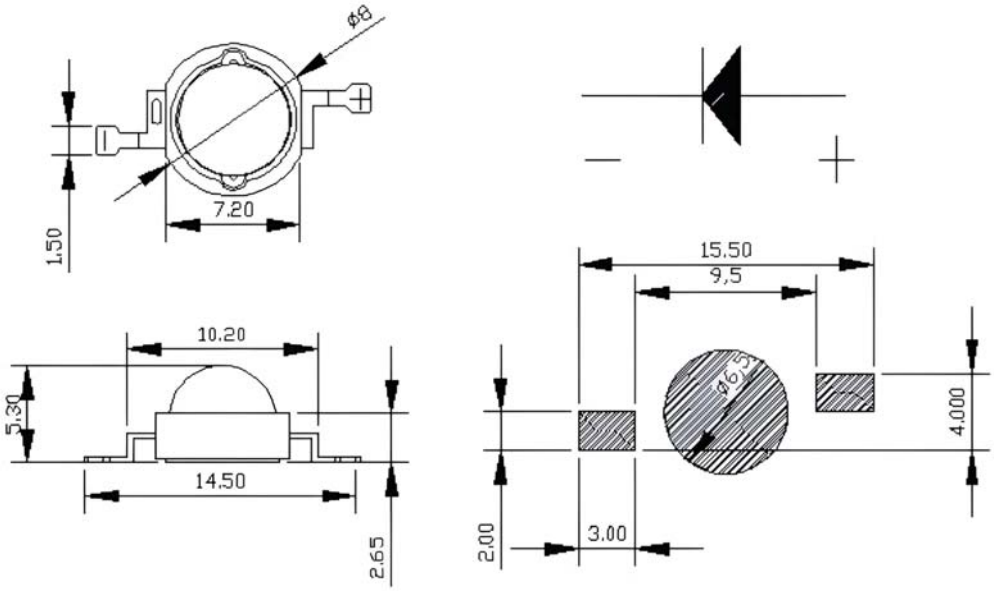
White 2800-3000K 1W High Power

P/N: LHP-CW-28G-10

·Package Dimensions



NOTES： All dimensions are in millimeter [unit];

·Features

- Low voltage operation.
- Instant light.
- Long operating life.
- Available on tape and reel.

·Application

- Spotlight, ceiling light.
- Down light, wall lamp, garden light.
- Streetlight, garden light, tunnel light.

·Absolute Maximum Ratings (Ta=25℃)

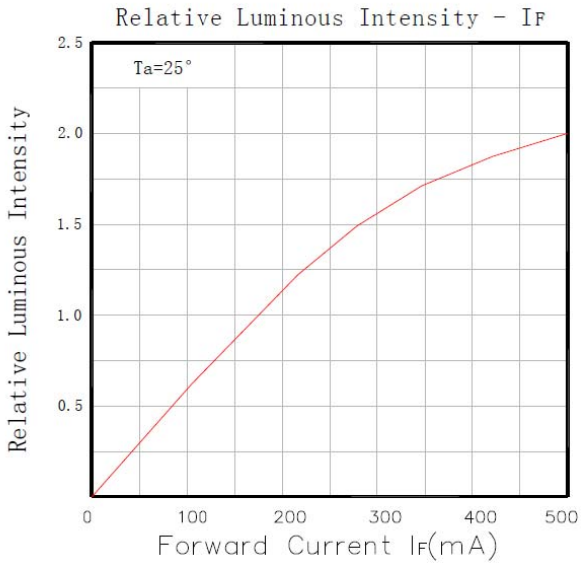
Item	Symbol	Maximum	Unit
Power Dissipation	P_d	1000	mW
Continuous Forward Current	I_F	350	mA
Pulsed Forward Current (1/10 Duty Cycle 0.1ms Pulse Width)	I_{FP}	500	mA
Reverse Voltage	V_R	5	V
Electrostatic Discharge (HBM)	ESD	--	V
Operating Temperature Range	Topr	-30 to +75	℃
Storage Temperature Range	Tstg	-40 to +85	℃
Junction Temperature	Tj	≤125	℃
Solder temperature	Ts	--	

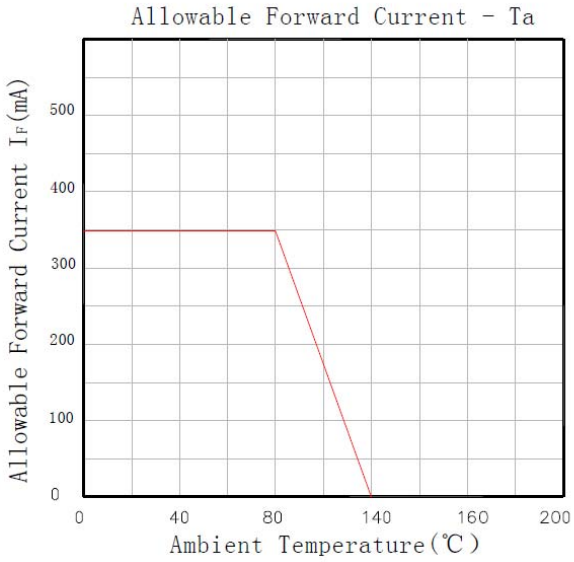
·Electrical/Optical Characteristics (Ta=25℃)

