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# 10W Epistar

# High Power LED

**Warm White: LED 10W 800Lm**

## Features

- Long operating life
- Highest Luminous flux
- Wide range of colours:2500K-25000K
- Chip size: Epistar 45\*45mil
- More energy efficient than incandescent and most halogen lamps
- Low voltage DC operated
- Instant light (less than 100ns )
- Fully dimmable
- No UV
- Superior ESD protection
- RoHS compliant

## Applications

- Fiber optic alternative/ Decorative / Entertainment
- Mini-accent/Up lighters/Down lighters/Orientation
- Indoor/Outdoor commercial and Residential Architectural
- Cove/Under shelf/Task
- Bollards/Security/Garden
- Portable (flashlight, bicycle)
- Edge-lit signs (Exit, point of sale)
- Automotive Exit (Stop-Tail-Turn,CHMSL, Mirror Side Repeat)
- Traffic signaling / Beacons / Rail-Crossing and Wayside

# *10W Epistar Chip High Power LED*

## Typical Electrical & Optical Characteristics ( Ta = 25°C)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	VF	IF=1050mA	9.6	--	11	V
Reverse Current	IR	VR=50V	--	--	80	uA
50% Power Angle	2θ1/2	IF=1050mA	110	--	140	deg
Luminous Intensity (White)	φV	IF=1050mA	713		800	lm
Recommend Forward Current	IF	--	--	0.9	--	A
Chromaticity (White)	Tc	IF=1050mA	3000		3200	k

The sample delivers goods data						
Item	Symbol	Condition	Min.	Avg.	Max.	Unit
Luminous Intensity	φV	IF=1050mA				lm
50% Power Angle	2θ1/2					deg
Forward Voltage	VF					v
Chromaticity	Tc					k
White Color Region	--					
ChromaticityCoordinates	X=--			Y=--		

**Notes:**

1. Tolerance of measurement of forward voltage ±0.2V.
2. Tolerance of measurement of peak Wavelength ±2.0nm.
3. Tolerance of measurement of luminous intensity ±15%.

## Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Absolute Maximum Rating	Unit
Forward Current	IF	1000	mA
Peak Forward Current*	IFP	2100	mA
Reverse Voltage	VR	50	V
Power Dissipation	PD	10	W
Electrostatic discharge	ESD	±4500	V
Operation Temperature	TOPR	-30~+80	°C
Storage Temperature	TSTG	-40~+100	°C
Lead Soldering Temperature*	TSOL	Max. 260°C for 3sec Max.	

