



LED940-66-60

- Infrared High Power LED
- 940 nm, 550 mW
- 400 x 400 μm chip die, AlGaAs, 60 pcs.
- TO-66 package, Silicone and/or Epoxy Resin
- 130° Viewing Angle



Description



LED940-66-60 is a wide viewing and extremely high output power illuminator assembled with a total of **60 pcs.** of **AlGaAs chip dies**, mounted on a metal **TO-66** stem and covered with a silicone and/or epoxy resin. On forward bias, it emits a power radiation of typical **550 mW** at a peak wavelength at **940 nm**.

Maximum Ratings ($T_{\text{CASE}}=25^{\circ}\text{C}$)

Parameter	Symbol	Values		Unit
		Min.	Max.	
Power Dissipation	P_D		9	W
Forward Current	I_F		1200	mA
Reverse Voltage	V_R		25	V
Thermal Resistance	R_{THJA}		2	K/W
Junction Temperature	T_J		120	$^{\circ}\text{C}$
Operating Temperature	T_{CASE}	-40	+ 85	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-40	+ 100	$^{\circ}\text{C}$
Lead Solder Temperature *	T_{SLD}		+ 265	$^{\circ}\text{C}$

* must be completed within 3 seconds

LED Characteristics ($T_{\text{CASE}}=25^{\circ}\text{C}$)

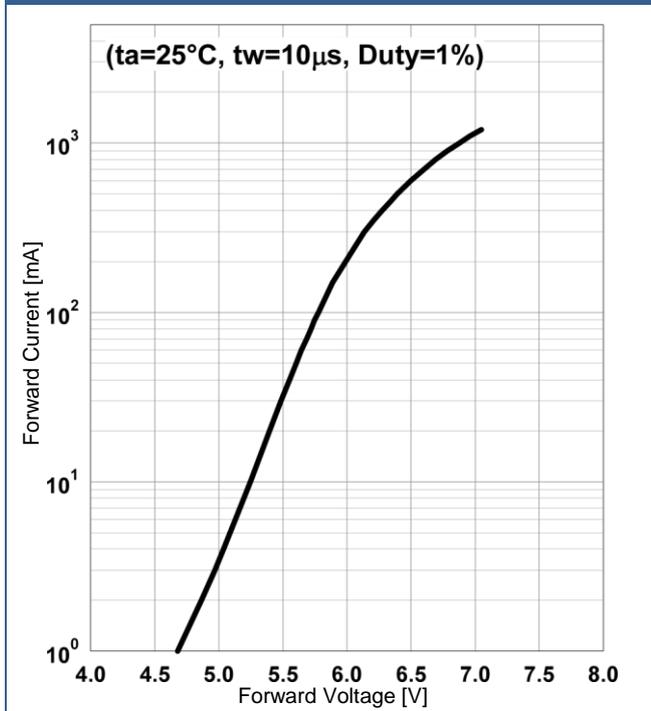
Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Peak Wavelength	λ_P	$I_F=600\text{mA}$	930		950	μm
Half Width (FWHM)	$\Delta\lambda$	$I_F=600\text{mA}$		50		nm
Total Radiated Power *	P_O	$I_F=600\text{mA}$		550		mW
Forward Voltage	V_F	$I_F=600\text{mA}$		6.5	7.5	V
Viewing Angle	ϕ	$I_F=100\text{mA}$		130		$^{\circ}$
Rise Time	t_R	$I_F=600\text{mA}$		1000		ns
Fall Time	t_F	$I_F=600\text{mA}$		1000		ns

