

Paragon Semiconductor Lighting Technology

PSLT

ParagonLED

Specifications

Product Type : HBAC-48-5028-120V-30

Issued Date : 06/26/2012

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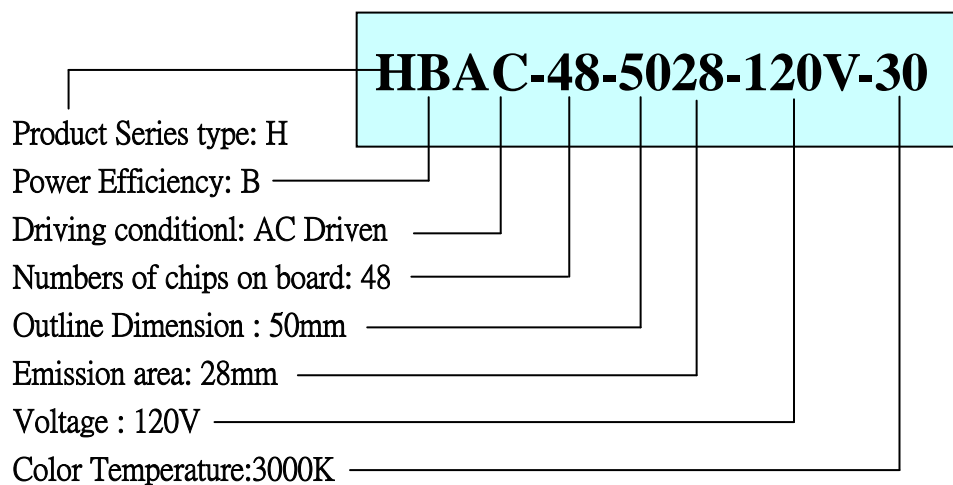
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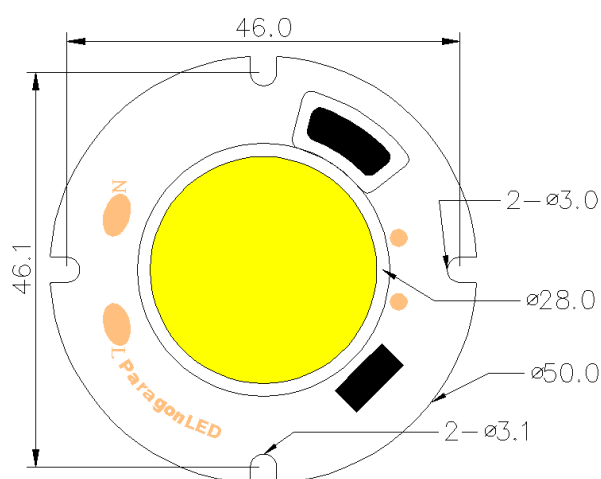
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1. General Description

(1) Naming rule



(2) Outline Dimensions (Unit : mm / Tolerance: 0.2mm)



Thickness: 1.6±0.2mm

2. Electro-Optical Characteristics

(1) Absolute Maximum Rating

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	11	W
Forward Current	I_F	—	A
Forward Voltage	V_F	120V	V
Operating Temperature	T_{opr}	-40 ~ +60	°C
Storage Temperature	T_{stg}	-40 ~ +80	°C
Assembly process temperature	T_{sol}	<300°C , 5 secs	

