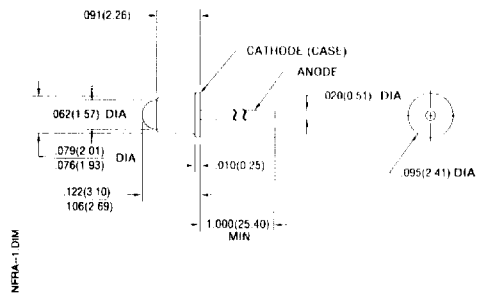
DESCRIPTION

The SE1470 is a high intensity aluminum gallium arsenide infrared emitting diode mounted in a glass lensed metal can coaxial package. The package may have a tab or second lead welded to the can as an optional feature (SE1470-XXXL). Both leads are flexible and may be formed as required to fit various mounting configurations. These devices typically exhibit 70% greater power intensity than gallium arsenide devices at the same forward current.

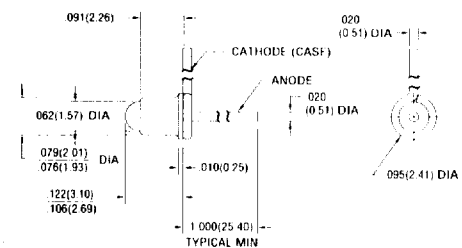
OUTLINE DIMENSIONS in inches (mm)

Tolerance	3 plc decimals	±0.005(0.12)
	2 plc decimals	±0.020(0.51)

SE1470-XXX



SE1470-XXXL



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

SE1470

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
SE1470-001, SE1470-001L		0.35				
SE1470-002, SE1470-002L		0.65				
SE1470-003, SE1470-003L		1.10		4.5		
SE1470-004, SE1470-004L		1.65				
Forward Voltage	V _F			1.8	V	I _F =50 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⁾	Ø		24		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	75 mW ⁽¹⁾
Operating Temperature Range	-55°C to 125°C
Storage Temperature Range	-65°C to 150°C
Soldering Temperature (10 sec)	260°C

Notes

1. Derate linearly from 25°C free-air temperature at the rate of 0.71 mW/°C.

SCHEMATIC



INFRA-1 SCH

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SE1470

AlGaAs Infrared Emitting Diode

Fig. 1 Radiant Intensity vs Angular Displacement

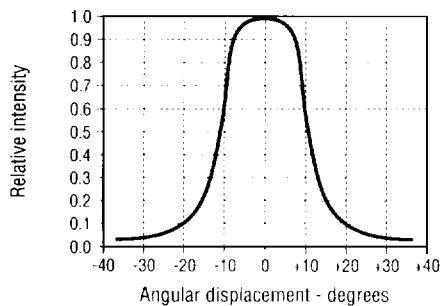


Fig. 2 Radiant Intensity vs Forward Current

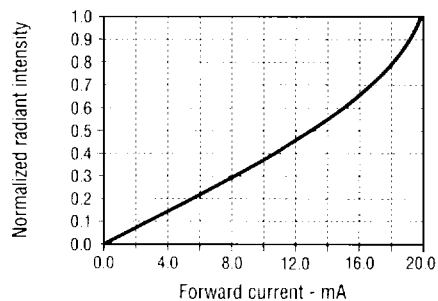


Fig. 3 Forward Voltage vs Forward Current

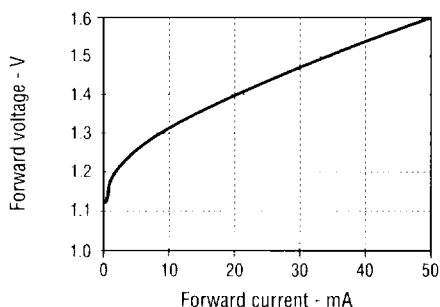


Fig. 4 Forward Voltage vs Temperature

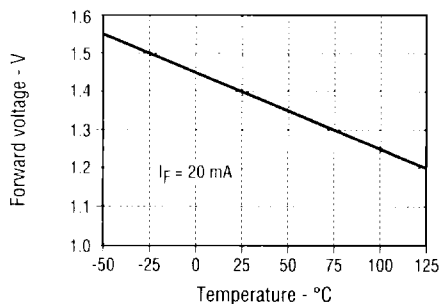


Fig. 5 Spectral Bandwidth

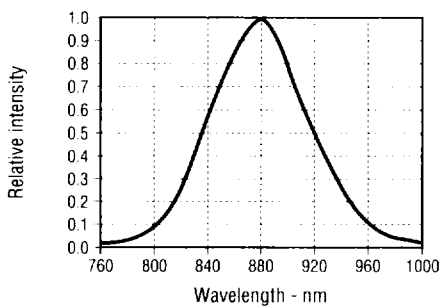
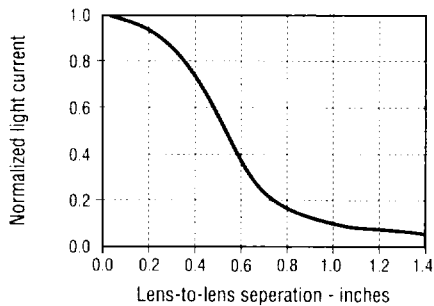


Fig. 6 Coupling Characteristics with SD1440

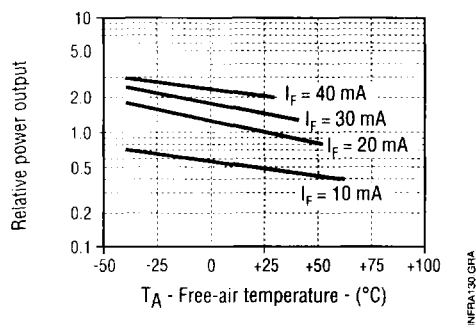


All Performance Curves Show Typical Values

SE1470

AlGaAs Infrared Emitting Diode

Fig. 7 Relative Power Output vs
Free Air Temperature



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