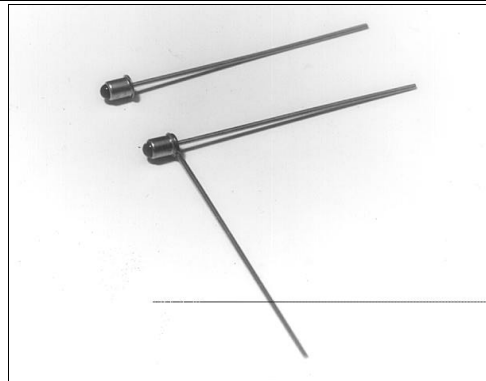


SE1450

GaAs Infrared Emitting Diode

FEATURES

- Compact, metal can coaxial package
- 24° (nominal) beam angle
- 935 nm wavelength
- Wide operating temperature range (- 55°C to +125°C)
- Mechanically and spectrally matched to SD1420 photodiode, SD1440 phototransistor and SD1410 photodarlington



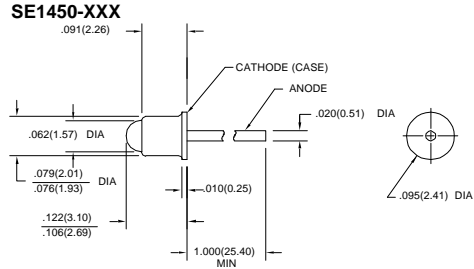
INFRA-63.TIF

DESCRIPTION

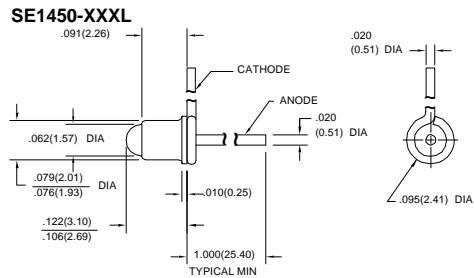
The SE1450 is a gallium arsenide infrared emitting diode mounted in a glass lensed, metal can coaxial package. The package may have a tab or second lead welded to the can as an optional feature (SE1450-XXXL). Both leads are flexible and may be formed as required to fit various mounting configurations.

OUTLINE DIMENSIONS in inches (mm)

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



DIM_001a.ds4



DIM_001b.ds4

SE1450

GaAs Infrared Emitting Diode

ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Total Power Output	P_o				mW	$I_F=50$ mA
SE1450-001, SE1450-001 L		0.20				
SE1450-002, SE1450-002 L		0.35				
SE1450-003, SE1450-003 L		0.70				
SE1450-004, SE1450-004 L		1.00				
Forward Voltage	V_F			1.6	V	$I_F=50$ 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⁾	\varnothing		24		degr.	$I_F=$ Constant
Radiation Rise And Fall Time	t_r, t_f		0.7		μ s	

Notes

- 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

- Derate linearly from 25°C free-air temperature at the rate of 0.71 mW/ $^{\circ}$ C.

SCHEMATIC



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

Honeywell

SE1450

GaAs Infrared Emitting Diode

Fig. 1 Radiant Intensity vs Angular Displacement gra_001.ds4

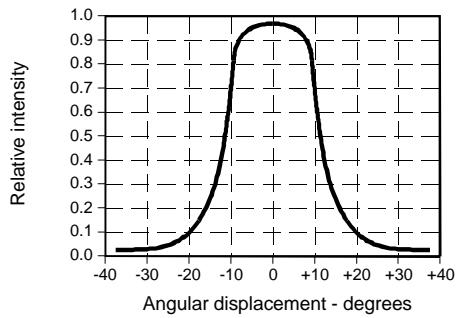


Fig. 2 Radiant Intensity vs Forward Current gra_002.ds4

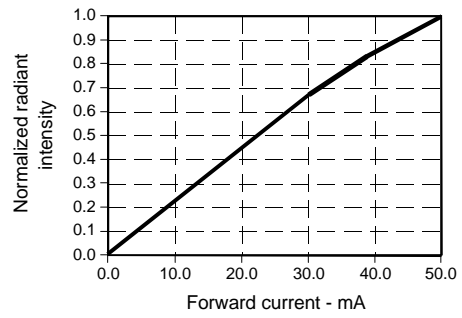


Fig. 3 Forward Voltage vs Forward Current gra_003.ds4

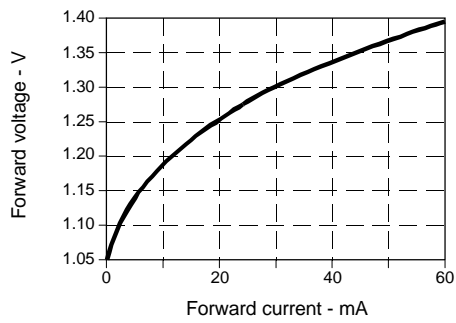


Fig. 4 Forward Voltage vs Temperature gra_200.ds4

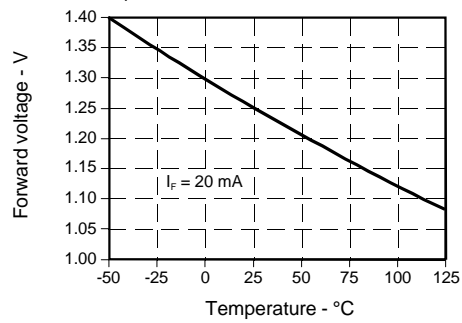


Fig. 5 Spectral Bandwidth gra_005.ds4

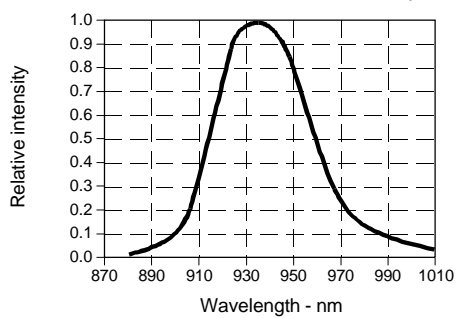
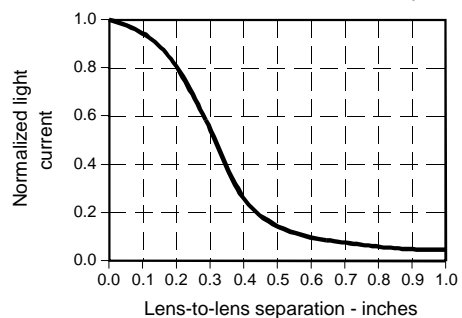
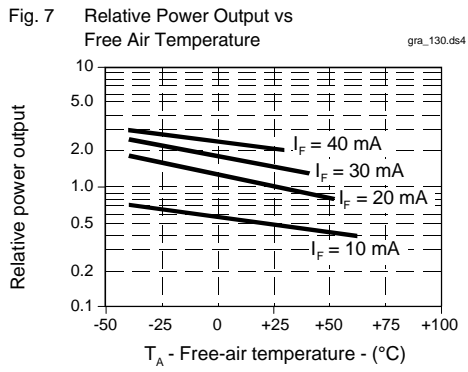


Fig. 6 Coupling Characteristics with SD1440 gra_006.ds4



SE1450

GaAs Infrared Emitting Diode



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