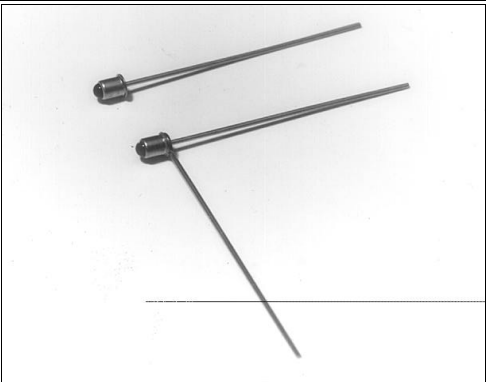


SE1450

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

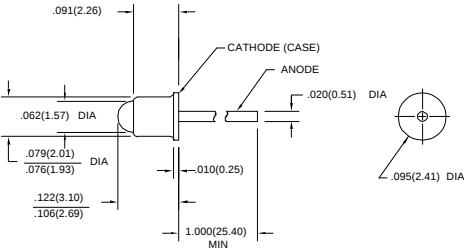
DESCRIPTION

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)

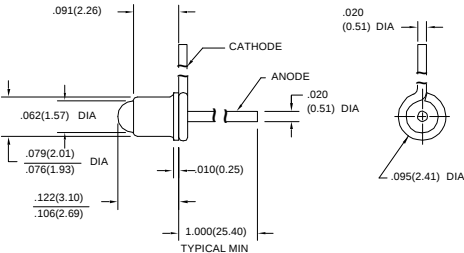
Tolerance	3 plc decimals	±0.005(0.12)
	2 plc decimals	±0.020(0.51)

SE1450-XXX



DIM_001a.ds4

SE1450-XXXL



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 µA
Peak Output Wavelength	λ _p		935		nm	
Spectral Bandwidth	Δλ		50		nm	
Spectral Shift With Temperature	Δλ _p /ΔT		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



SE1450

GaAs Infrared Emitting Diode

Fig. 1 Radiant Intensity vs Angular Displacement

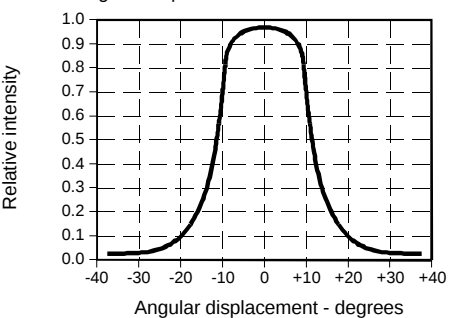


Fig. 2 Radiant Intensity vs Forward Current

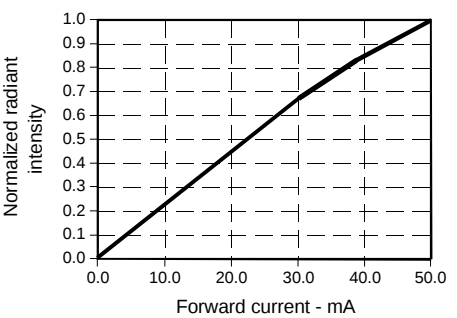


Fig. 3 Forward Voltage vs Forward Current

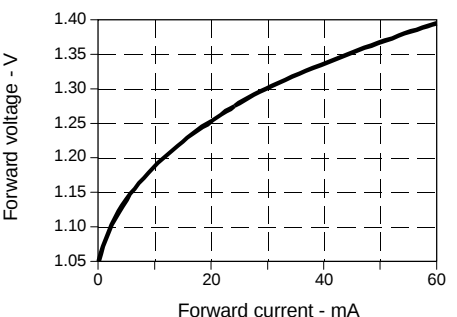


Fig. 4 Forward Voltage vs Temperature

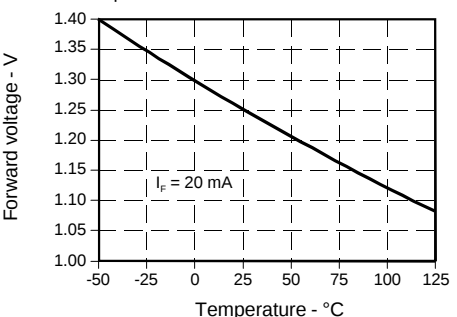


Fig. 5 Spectral Bandwidth

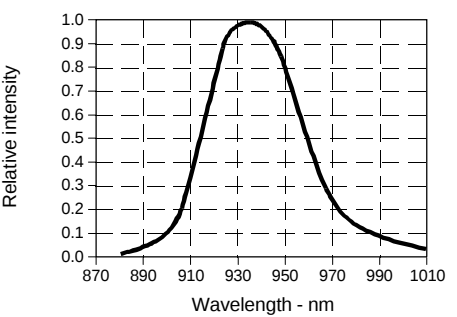
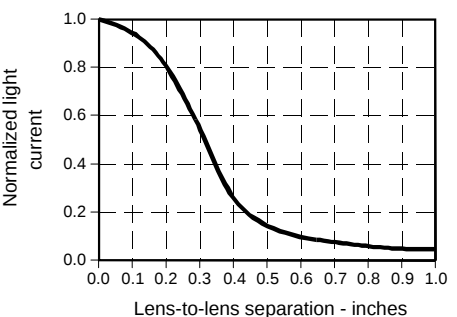
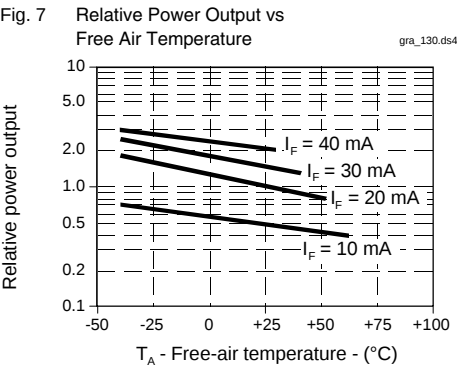


Fig. 6 Coupling Characteristics with SD1440



SE1450

GaAs Infrared Emitting Diode



All Performance Curves Show Typical Values