* measured by S3584-08

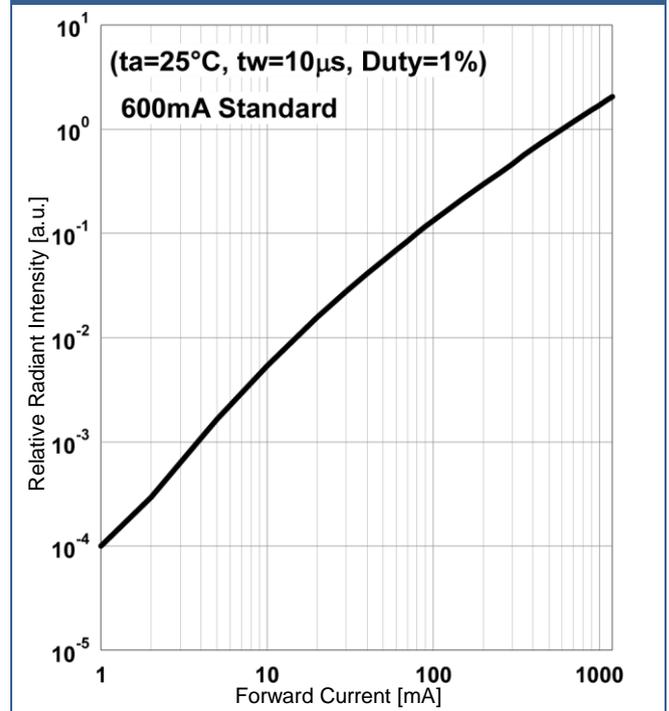


Performance Characteristics

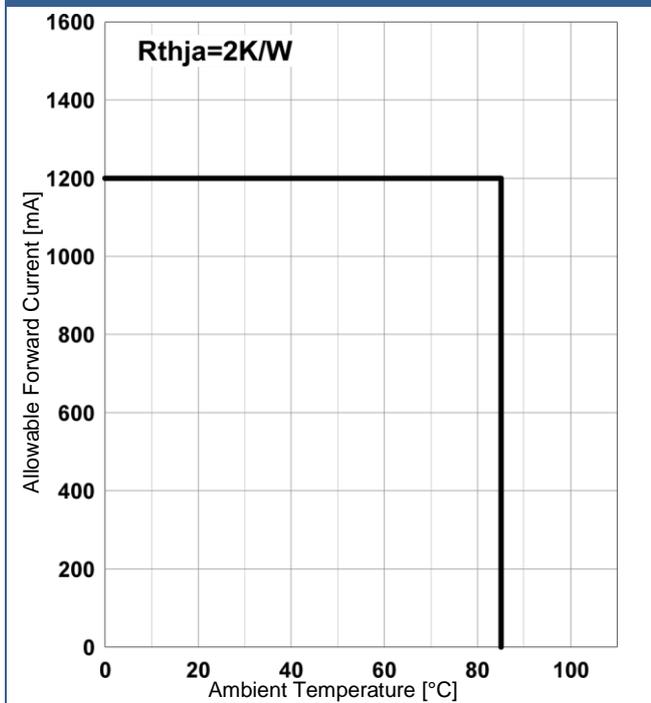
Forward Current – Forward Voltage



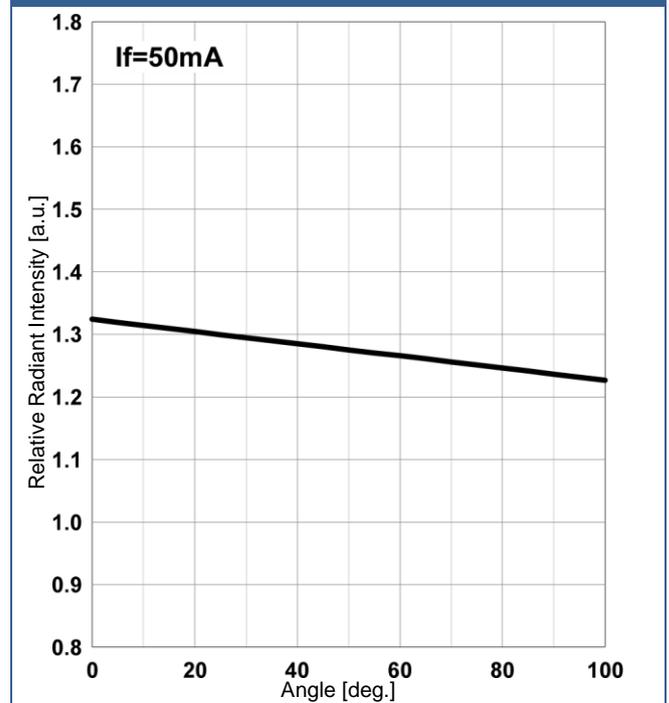
Relative Radiant Intensity – Forward Current