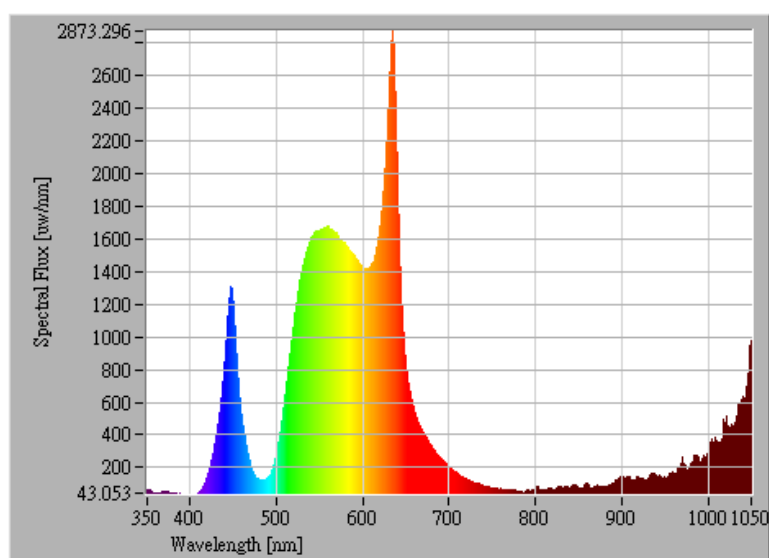
(2) Electro-Optical Characteristics

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Forward Voltage	V_F	–	110	120	140	V
Luminous Intensity	Φ_v	$V_F=120V$	–	770	–	Lm
Color rendering	Ra	$V_F=120V$	–	85	–	CRI

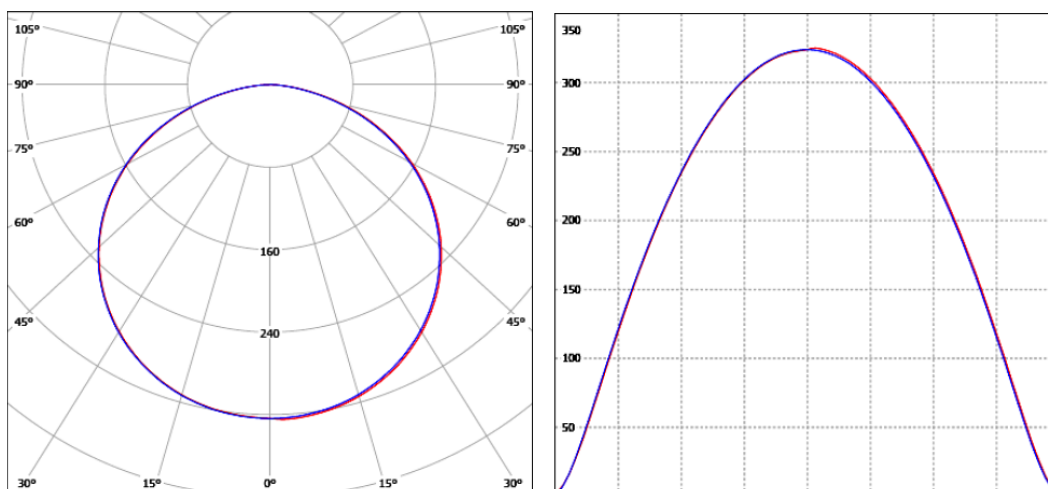
Notice: Operating current of HBAC-48 product varies from 110 ~ 140V · users must keep the temperature of solder joint point under 60 °C (with suitable heat sink), or may cause Serious luminous decay. We DO NOT guarantee of improper use.