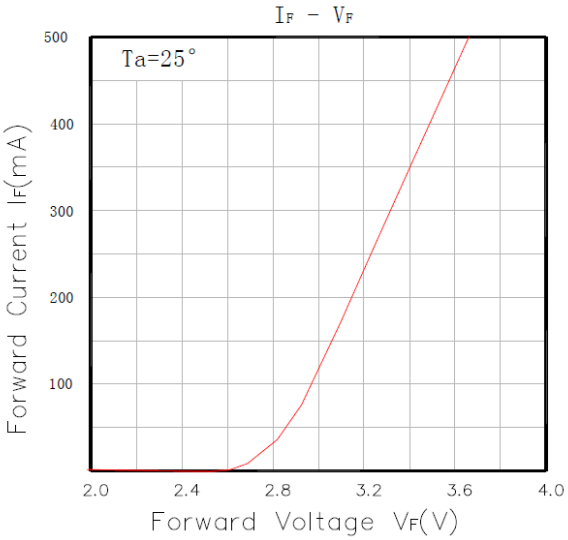
Item	Symbol	Condition	Min.	Typ.	Max	Unit
Forward Voltage	V_F	I_F=350mA	3.0	--	3.4	V
Luminous Intensity	I_V	I_F=350mA	110	--	120	lm
Color temprature	CCT	I_F=350mA	2800	--	3000	K
Thermal Resistance Junction To Board	$R\Theta J\text{-}B$	I_F=350mA	--	8	--	℃/W
Viewing Angle	$2\theta_{1/2}$	I_F=350mA	--	140	---	deg
Reverse Current	IR	VR =5V	-	-	10	uA
Temperature Coefficient of Forward Voltage	$\Delta VF/\Delta T$	IF=350mA	--	-2	--	mV/℃

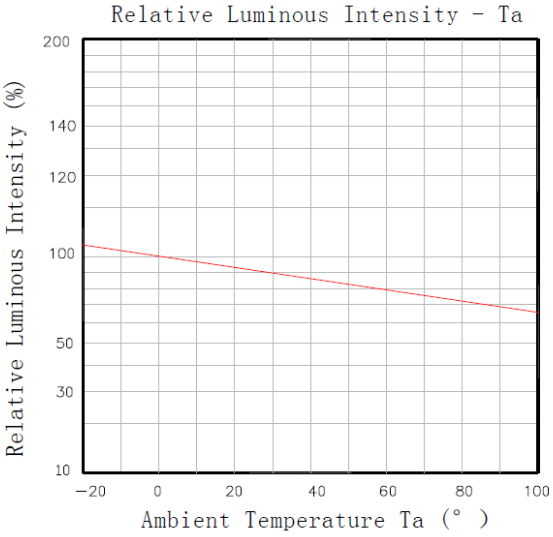
Notes：1. 1/10 Duty Cycle 0.1ms Pulse Width.

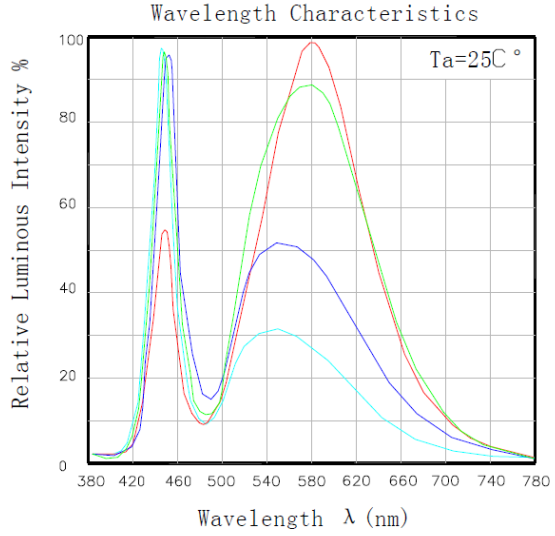
·Typical Electro-Optical Characteristics Curves

