

# DATA SHEET

PART NO. : ZH-P020A(White)

REV : A / 0

Producer  Auditor  Approver

CUSTOMER'S APPROVAL :  DCC :

DRAWING NO. :ESH-DS-0009

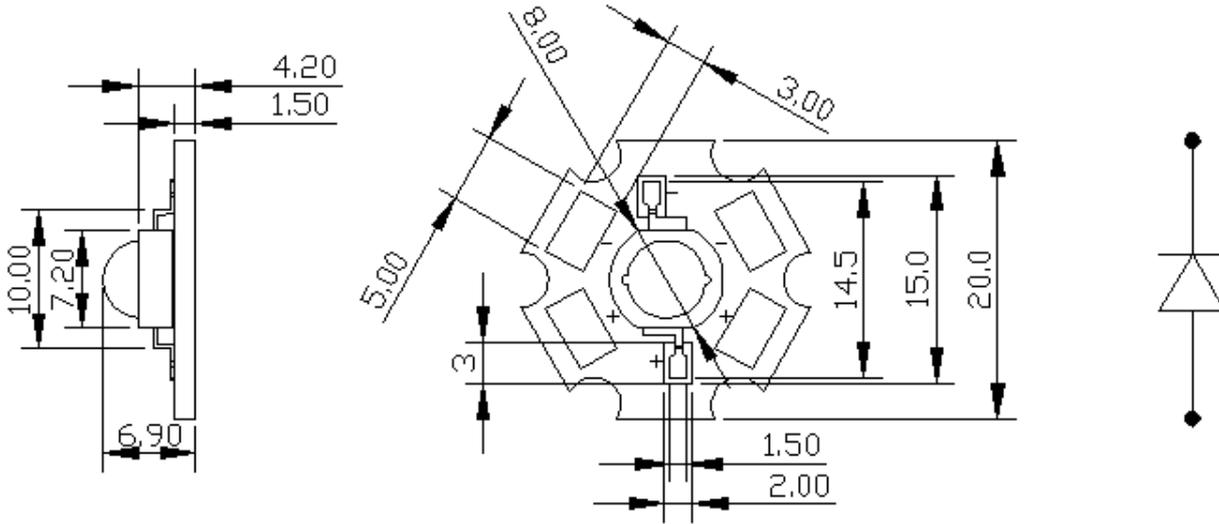
DATE :2012-08-30

Page : 1

High-Power LED

ZH-P020A(White)

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Notes:

1. All dimensions are in millimeters.
2. Tolerance is  $\pm 0.25\text{mm}$  (.020") unless otherwise noted.

● Features

- LONG OPERATING LIFE
- ENERGY EFFICIENT
- LOW VOLTAGE DC OPERATED
- INSTANT LIGHT (LESS THAN 100NS)
- NO UV EMISSION
- ROHS COMPLIANT

● Chip Materials

- Dice Material : InGaN
- Light Color : Violet Light
- Lens Color : Water Clear

● Electrical/Optical Characteristics (At TA=25°C)

Parameter	Symbol	Conditions	Min.	Avg.	Max.	Units
Luminous Flux	$\Phi$	I <sub>F</sub> =350mA	90		120	lm
Color Temperature	CCT	I <sub>F</sub> =350mA	5000	--	6000	K
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =350mA	3.0	--	3.4	V
Thermal Resistance Junction To Board	R $\Theta_{J-B}$	I <sub>F</sub> =350mA	--	10	--	°C/W
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	--	--	1	$\mu$ A
Viewing Angle <sup>[1]</sup>	2 $\Theta_{1/2}$	I <sub>F</sub> =350mA	--	120	--	Deg