(3) Characteristics

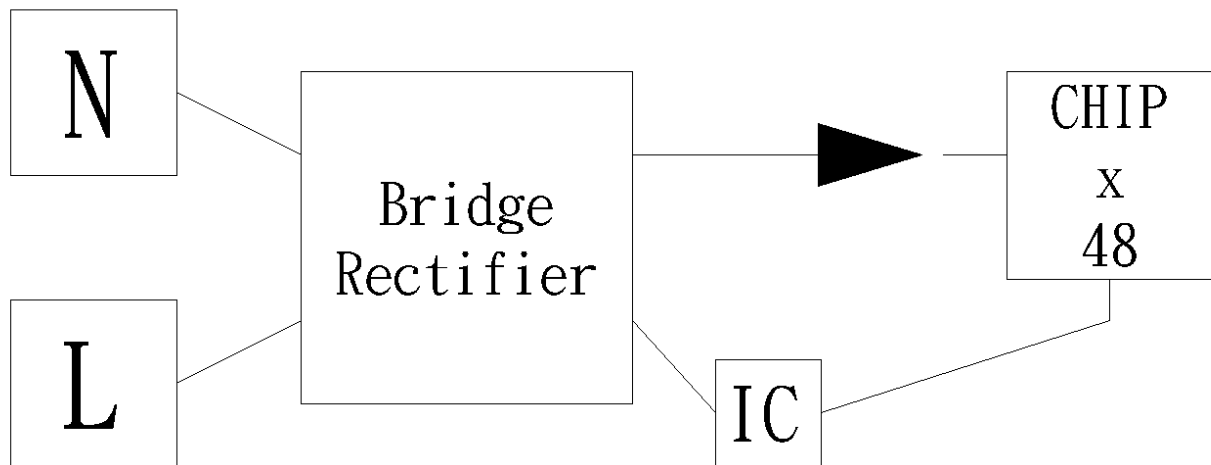
Spectrum



Candle Power Distribution & Cartesian Coordinate

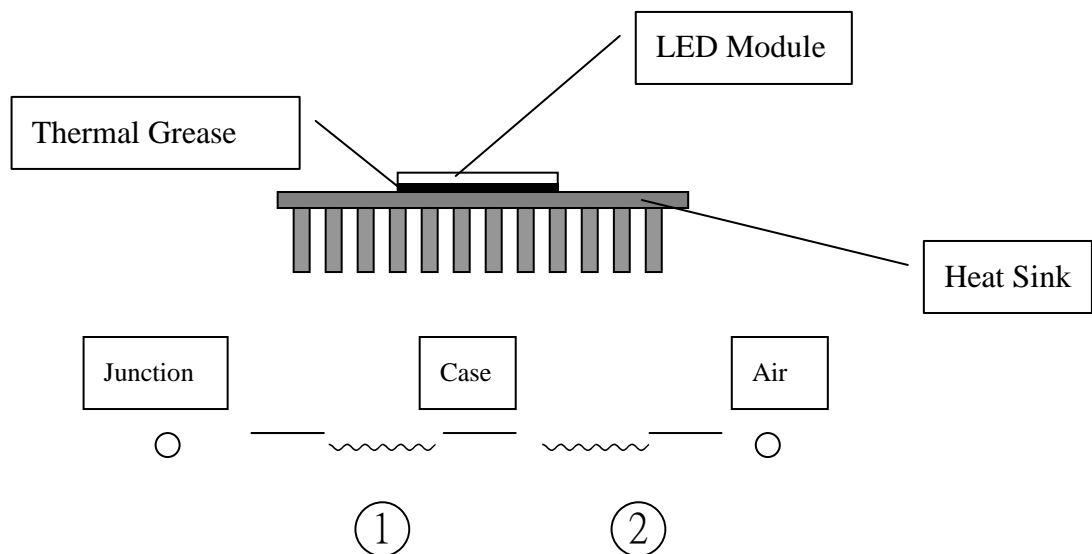


(4) Layout



48 in series=48 LED Chips

3. Junction Temperature Measurement



② Thermal resistance of Junction to Case without heat sink : $10(^{\circ}\text{C}/\text{W})$

[Reference Value]

② Thermal resistance of Case to Ambient Air: Depending on what kind of heat sink users choose. In ideal thermal dissipation situation, the thermal resistance is about $1\sim 2^{\circ}\text{C}/\text{W}$.

4. Reliability Test

Test Item	Test Conditions	Number of failed
High Temperature Storage Test	Tstg= +80℃ , x1,000 hrs	0/20
Low Temperature Storage Test	Tstg= -40℃ , x1,000 hrs	0/20
Continuous Light-on Test	Ta= 25℃ , RH=65%, x1,000 hrs	0/20
Boiling Test	Ta= 100℃ , RH=100%, x180mins	0/20
Thermal Cycle Test	-40℃ x 30 mins, 80℃ x 30 mins, 100 cycles	0/20

Measuring Item	Measuring Condition	Judging Criteria of Failure
Forward Voltage	$V_F = 120$	$> 0 \times 1.1$
Total Luminous Flux	$V_F = 120$	$< L \times 0.7$

5. Instruction of ring

