

Paragon Semiconductor Lighting Technology

PSLT

ParagonLED

Specifications

Product Type : ParaLED-B-042-120V08W4020A-CA

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1.General Description

(1)Naming rule

ParaLED-B-042-120V08W4020A-CA

Product Series type : ParaLED

Dimming Type : Wram Dimming

Numbers of chips on board : 42

Voltage : 120VAC

Power Dissipation : 8W

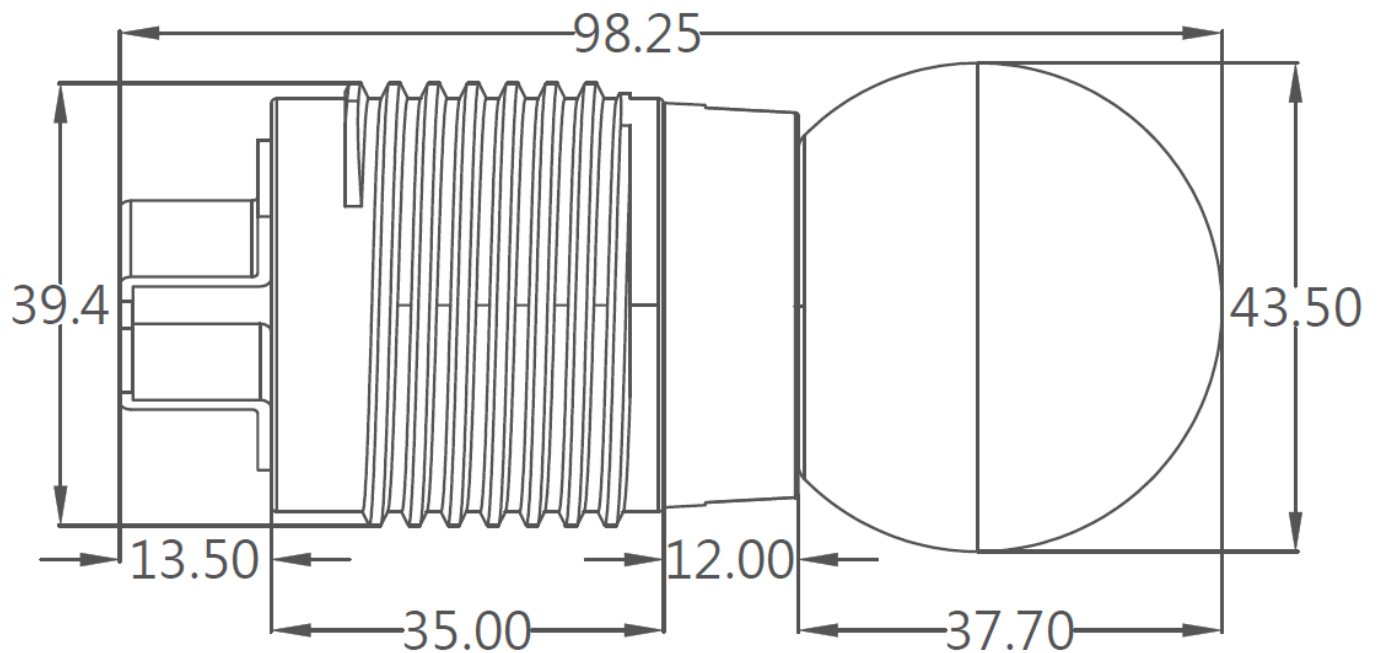
Color Temperature : 4000K~2000K

Color Rendering : >RA90

Appearance : Fixing Iron piece(13.5mm) + socket(35mm)

Optical parts : 270 degrees Bulb Diffuser

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



2. Electro-Optical Characteristics

(1) Absolute Maximum Rating

| Parameter | Symbol | Value | Unit |
|------------------------------|--------------|-----------------|------|
| Power Dissipation | P_D | 8 | W |
| Forward Voltage | V_F | 120 | V |
| Operating Temperature | T_{opr} | -40 ~ +105 | °C |
| Storage Temperature | T_{stg} | -40 ~ +105 | °C |
| Power Factor | Pf | >0.95 | |
| THDi | | <20% | |
| Dimming | Wram Dimming | | |
| Assembly process temperature | T_{sol} | <325°C , 5 secs | |