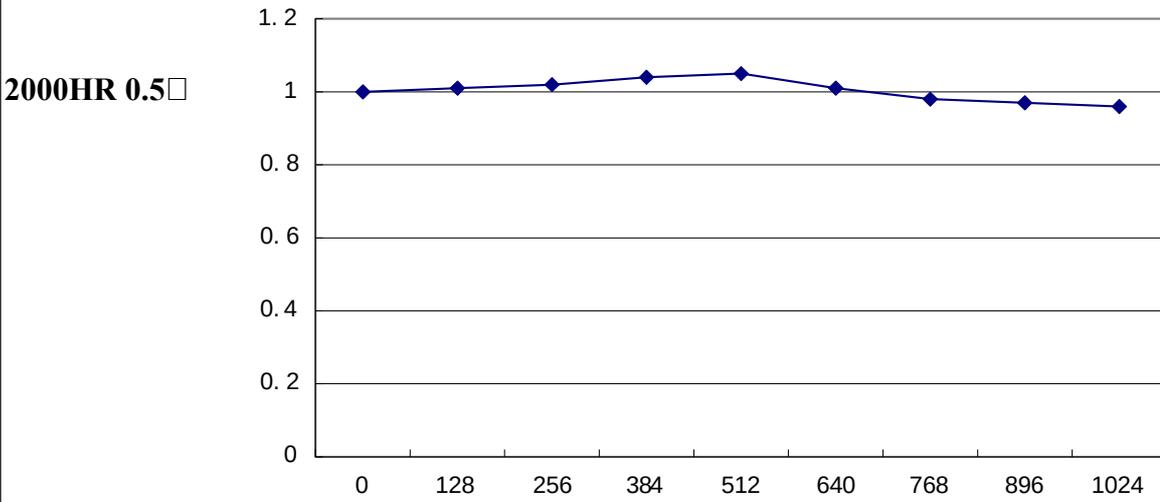
● Absolute Maximum Rating(At TA=25°C)

Parameter	Symbol	Ratings	Units
Power Dissipation	P <sub>D</sub>	1	W
Continuous Forward Current	I <sub>F</sub>	350	mA
LED Junction Temperature	T <sub>J</sub>	105	°C
Reverse Voltage	V <sub>R</sub>	5	V
Operating Temperature Range	T <sub>OPR</sub>	-30°C To +60°C	
Storage Temperature Range	T <sub>STG</sub>	-40°C To +100°C	
Manual Soldering Temperature	T <sub>SOL</sub>	350°C± 20°C For 3~5 Seconds	
ESD Sensitivity	ESD	5000V HBM	

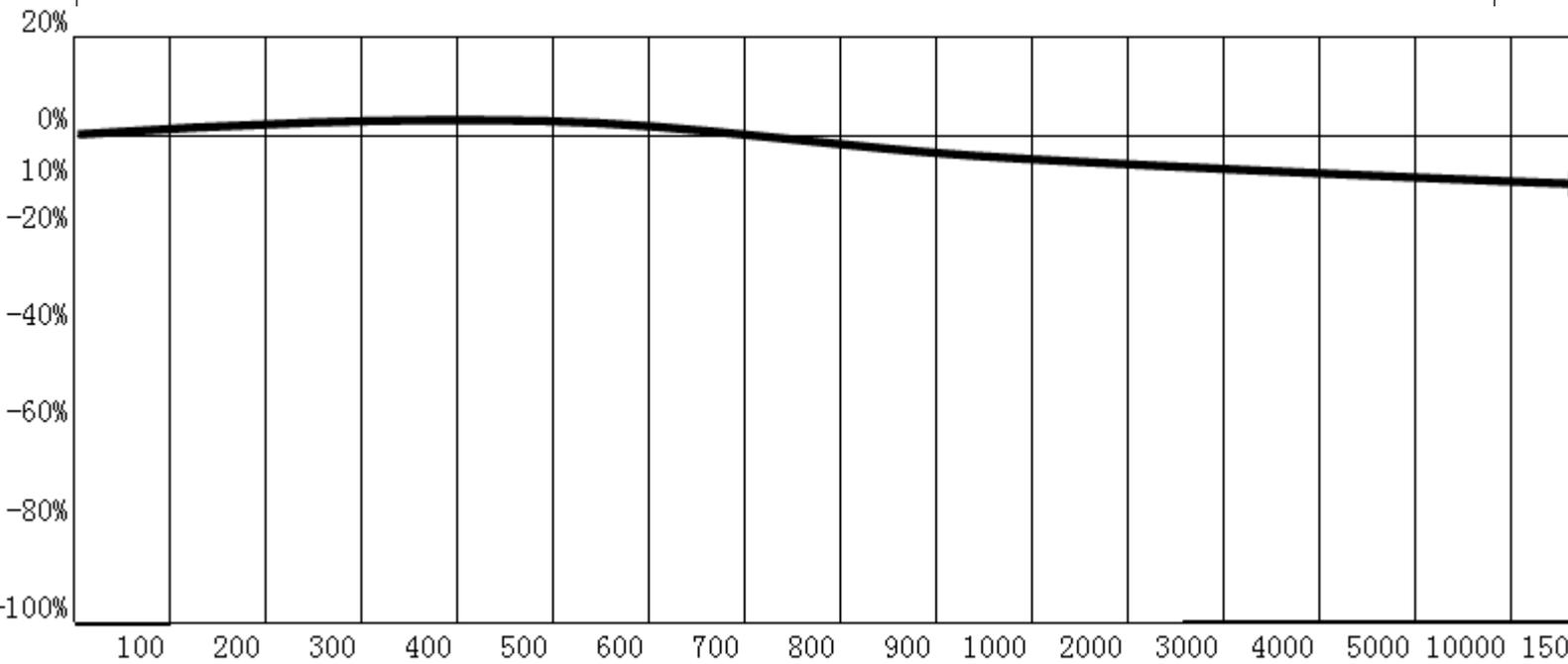
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● Room Temperature Operating Life Reliability Test Result  
 (Ta=25°C, If=350mA) Use SSC circuit board & heat sink (Tj=50°C)