Allowable Forward Current – Ambient Temperature

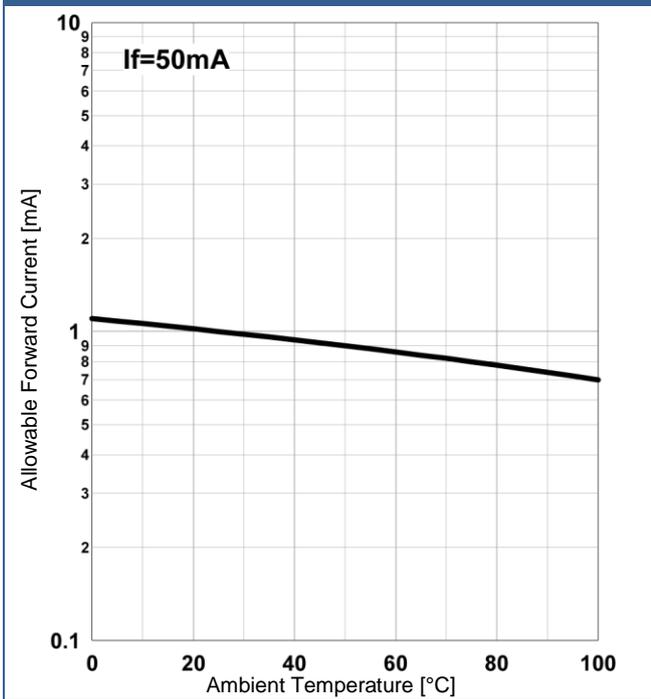


Forward Voltage – Ambient Temperature

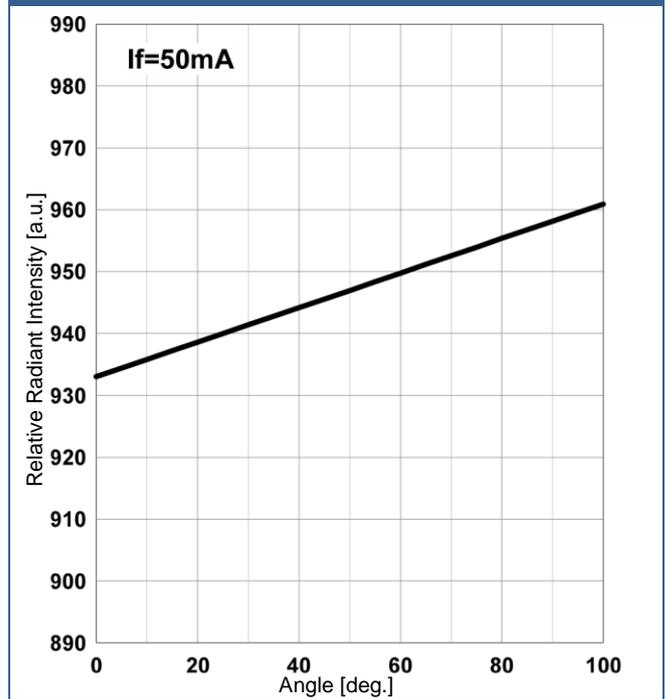




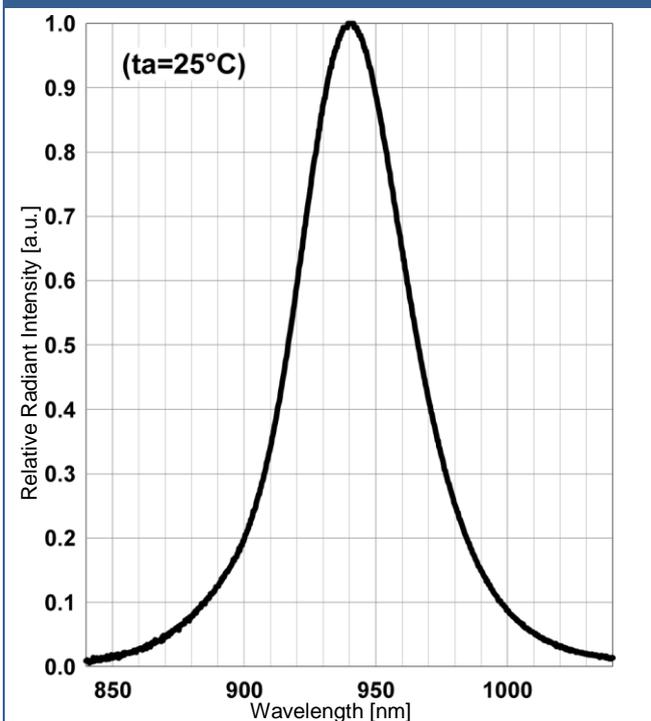
Relative Radiant Intensity – Ambient Temperature



