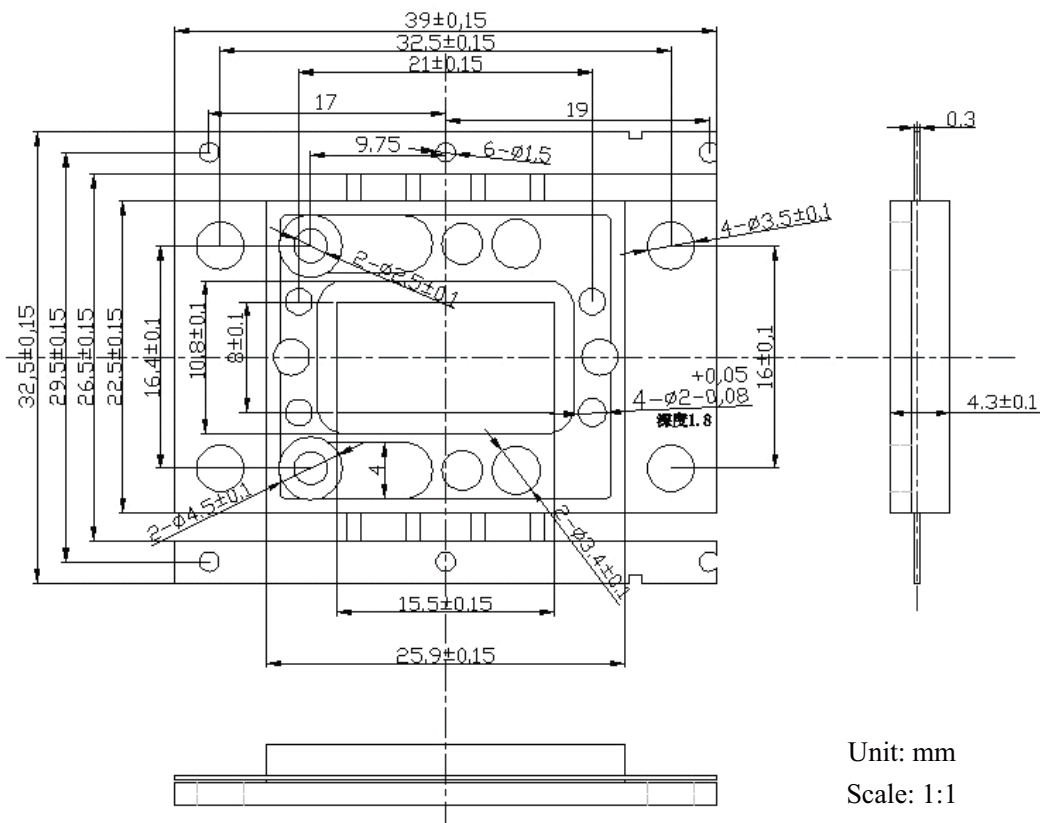


Features

- Super high flux output and high luminance
- More energy efficient than incandescent and most halogen lamp
- Available in Green, Blue, Red, Amber, Orange Cold White and WarmWhite,
- Designed for high current operation
- Low voltage DCoperation
- Low thermal resistance
- Instant on
- Long life(over 100k hours)
- Lead free product
- RoHScompliant

Application

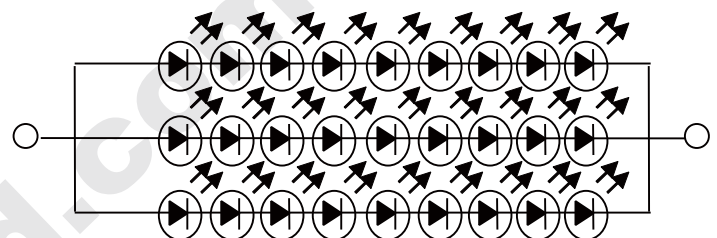
- Reading lights
- Portable flashlight
- Up-lights and Down-lights
- General lights
- Contour lights
- Ceiling lights
- Garden lights
- Streetlights
- Mining lights
- Decoration lights
- Architectural lighting
- Beaconlight