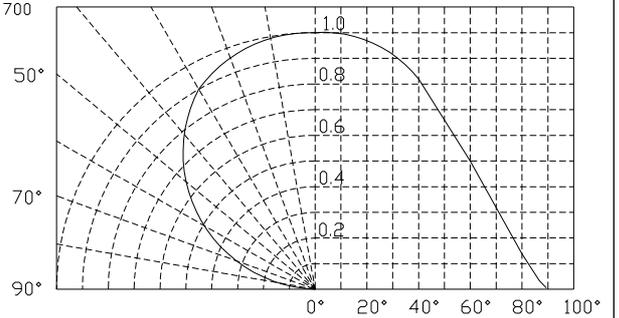
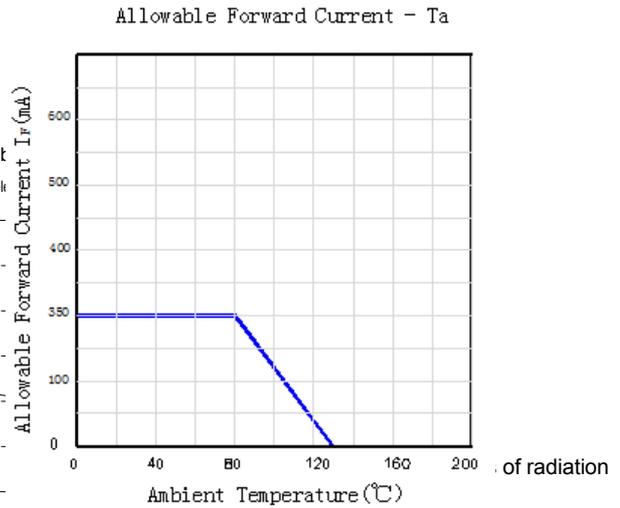
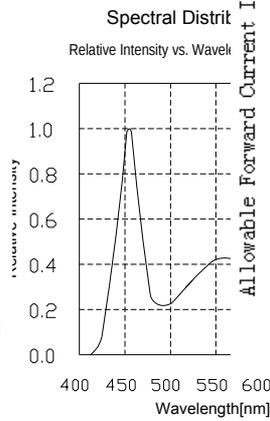
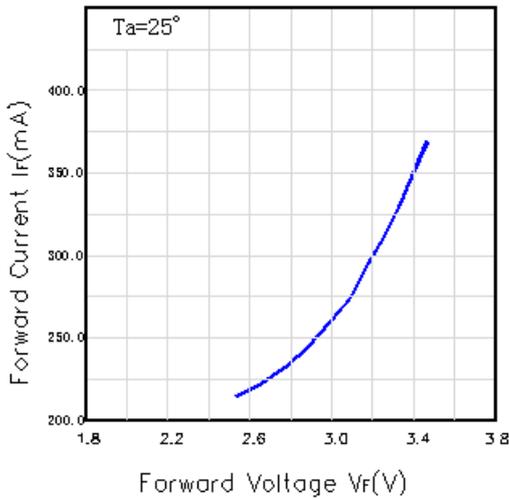
degradation2000  
 ● Life Time graph