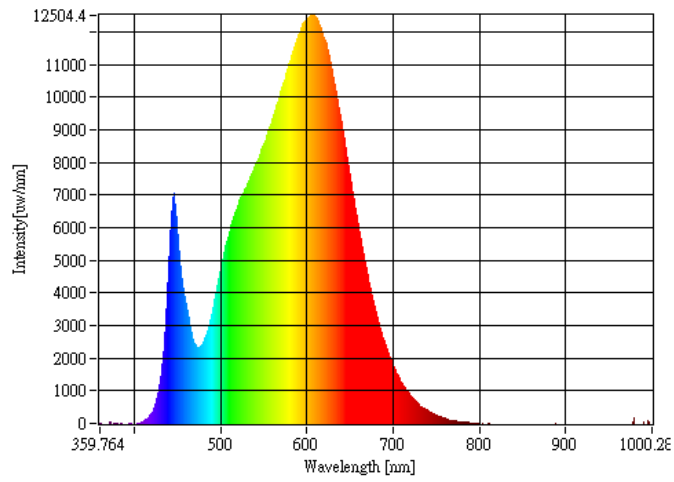
(2) Electro-Optical Characteristics

| Parameter | Symbol | Condition | Min | Typ | Max | Unit |
|--------------------|----------|------------|-----|-----|-----|------|
| Forward Voltage | V_F | - | - | 120 | - | V |
| Luminous Intensity | Φ_v | $V_F=120V$ | - | 480 | - | Lm |
| Color rendering | Ra | $V_F=120V$ | 90 | - | - | CRI |

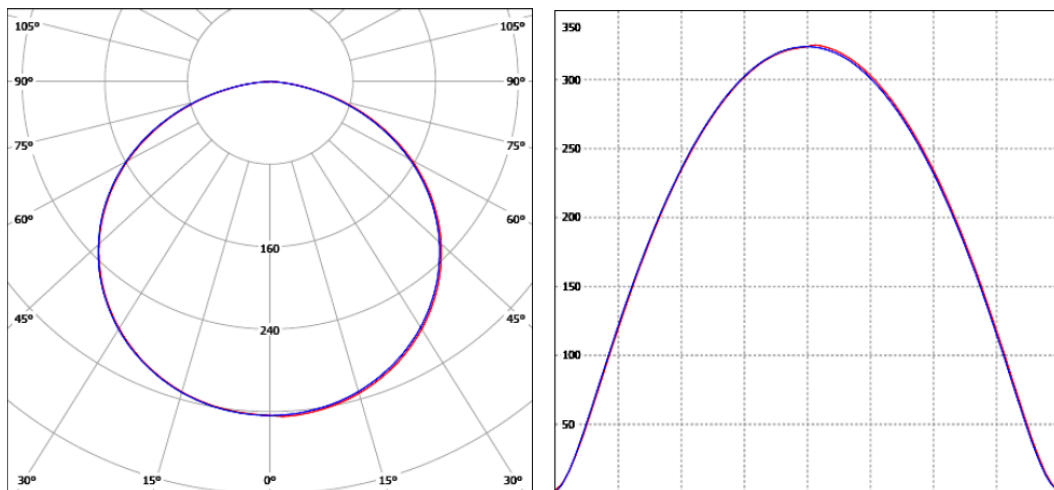
Notice: Operating Voltage of product varies from 110V~130V · users must keep the temperature of solder joint point under 105 °C (with suitable heat sink), or may cause Serious luminous decay. We DO NOT guarantee of improper use.

