WINSOURCE
ELECTRONICS

THE DATASHEET OF

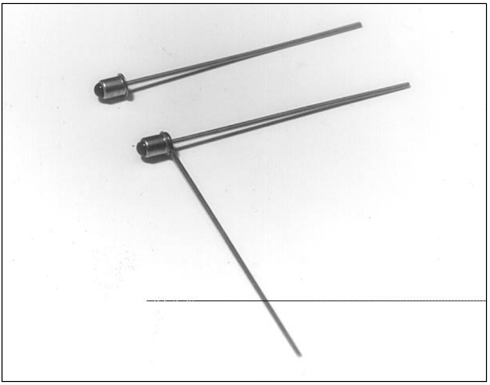
SE1450-004

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

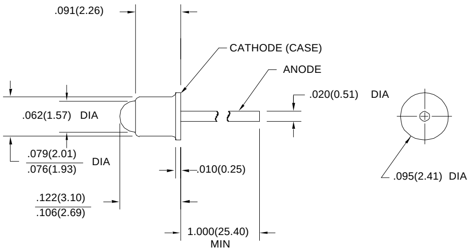
DESCRIPTION

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)

SE1450-XXX



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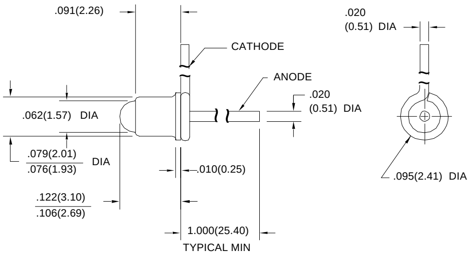
SE1450-XXXL



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SE1450

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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 µA
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/°C	
Beam Angle (1)	Ø		24		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.

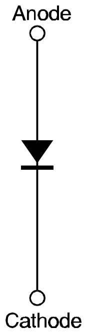
ABSOLUTE MAXIMUM RATINGS

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

Continuous Forward Current	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



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

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Fig. 1 Radiant Intensity vs Angular Displacement

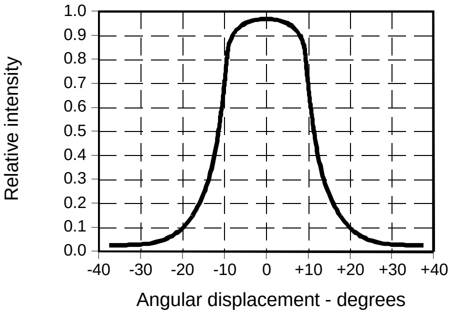

Fig. 2 Radiant Intensity vs Forward Current

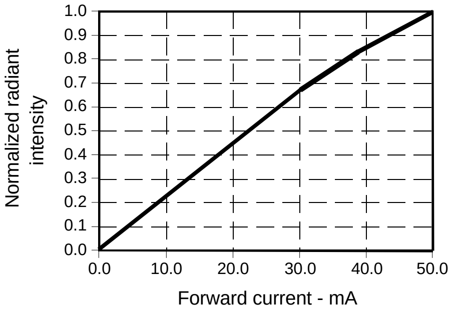

Fig. 3 Forward Voltage vs Forward Current

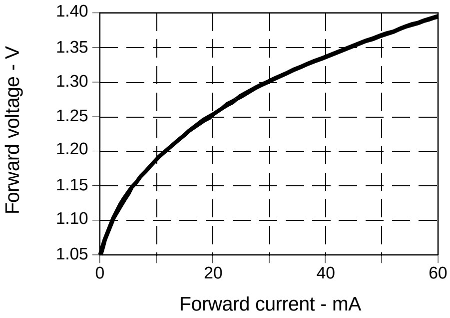

Fig. 4 Forward Voltage vs Temperature

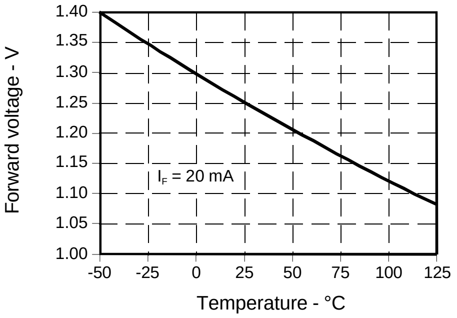

Fig. 5 Spectral Bandwidth

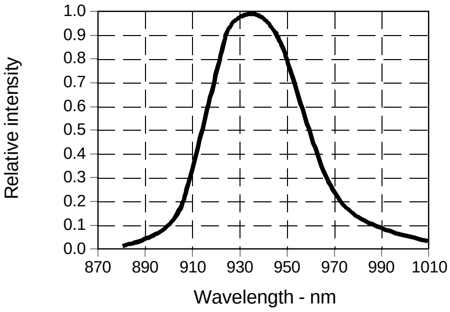

Fig. 6 Coupling Characteristics with SD1440

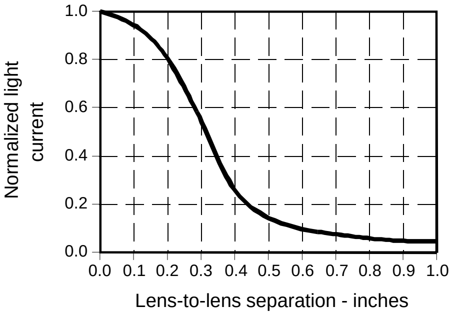

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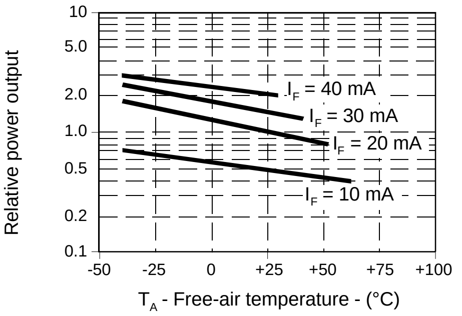
Fig. 7 Relative Power Output vs Free Air Temperature



All Performance Curves Show Typical Values