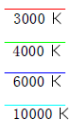


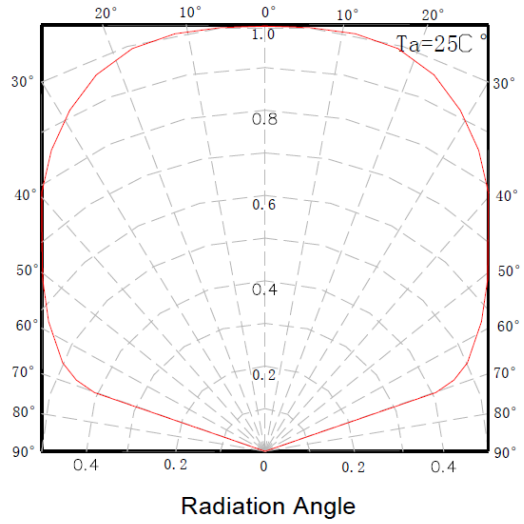




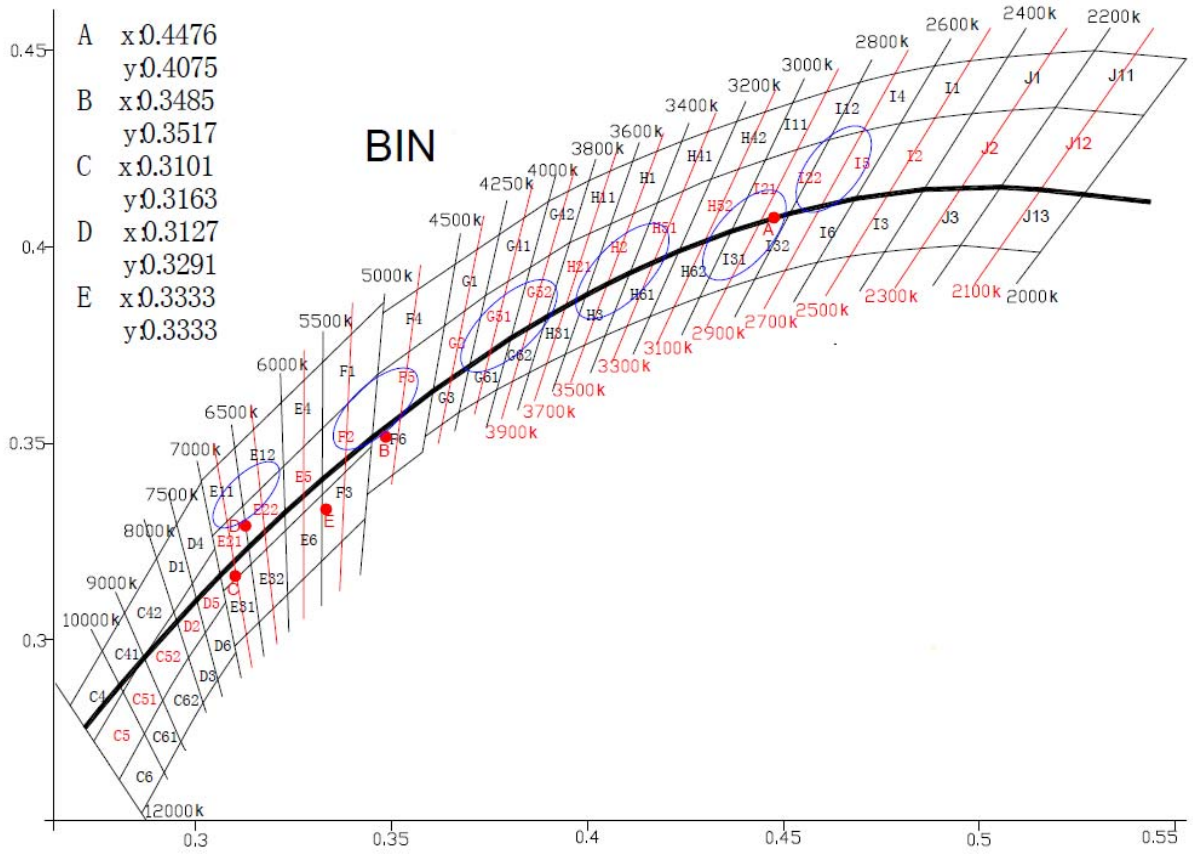








• Color & Binning



·Reliability test items and conditions

Test Items	Ref.standard	Test Condition	Time	Quantity	Ac/Re
Temperature cycle	JESD22-A104-A	-40℃~25℃~100℃~25℃ 30min,5min,30min,5min	100 cycles	22PCS	0/1
Thermal shock	JESD22-A106	-40℃~100℃ 30min, 30min	100 cycles	22PCS	0/1
Hign temperature storage	JEITA ED-4701 200 201	TA=100℃±5℃	1000 Hrs	22PCS	0/1
Low temperature strorage	JEITA ED-4701 200 202	TA=-40℃±5℃	1000 Hrs	22PCS	0/1
Humidity Heat Storage	JIS C 7021 (1977)B-11	Ta=60℃ RH=85%	1000Hrs	22PCS	
Life test	JESD22-A108-A	Ta=25℃ If=350mA	1000Hrs	22PCS	0/1
Hign temperature hign humidity life test	JESD22-A101	Ta=60℃ RH=85% IF=350mA	1000Hrs	22PCS	0/1
Resistance to soldering Heat	JESD22-A113	IR soldering 245℃/10sec	1 time	22PCS	0/1

