



**PRELIMINARY**

Rev. A1

## LED1450S-66-60

- IR High Power LED Array
- 1450 nm, 70 mW
- Chip: 300x300  $\mu\text{m}$ , 60 pcs., InGaAsP
- TO-66 package, Silicone and/or Epoxy resin
- Viewing Angle: 128°



### Description

**LED1450S-66-60** is a wide viewing and extremely high output power illuminator consists of 60 pcs. of InGaAsP chip dies, mounted on a metal stem TO-66 package with AlN ceramics and covered with clear silicone and/or epoxy resin.

On forward bias, it emits a power radiation of typical **70 mW** at a peak wavelength of **1450 nm**.

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

Parameter	Symbol	Values		Unit
		Min.	Max.	
Power Dissipation	$P_D$		7.8	W
Forward Current	$I_F$		1.2	A
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

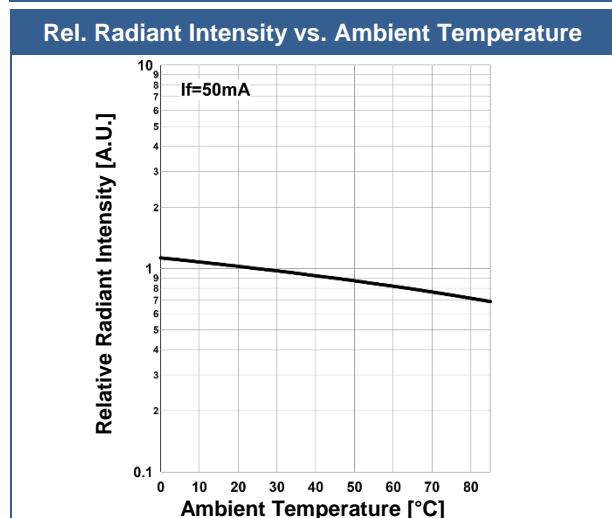
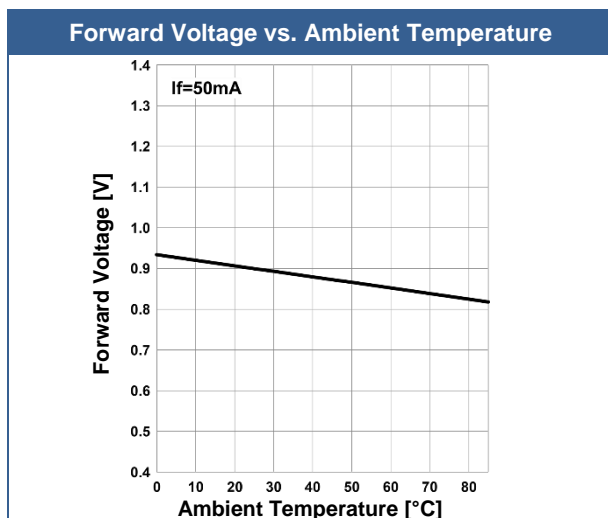
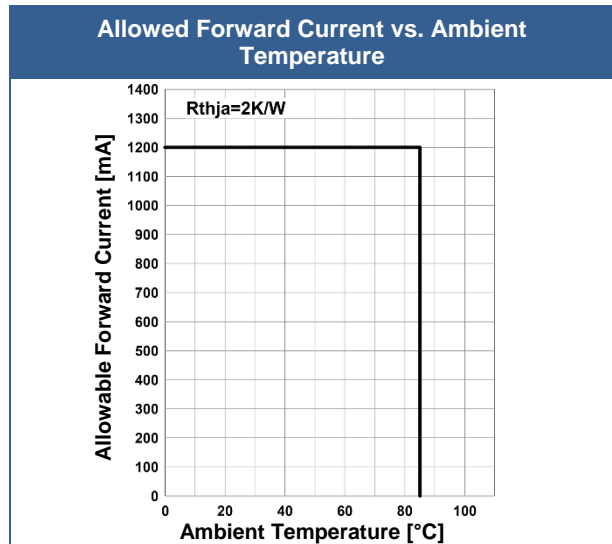
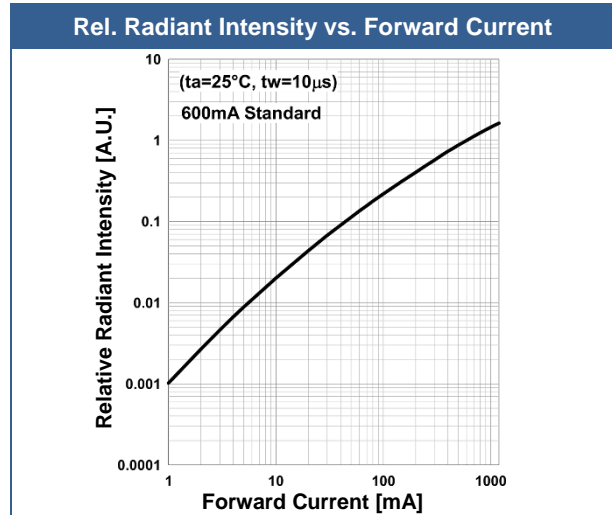
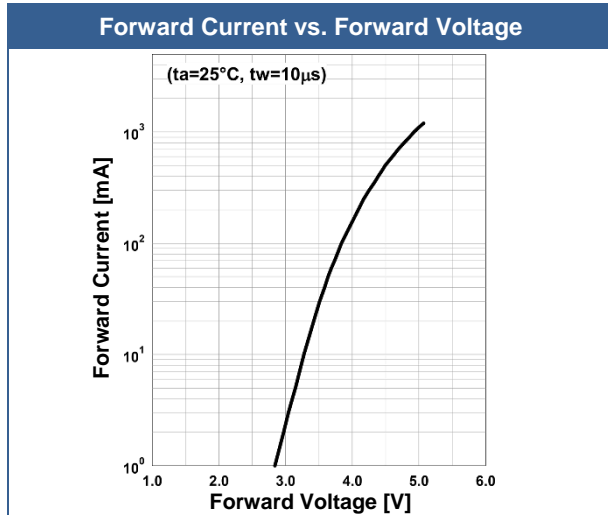
### Electro-Optical Characteristics ( $T_{CASE}=25^{\circ}\text{C}$ )