Unit: mm

Scale: 1:1

Internal Circuit



ITEM	MATERIALS
PACKING	Heat-Resistant Polymer
ENCASULATING RESIN	Silicone Resin
ELECTRODES	Ag Plating Copper Alloy

1. Absolute Maximum Ratings

(Ta=25°C)

Item	Symbol	Absolute Maximum Rating	Unit
Forward Current	IF	1.05	A
Pulse Forward Current	IFP	1.4	A
Allowable Reverse Current	IR	---	uA
Power Dissipation	PD	30	W
Operating Temperature	Topr	-20~+85	°C
Soldering Temperature	Tsod	260	°C

✧ IFP Conditions : Pulse Width ≤10msec. and Duty ≤1/10

✧ Soldering Time : ≤5 sec.

2. Electrical/Optical Characteristics

(Ta=25°C)

Item	Symbol	Condition	Min	Typ	Max	Unit
Forward Voltage	VF	IF=1.05[A]		30		V
Allowable Reverse Current	IR	VR=5[V]		---		uA
Luminous Flux	Φv	IF=1.05[A]	1500		2000	lm
Temperature Color	TC	IF=1.05[A]	6000		8000	K
Chromaticity	x	IF=1.05[A]		0.31		
Coordinate	y	IF=1.05[A]		0.31		
Viewing Angle	2θ 1/2	IF=1.05[A]		140		

✧ Please refer to CIE 1931 chromaticity diagram

✧ Viewing Angle Measurement allowance is ±5%

3. Ranking

(Ta=25°C)

Item	Symbol	Condition	BIN CODE	Min	Max	Unit
Forward Voltage	VF	IF=1.05[A]	V	10	15	V
			W	15	20	
			X	20	30	
			Y	30	40	
			Z	40	50	
Luminous Flux	Φv	IF=1.05[A]	V	150	200	lm
			W	200	300	
			X	300	500	
			Y	500	1000	
			Z	1000	↑	