Product Usage Instructions

1.Storage

To prevent moisture absorption, store the product in a dry cabinet with desiccant. Storag conditions: 5°C–30°C, humidity ≤60% RH.

After 6 months of storage, recheck spectral and chromaticity parameters before use to avoid optoelectronic performance drift.

2.For Silicone-Encapsulated Products

If sealed for >6 months, dry before use at 65°C ±5°C for 10 hours.

Use within 24 hours after opening. Otherwise, rebake at 65°C for 4–6 hours before reflow soldering.

Silicone Handling Precautions: Avoid sharp tools (e.g., tweezers) or fingerprints on the silicone surface.

Max. applied force: Front side: ≤2 N, ≤3 presses. Side: ≤1.5 N, ≤3 presses. Handle as illustrated below (refer to diagram).

3.Reflow SolderingProhibited: Rapid cooling post-reflow.

4. Hand Soldering Conditions: 300°C for ≤3 seconds.

5. PCB Requirements: Do not solder onto warped PCBs.

6. Contaminant Avoidance: Never expose to water, oil, or organic solvents.

7. Operating Current: Adjust current based on LED junction temperature.

8. Repackaging Unused Products Reseal in moisture-proof bags and store in a dry environment.

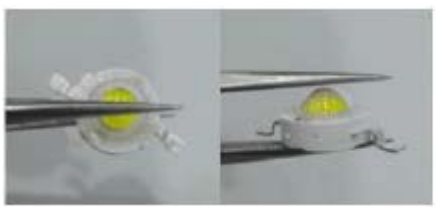
9. Dimensional Changes: Product dimensions may change without prior notice.

10. Anti-Static Measures Mandatory: ESD wrist straps/gloves. All equipment must be grounded.

11. PCB Temperature, Maintain ≤60°C during LED operation.

12. Reflow Soldering Guidelines (Thermal Paste Application):

- Scrape the thermal conductive solder paste on the aluminum substrate. Before scraping the solder paste, stir it clockwise for 10-15 minutes. Place the aluminum substrate on the solder paste scraping fixture, and scrape the solder paste evenly with an appropriate thickness.
- The steel mesh for scraping solder paste should be made into a cross to facilitate air circulation and prevent poor heat dissipation of LED light sources caused by the lifting of solder paste.
- Note that the lamp should be installed flat, and the two pins of the LED light source should be installed on the solder pads of the aluminum substrate.
- After scraping the solder paste on the aluminum substrate, all light sources should be installed within 2 hours. After installing the light source on the aluminum substrate, the operator should self check whether the light source is installed (there should be no reverse direction, and the bottom of the light source should be suspended) Check each light source by tilting it at a 45-degree angle.
- Reference for temperature setting of reflow soldering machine (recommended not to exceed 220 degrees)



Welding agent=medium temperature lead-free tin
Temperature rise slope=4 º C/s maximum
Preheating temperature=130 º C~180 º C
Preheating time=60s maximum
The temperature drop slope is 6 º C/s maximum
Peak temperature=220 º C maximum
The time at peak temperature ± 5 ℃ cannot exceed 10 seconds
The time for temperatures exceeding 220 ℃ cannot exceed 60 seconds

• After reflow soldering, the lens and filling adhesive will delaminate, resulting in a mirror finish, which is a normal phenomenon and does not affect any use or performance;

•After reflow soldering, it is necessary to check whether the light source is in the position of the solder pad and there should be no eccentricity, otherwise the wire will be pulled off during the secondary light distribution lens, causing an open circuit.

13. Anti-Corrosion (Sulfur/Chlorine/Bromine)

In a sealed and high-temperature environment, substances such as sulfur/chlorine/bromine may be present inside the lamp, which can evaporate into gases and corrode the LED light source. Because LED sealing silicone has a porous structure, it undergoes sulfurization reaction with the silver-plating layer of the light source. After the sulfurization reaction of the LED light source, the functional area of the product will turn black, and the luminous flux will gradually decrease until it becomes slightly bright. The color temperature will show significant drift, and the LED light source will eventually fail. It is recommended to conduct a sulfur emission test on the lighting fixtures first to ensure that the LED light source operates in a sulfur/chlorine/bromine free environment.