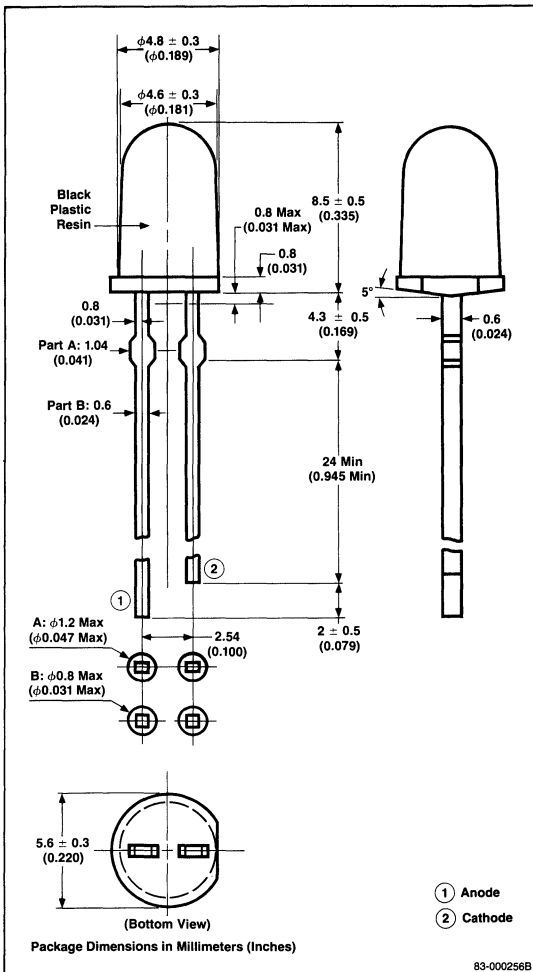


Description

The SE307 is a GaAs (Gallium Arsenide) infrared emitting diode which is mounted on the lead frames and molded in plastic. On forward bias, it emits a spectrally narrow band of radiation peaking at 940nm.

Package Dimensions



Features

- Economical
- High radiant intensity
- Narrow half angle
- Good linearity
- Spectrally matched to silicon sensors
- Long lead

Applications

- Light source for TV remote control
- Light source for smoke detector
- Optical encoders
- Photo choppers, isolators

Absolute Maximum Ratings

$T_A = +25^\circ\text{C}$

Power Dissipation, P_D	150mW
Forward Current, I_F	100mA
Pulse Forward Current, I_{FP}^1	1.5A
Reverse Voltage, V_R	5.0V
Junction Temperature, T_J	+80°C
Storage Temperature, T_{STG}	-30°C to +80°C

Electro-Optical Characteristics

$T_A = +25^\circ\text{C}$

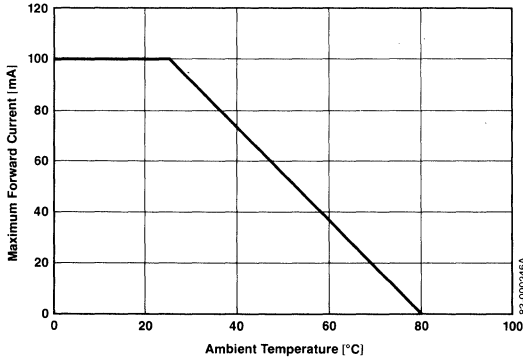
Parameters	Symbol	Limits			Unit	Test Conditions
		Min	Typ	Max		
Forward Voltage	V_F	1.25	1.45		V	$I_F = 50\text{mA}$
Pulse Forward Voltage	V_{FP}^1	2.5	3.0		V	$I_{FP} = 1.0\text{A}$
Capacitance	C_T	40			pF	$V = 0$, $f = 1.0\text{MHz}$
Peak Emission Wavelength	λ_{PEAK}	940			nm	$I_F = 50\text{mA}$
Spectral Line Half Width	$\Delta\lambda$	60			nm	$I_F = 50\text{mA}$
Radiant Intensity	I_E	10	30		mW/sr	$I_F = 50\text{mA}$
Peak Output Power	P_{FP}^1	15			mW	$I_{FP} = 1.0\text{A}$
Light Turn-On and Turn-Off	t_{ON}, t_{OFF}	1			μs	

Note: 1. $f = 1.0\text{kHz}$, duty cycle 1%.