\*IFP Conditions : Pulse Width ≤ 10msec duty ≤ 1/10

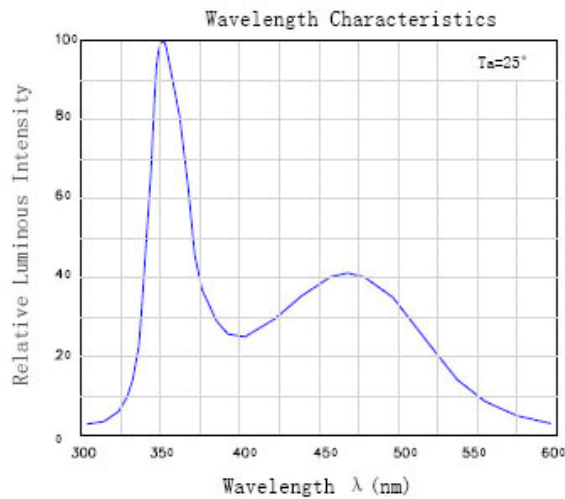
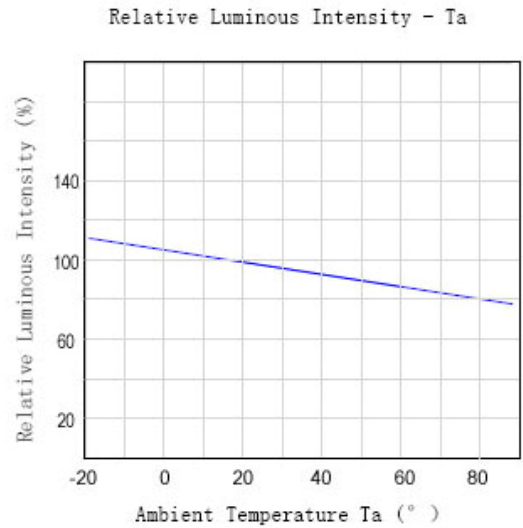
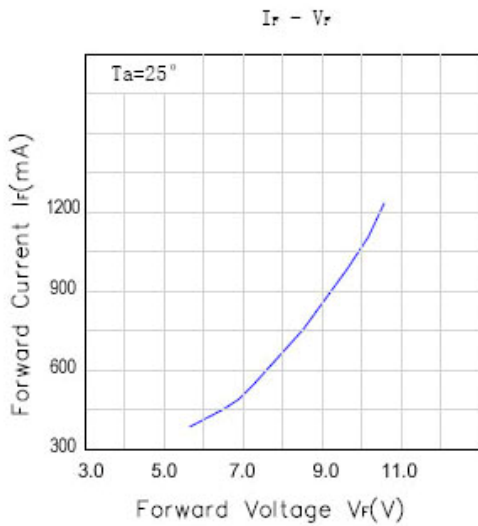
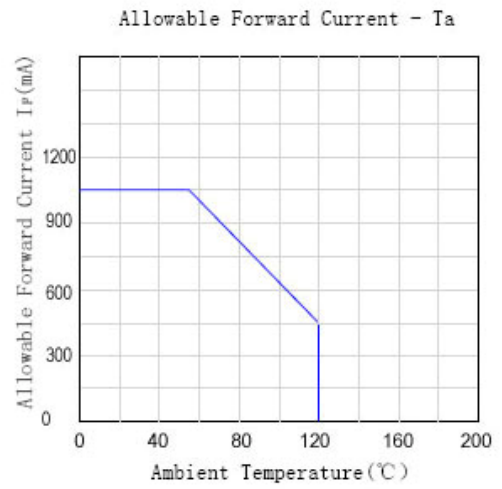
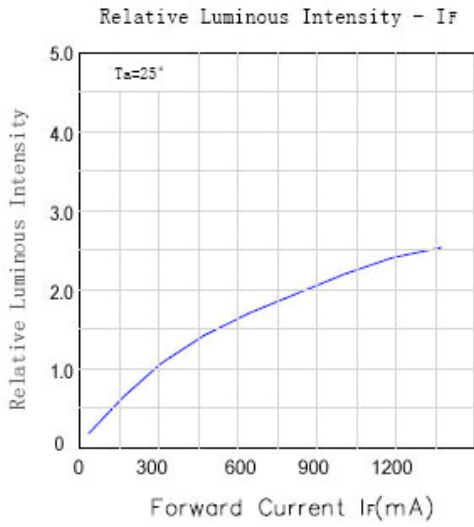
\* All high power emitter LED products mounted on aluminum metal-core printed circuit board, can be lighted directly, but we do not recommend lighting the high power products for more than 5 seconds without a appropriate heat dissipation equipment.

\*Please don't add or change wires, while LEDS is running

\* The LED of this a series can lead the heat reflux of 250 Celsius degrees Han but be free from damage.