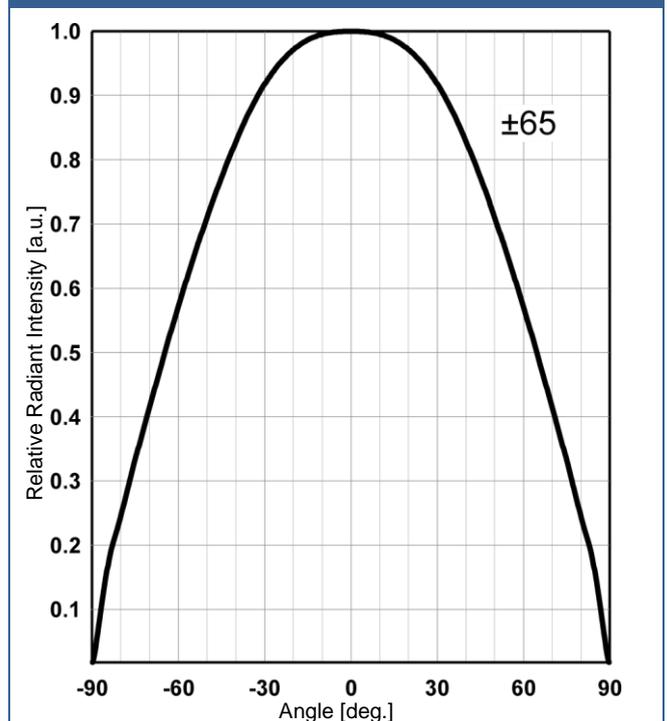
Peak Wavelength – Ambient Temperature

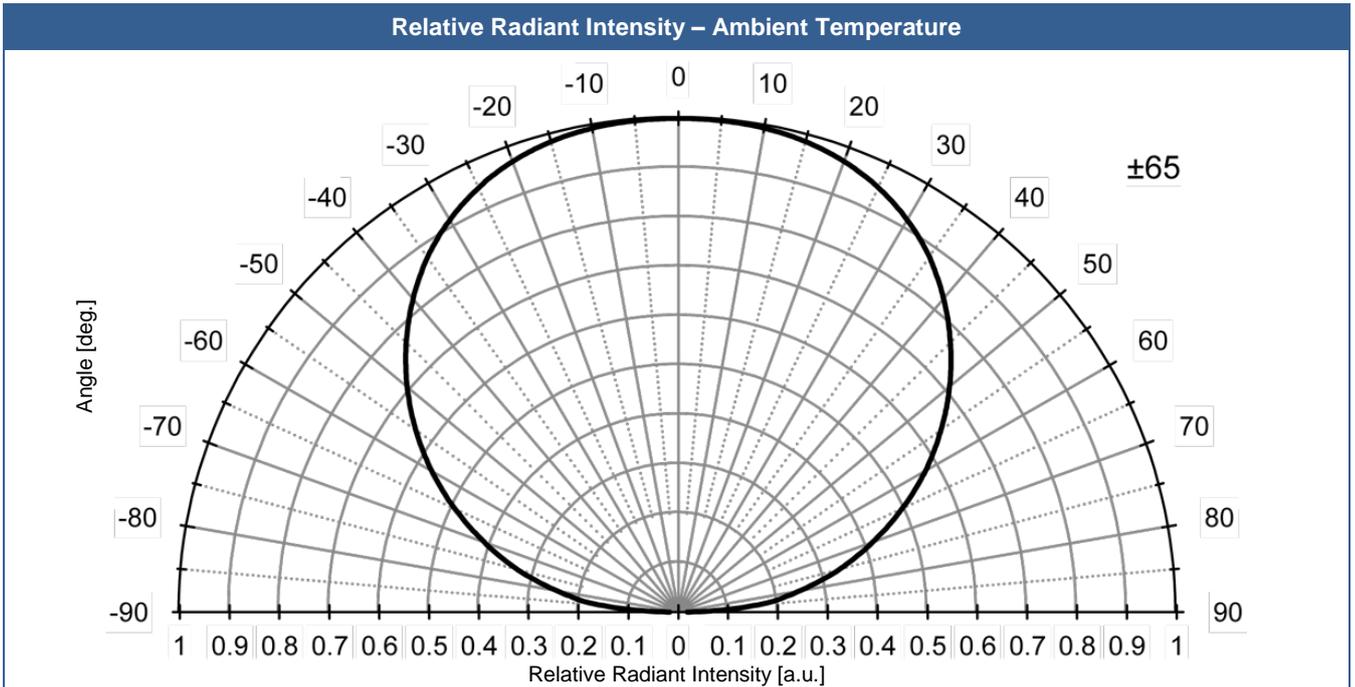


Relative Spectral Emission



Radiation Characteristics

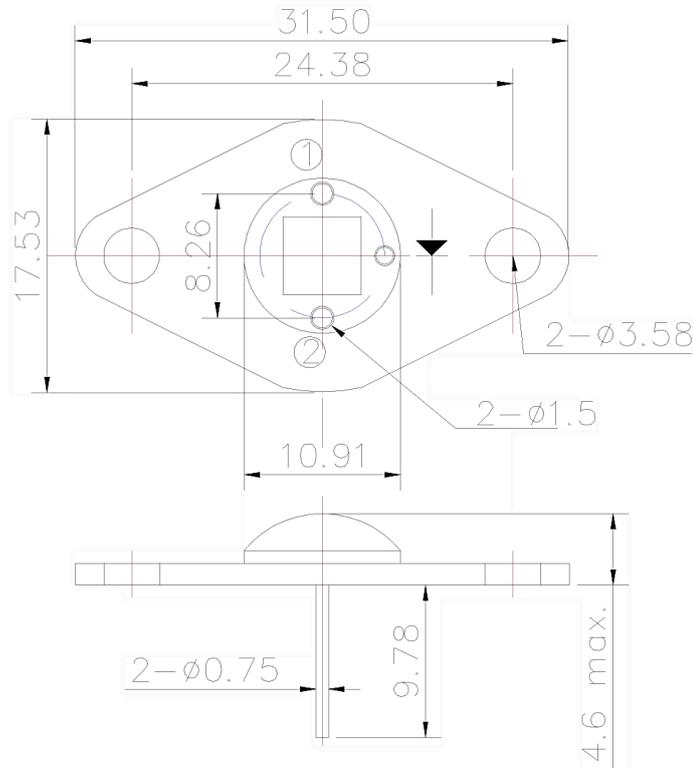




Outline Dimensions

LED940-66-60

TO-66, Silicon and/or Epoxy Resin



Lead	Description
PIN 1	LED Anode
PIN 2	LED Cathode

All Dimensions in mm



Precautions

Cautions:

- This high power LED must be cooled!
- NOT look directly into the emitting area of the LED during operation!

Soldering:

- Do avoid overheating of the LED
- Do avoid electrostatic discharge (ESD)
- Do avoid mechanical stress, shock, and vibration
- Do only use non-corrosive flux
- Do not apply current to the LED until it has cooled down to room temperature after soldering

Cleaning:

Cleaning with isopropyl alcohol, propanol, or ethyl alcohol is recommended

- DO NOT USE acetone, chloroform, trichloroethylene, or MKS
- DO NOT USE ultrasonic cleaners

Static Electricity:

LEDs are sensitive to electrostatic discharge (ESD). Precautions against ESD must be taken when handling or operating these LEDs. Surge voltage or electrostatic discharge can result in complete failure of the device.



Radiation:

During operation these LEDs do emit high intensity light, which is hazardous to skin and eyes, and may cause cancer. Do avoid exposure to the emitted light. Protective glasses are recommended. It is further advised to attach a warning label on products/systems.

Operation:

Do only operate LEDs with a current source.

Running these LEDs from a voltage source will result in complete failure of the device.

Current of a LED is an exponential function of the voltage across it. Usage of current regulated drive circuits is mandatory.

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