20000HR 10□ degradation

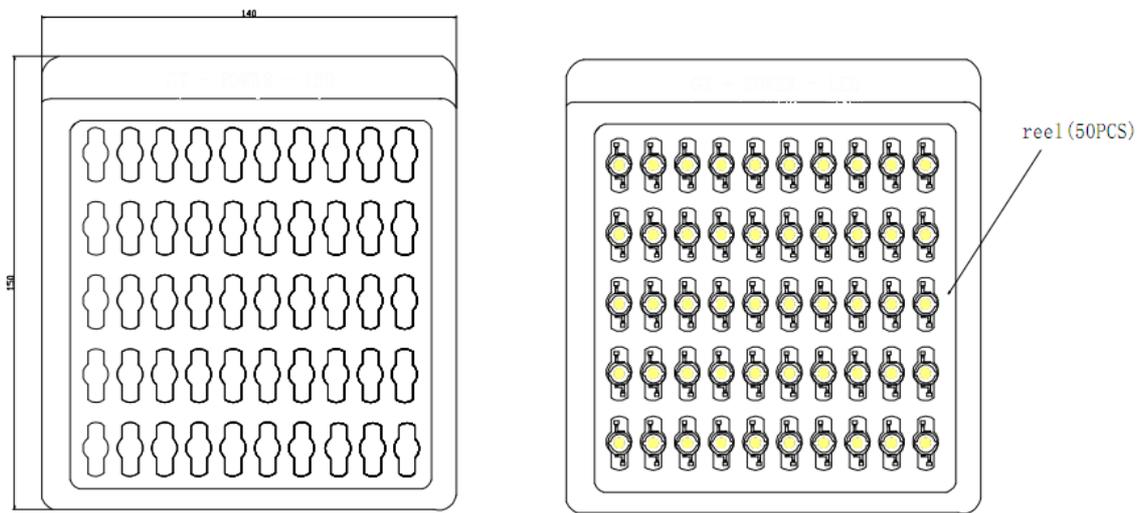
• Spectrum Distribution

• Radiation Diagram



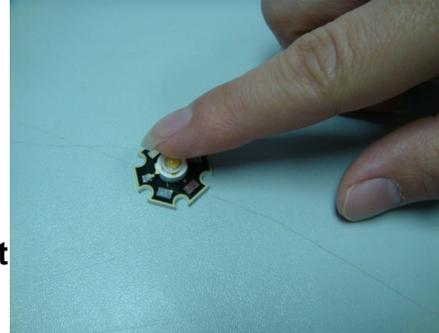
•  $V_f$ - $I_f$  Characteristics

• Packing standard



● Handling Notes

(1) Please do not press the lens

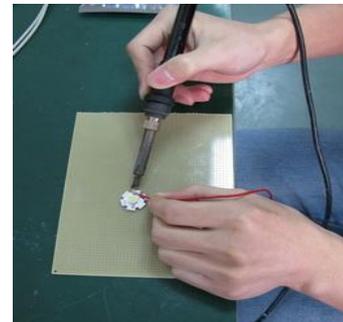


**Not**

(2) Please wear anti-static wrist strap and gloves to prevent ESD damage when handing and soldering.



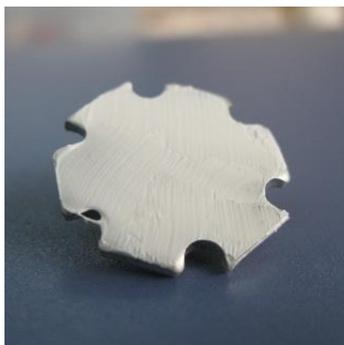
**Good**



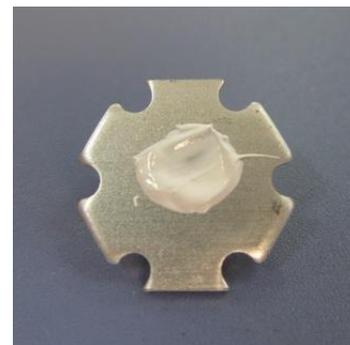
**Not allowed**

Solder Paste Thickness

The choice of solder and the application method will dictate the specific amount of solder.



**Good**



**Not allowed**

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## ● Hing-Power Operating Note

1. High Power 350 series should be operated at 350 mA for ideal performance, but not more than 350mA.
2. High Power 350 series LED must be used in conjunction with heat-sinking devices. Soldering on Al PCB (Recommended PCB:  $\square$ 19.9mm 1.6t / two layers / 2.0 oz) with mid-connection point is another way to help heat dissipation. Thermal resistance for aluminum board must be less than 0.65 °C/W.
3. High Power products are sensitive to static, especially in Blue, Cyan, Green White, Warm White. Operators must wear static wristband (wireless static wristband is prohibited) and be well grounded while working in the environment with an ionizing air blower. Anti-static requirement should be under ESD 2000V.
4. High Power products are fully tested and shipped in anti-static packaging.
5. A non-conductive heat-dissipating paste should be applied between High Power and heat-sinking device.
6. It is recommended to use a resistor to limit current flow. In a parallel connection, each LED string should be protected individually.