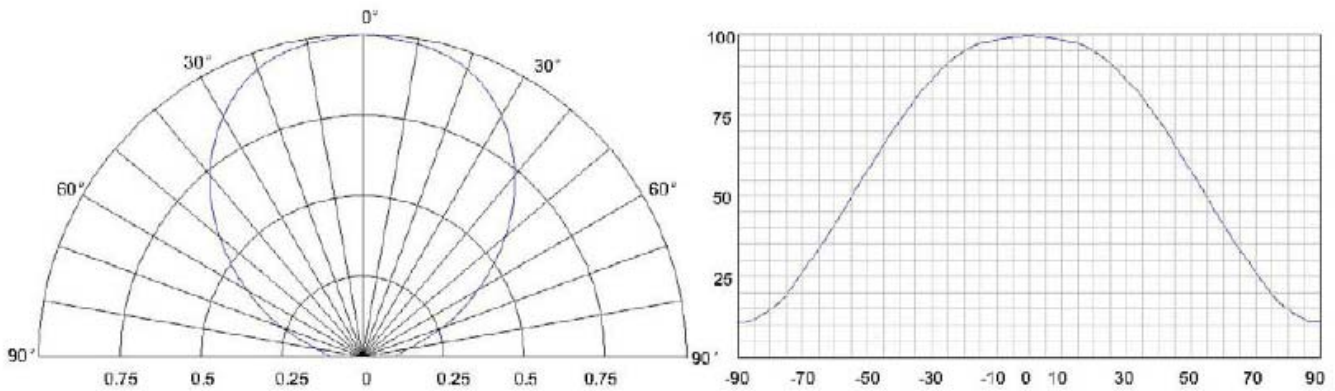
# 10W Epistar Chip High Power LED

## Typical Electrical/Optical Characteristics Curves (Ta=25° Unless Otherwise Noted)

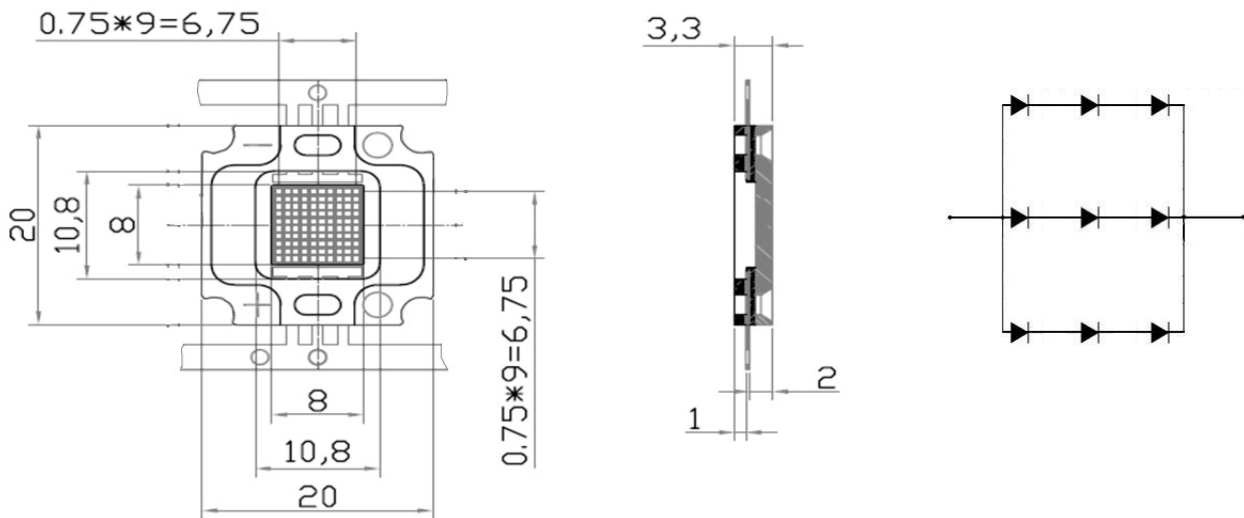


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## Radiation Pattern



## Package Dimensions (unit:mm)



### Notes:

1. All dimensions are in millimeters.
2. Tolerance is  $\pm 0.25$ mm unless otherwise noted.
3. Protruded resin under flange is 1.0mm max.
4. Lead spacing is measured where the leads emerge from the package.
5. Specifications are subject to change without notice.

## Note the use of high-power LED

### Product Protection

LED is the electrostatic sensitive devices, so the product storage, transportation, application process, paying particular attention to static electricity, electromagnetic waves, and together with the necessary anti-static measures

### Safety Precautions

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cutting or grinding, not with chemicals to dissolve.

## Design and Application

1. in the ratings to be used within the operating LED current limit function of the resistor. How much resistance will have to refer to the specific product specifications required to calculate the rated current plus that.
2. LED to be used in parallel mode, each LED channel by adding resistors are required, must not be led directly to multiple parallel.
3. circuits shall be designed to note: When the LED goes out to prohibit reverse voltage.
4. circuitry required to design note: the lights, turn off the lights when you prevent the instantaneous voltage.
5. solder direction (electrode direction) to be orthogonal with the direction of PCB.
6. high temperature will reduce its performance and reliability, please stay away from heat sources.

## Cleaning

1. avoid the use of non-designated chemical solvents to clean the LED.  
For example: trichloroethene, chlorosilanes, acetone, difluoro esters.
2. If necessary cleaning carried out at room temperature, and not more than 1 minute.
3. When using any cleaning a chemical solvent to be especially careful, because some chemical solvents will damage the gel surface.
4. recommend the use of isopropyl alcohol or pure water (not tap water) for cleaning.
5. If using pure water, then immediately after cleaning dehumidifying, forced drying.

## Save

1. before unpacking, LED should be stored in 30 °C / 90% RH or less environment. After opening the package, LED should be placed in 30 °C / 70% RH or below the environment
2. effective use for 1 year, after opening in 168H (7 days) of the exhausted.
3. If the use of desiccant fade or expired, the need to dry and roast: 60 ± 6°C / 24H.
4. LED James Gray lens easily, you need to do a good job related to dust control measures

## Pick and place

Grasping LED can only touch on the body frame, tweezers, a tool can not put pressure on the lens, not to stamp. stab or push the lens.

## Heat treatment

When the LED current drive is too large the T<sub>j</sub> (junction temperature) will exceed its limit, which can cause serious shorten the life of LED, the heat treatment measures to effectively reduce the thermal resistance applications. More common practice is to install the LED package device PCB board in the metal matrix. 1W LED products require heat the metal substrate surface area of at least 30 C m<sup>2</sup> (3W products recommended above 80 C m<sup>2</sup>), and its thermal conductivity is higher than 2.0W/mK. LED and thermal conductivity of metal substrate by a better combination of thermal plastic, thermal requirements Coefficient is higher than 1.0W/mK. thickness of less than 100um.

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