



**PRELIMINARY**

## LED850D-66-16100

Rev. A2

- Infrared High Power LED Array
- 850 nm, 8 W
- Chip: 1x1 mm, 16 pcs., AlGaAs
- TO-66 package, Silicone and/or Epoxy resin
- Viewing Angle: 126°



### Description



**LED850D-66-16100** is a wide viewing and extremely high output power illuminator consists of 16 pcs. 1x1 mm high current driven AlGaAs chip dies, mounted on a metal stem TO-66 package and covered with clear silicone and/or epoxy resin.

It is designed for wide viewing and extremely high output power illuminator.

On forward bias, it emits a power radiation of typical **8 W** at a peak wavelength at **850 nm**.

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

Parameter	Symbol	Values		Unit
		Min.	Max.	
Power Dissipation	$P_D$		40	W
Forward Current	$I_F$		4	A
Reverse Voltage	$V_F$		20	V
Thermal Resistance	$T_{thja}$		2	K/W
Junction Temperatur	$T_J$		120	°C
Operating Temperature	$T_{CASE}$	- 40	+ 85	°C
Storage Temperature	$T_{STG}$	- 40	+ 100	°C
Lead Solder Temperature *	$T_{SLD}$		+ 265	°C

\* must be completed within 3 seconds

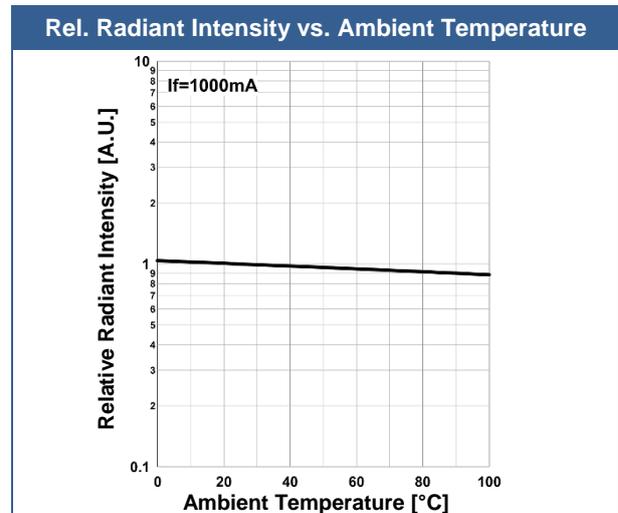
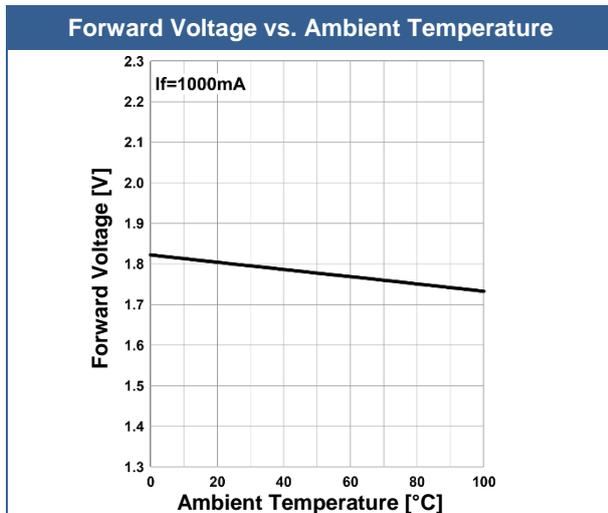
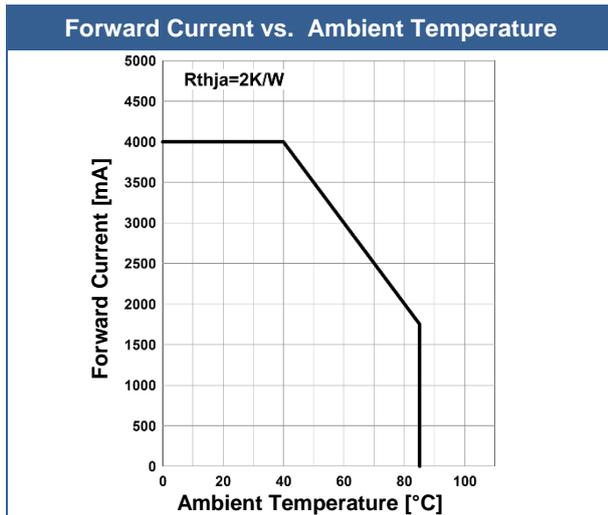
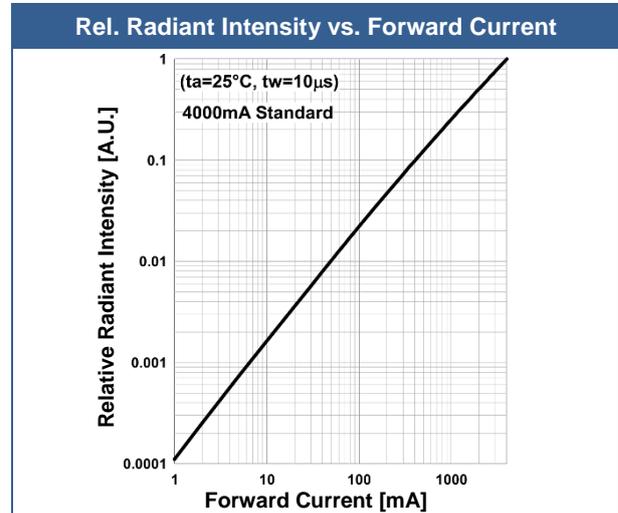
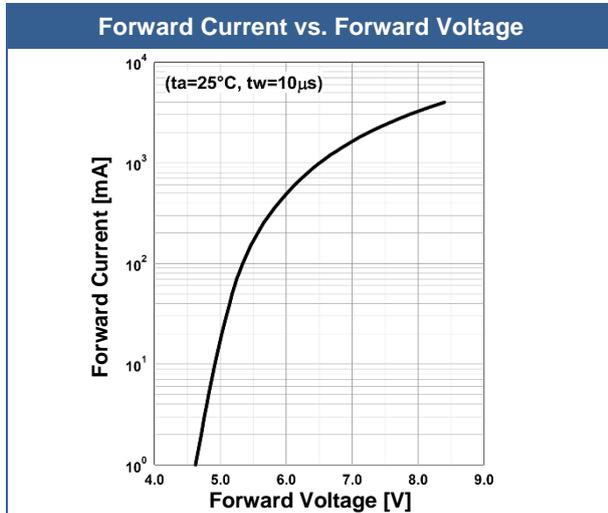
### Electro-Optical Characteristics $(T_{CASE}=25^{\circ}C)$