Typical Characteristics

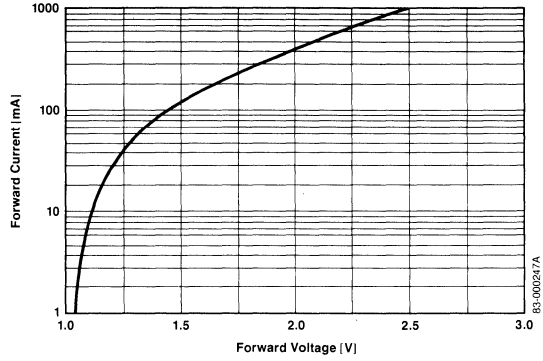
$T_A = +25^\circ\text{C}$

Maximum Forward Current vs Ambient Temperature



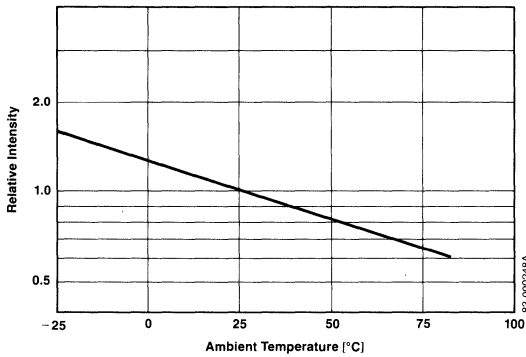
83-000246A

Forward Current vs Forward Voltage



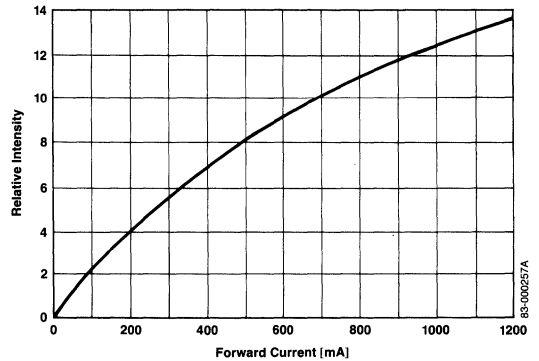
83-000247A

Relative Intensity vs Ambient Temperature



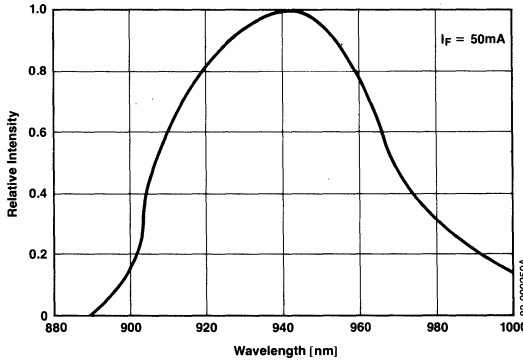
83-000248A

Relative Intensity vs Forward Current



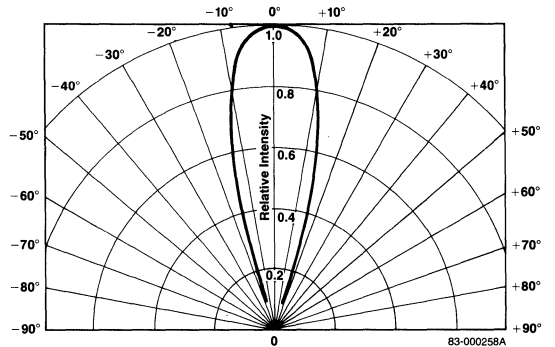
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Spectral Distribution



83-000250A

Spatial Distribution



83-000258A