✧ Forward Voltage Measurement allowance is ±3%

✧ Luminous Intensity Measurement allowance is ±10%

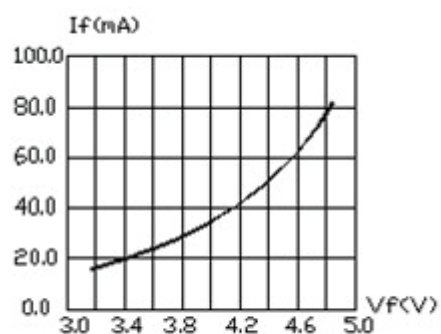


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE

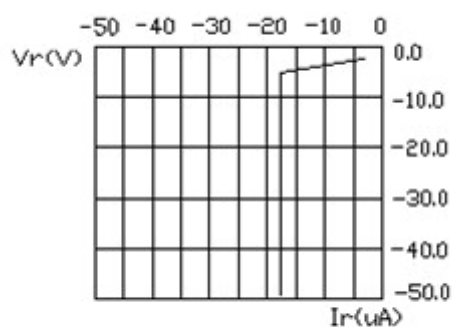


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE

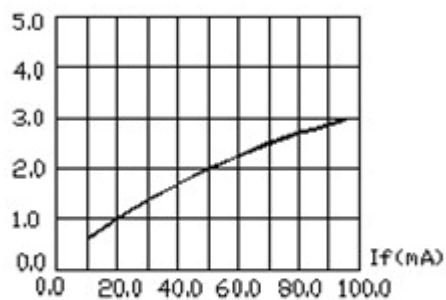


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

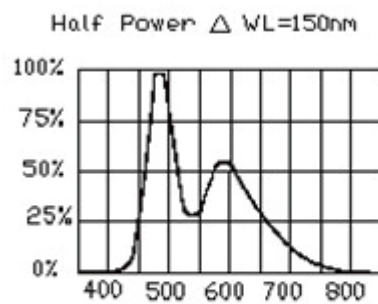
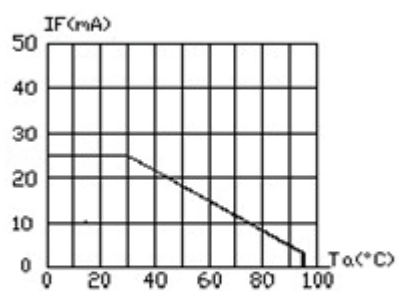
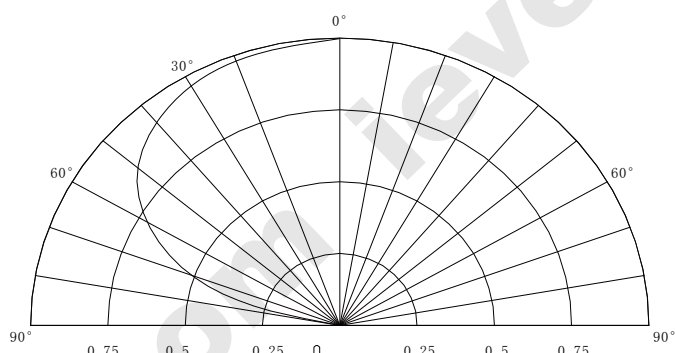


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

FIG.5 MAXIMUM FORWARD CURRENT VS. AMBIENT TEMPERATURE ($T_{jmax}=105^{\circ}$ C)

Reliability test

The following table describes operating life, mechanical, and environmental tests performed on High Power LED Star series package.

Test Item	Test Conditions	Note	Failure Criteria	Number of Damaged
Resistance to Soldering Heat (Reflow Soldering)	Tsld=235±5°C, 10sec (Pre treatment 30°C, 70%, 168hrs)	2 times	No catastrophics	0/22
Thermal Shock	0°C ~~~ 100°C 15sec. 15sec	20 cycles	No catastrophics	0/50
Temperature Cycle	-40°C ~ 25°C ~ 100°C ~ 25°C 30min 5min 30min 5min	100cycles	Note 2	0/50
High Temperature Storage	Ta=100°C	1000hrs	Note 2	0/22
Temperature Humidity Storage	Ta=60°C, RH=90%	1000hrs	Note 2	0/22
Low Temperature Storage	Ta=-40°C	1000hrs	Note 2	0/22
Steady State Operating Life	Ta=25°C, IF=1.05A Tested with standard circuit board. *	1000hrs	Note 2	0/22
Steady State Operating Life of High Temperature	Ta=85°C, IF=1.05A Tested with standard circuit board. *	1000hrs	Note 2	0/22
Steady State Operating Life of High Humidity Heat	60°C, RH=90%, IF=1.05A Tested with standard circuit board. *	500hrs	Note 2	0/22
Steady State Operating Life of Low Temperature	Ta=-30°C, IF=1.05A Tested with standard circuit board. *	1000hrs	Note 2	0/22
Vibration	100~2000~100Hz Sweep 4min. 200m/s ² 3directions, 4cycles	48min	Note 2	0/22
Adhesion Strength	5N, 10±1sec.	1time	No catastrophics	0/22

*Thermal resistance of LED with ieverred standard circuit board: Rja=8°C/W ~14°C/W

Notes:

1. Depending on the maximum derating curve.
2. Failure Criteria:

*Electrical and light output failures:

Item	symbol	Test Conditions	Failure Criteria	
			Min	Max
Forward Voltage	VF	IF=1.05A	-	Initial Level× 1.1
Luminous Flux	ΦV	IF=1.05A	Initial Level× 0.7	-

* The test is performed after the board is cooled down to the room temperature.