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Peak Wavelength	$\lambda_P$	$I_F=4.0A$	840		865	nm
Half Width	$\Delta\lambda$	$I_F=4.0A$		37		nm
Forward Voltage	$V_F$	$I_F=4.0A$		8.4	10	V
Radiated Power *	$P_O$	$I_F=4.0A$		8.0		W
Viewing Angle	$\varphi$	$I_F=100mA$		126		deg.
Rise Time	$t_r$	$I_F=4.0A$		35		ns
Fall Time	$t_f$	$I_F=4.0A$		20		ns

\* measured by S3584-08

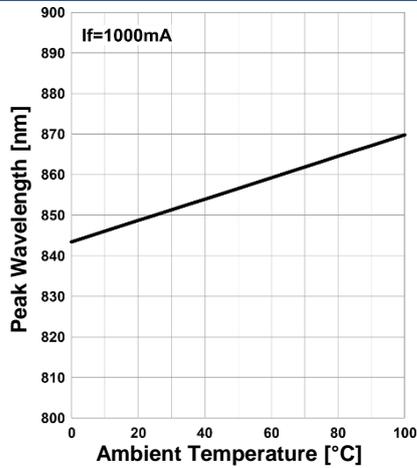


## Typical Performance Curves

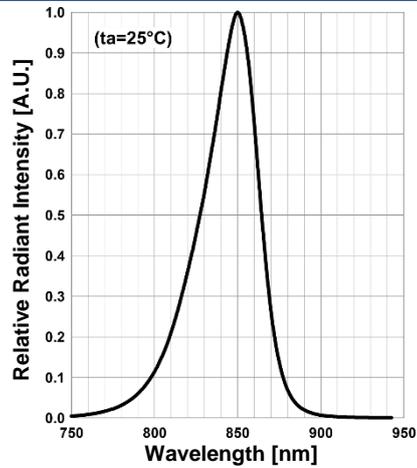




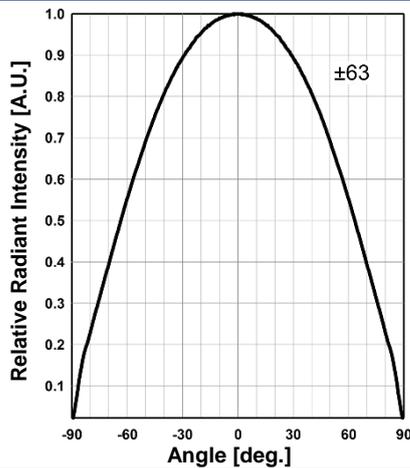
### Peak Wavelength vs. Ambient Temperature