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Peak Wavelength	$\lambda_P$	$I_F=600\text{mA}$	1400		1500	nm
Half Width	$\Delta\lambda$	$I_F=600\text{mA}$		110		nm
Forward Voltage	$V_F$	$I_F=600\text{mA}$		4.6	6.5	V
Radiated Power *	$P_O$	$I_F=600\text{mA}$		70		mW
Viewing Angle	$2\theta_{1/2}$	$I_F=100\text{mA}$		128		deg.
Rise Time	$t_R$	$I_F=600\text{mA}$		30		ns
Fall Time	$t_F$	$I_F=600\text{mA}$		70		ns

\* measured by G8370-85

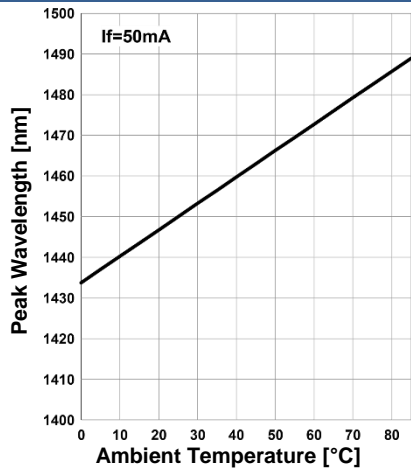


## Typical Performance Curves





Peak Wavelength vs. Ambient Temperature

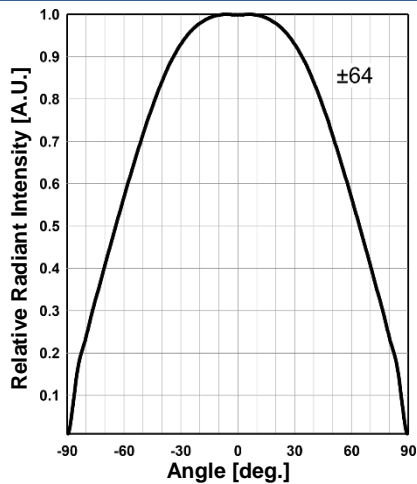


Relative Spectral Emission

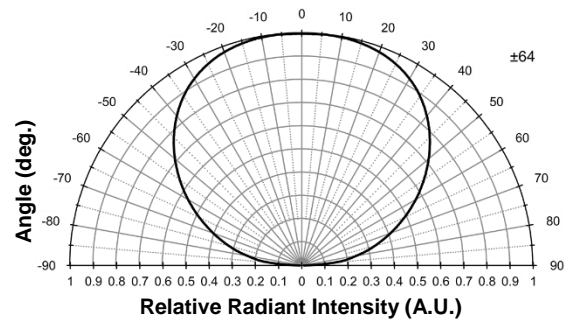
Relative Radiant Intensity [A.U.]

Wavelength [nm]

Radiation Characteristics



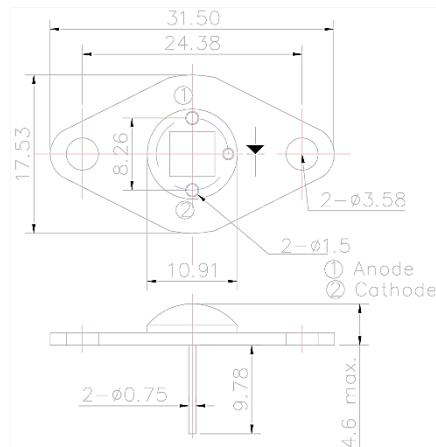
Radiation Characteristics



## Outline Dimensions

LED1450S-66-60

TO-66



Lead	Description
Pin 1	LED Anode
Pin 2	LED Cathode

All Dimensions in mm



## Precautions

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### 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.



## Revisions History

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Rev.	Rel. Date	Chapter	Modification	Page
A1	2010-07-16	-	Initial release	-

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The above specifications are for reference purpose only and subjected to change without prior notice