(3) Graphs

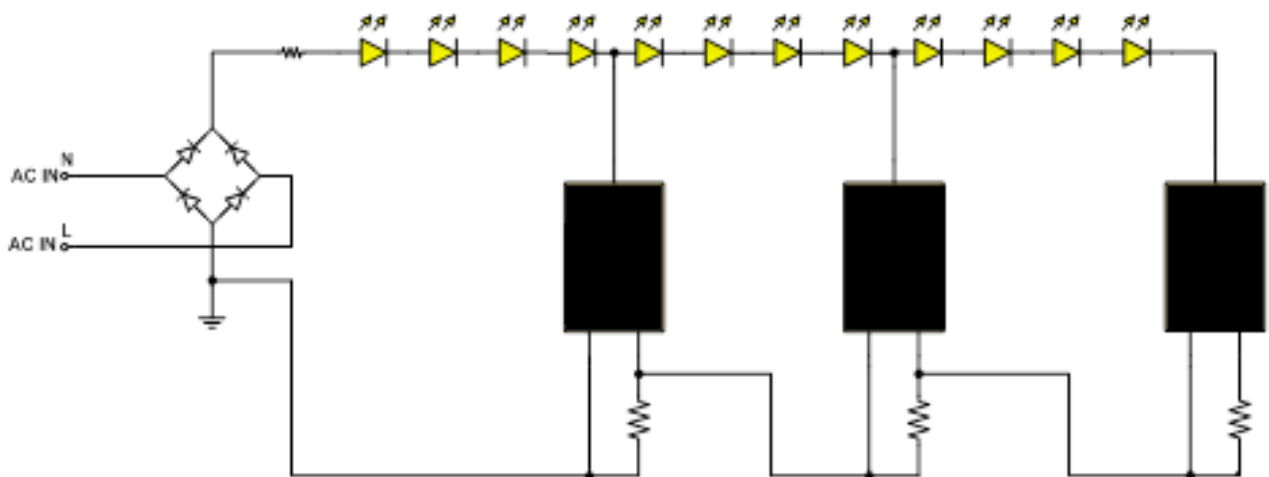
Spectrum



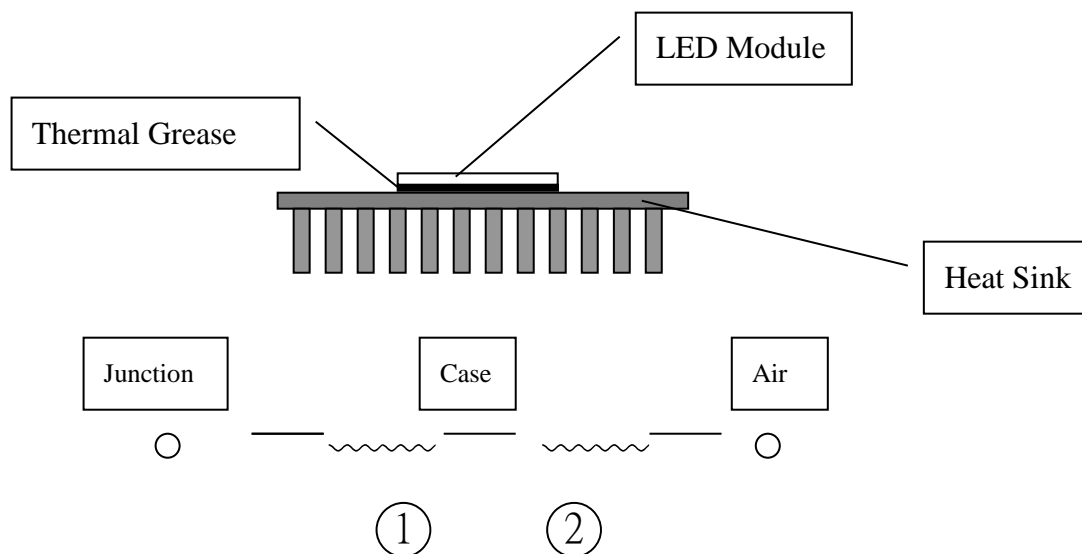
Candle Power Distribution & Cartesian Coordinate



(4) Layout



3. Junction Temperature Measurement



- ① 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 | $T_{\text{stg}} = +80^{\circ}\text{C}$, x1,000 hrs | 0/20 |
| Low Temperature Storage Test | $T_{\text{stg}} = -40^{\circ}\text{C}$, x1,000 hrs | 0/20 |
| Continous Light-on Test | $T_{\text{a}} = 25^{\circ}\text{C}$, RH=65%, x1,000 hrs | 0/20 |
| Boiling Test | $T_{\text{a}} = 100^{\circ}\text{C}$, RH=100%, x180mins | 0/20 |
| Thermal Cycle Test | -40°C x 30 mins, 80°C x 30 mins, 100 cycles | 0/20 |

| Measuring Item | Measuring Condition | Judging Criteria of Failure |
|---------------------|------------------------------|-----------------------------|
| Forward Voltage | $I_{\text{F}} = 120\text{V}$ | $> 0 \times 1.1$ |
| Total Luminous Flux | $I_{\text{F}} = 120\text{V}$ | $< L \times 0.7$ |