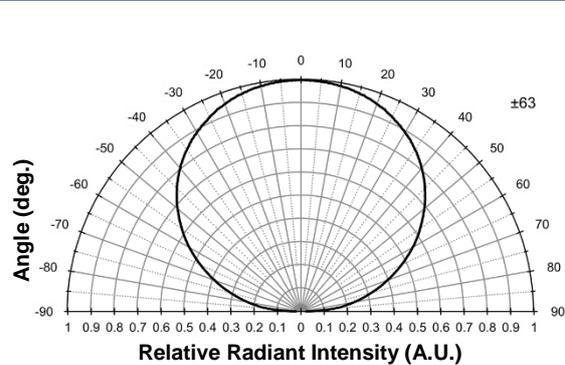
### Relative Spectral Emission



### Radiation Characteristics

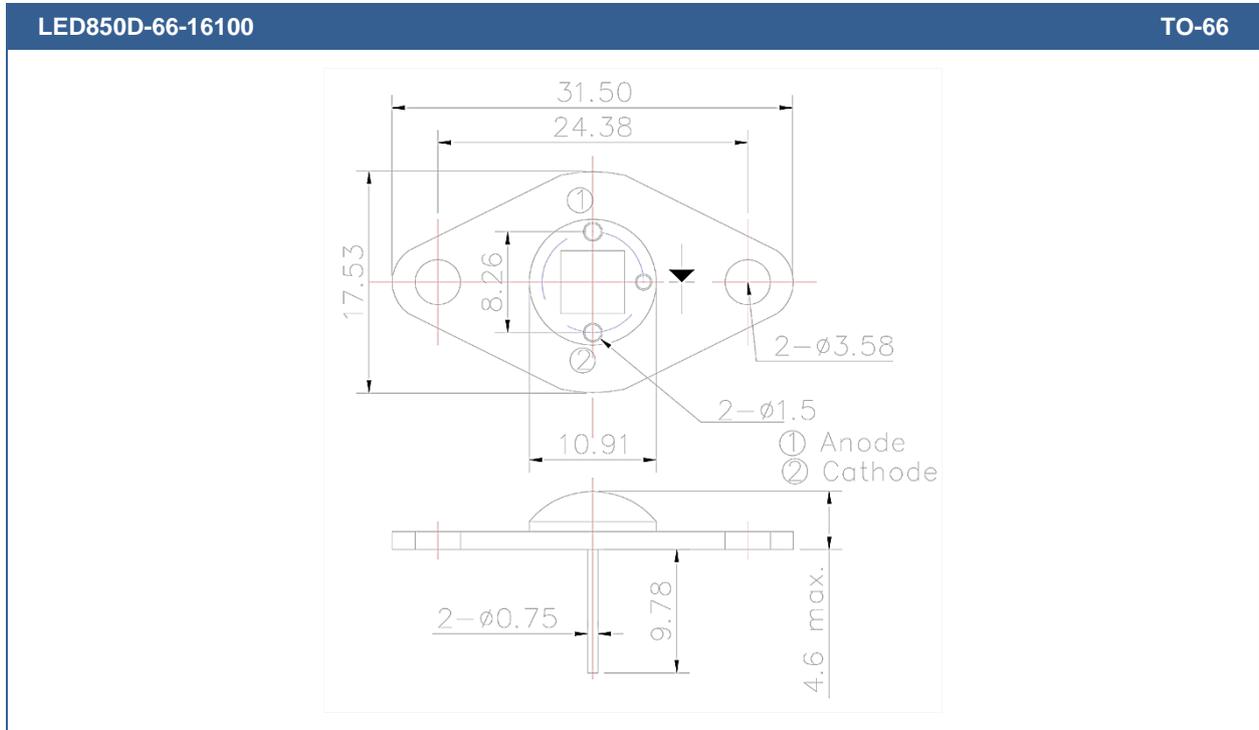


### Radiation Characteristics





## Outline Dimensions



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

Rev.	Rel. Date	Chapter	Modification	Page
A2	2018-05-18	Electro-Optical Characteristics	P <sub>o</sub> : 8 W (previously 2.8 W)	1
		Typical Performance Curves	Revised	2-3
		Revisions History	Included	6
A1	2018-04-05	-	Initial release	-

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