Paragon Semiconductor Lighting Technology

PSLT

ParagonLED

Specifications

Product Type : G2C000100-120V18WD30

Issued Date : 11/01/2016

Contents

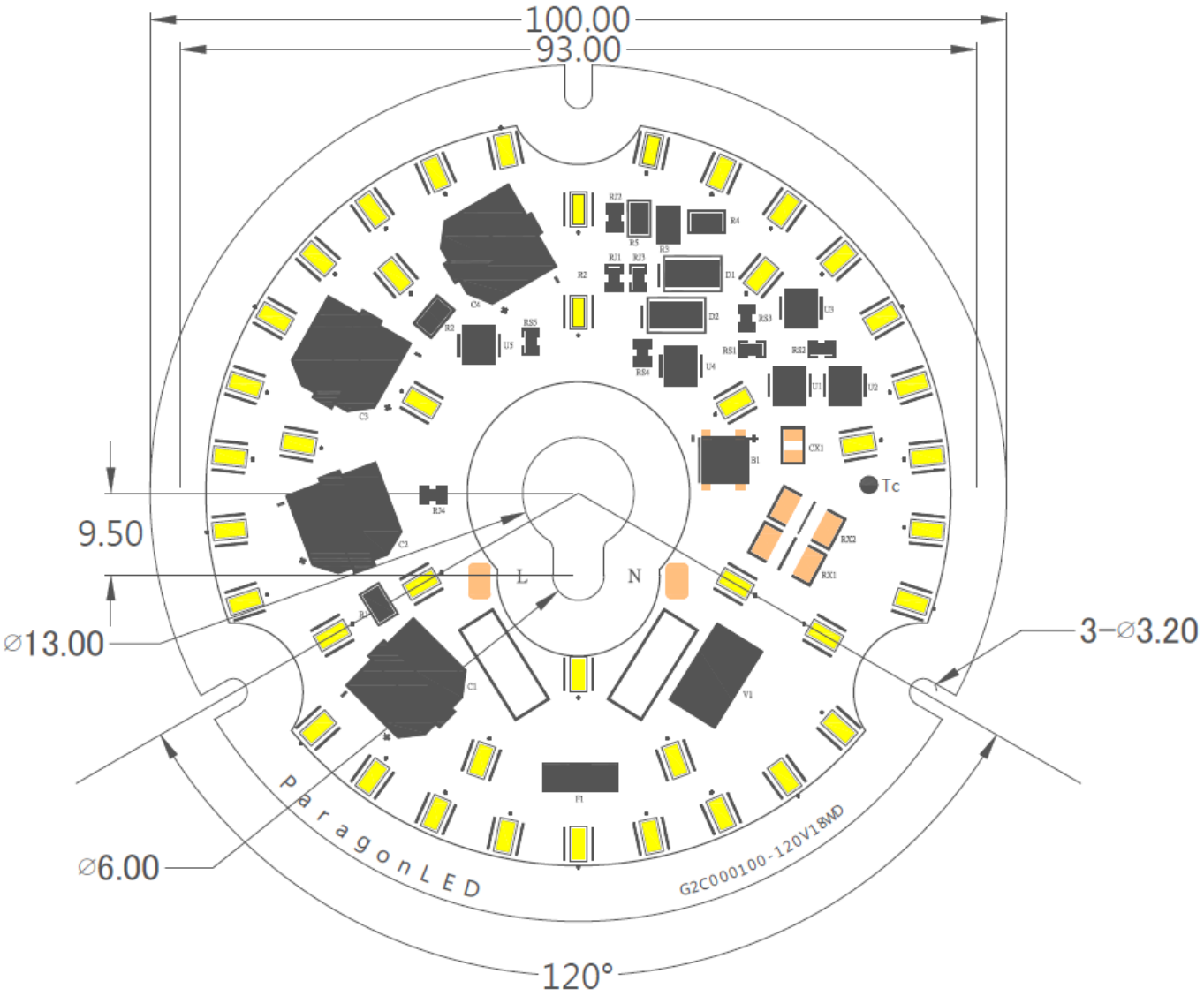
1.General Description

(1)Naming rule

G2C000100-120V18WD30

- Dimming : Available
- Product Series type : C
- Outline Dimension : 100.0mm
- Voltage : 120VAC
- Power Dissipation : 18W
- Color Temperature : 3000K

(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	18	W
Forward Voltage	V_F	120	V
Operating Temperature	T_{opr}	-40 ~ +105	℃
Storage Temperature	T_{stg}	-40 ~ +105	℃
Power Factor	Pf	>0.95	
Dimming Type	Uniform Dimming		
Surge Protection	1.5KV		
Assembly process temperature	T_{sol}	<325℃ , 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	-	1450	-	Lm
Color rendering	Ra	V_F=120V	-	90	-	CRI

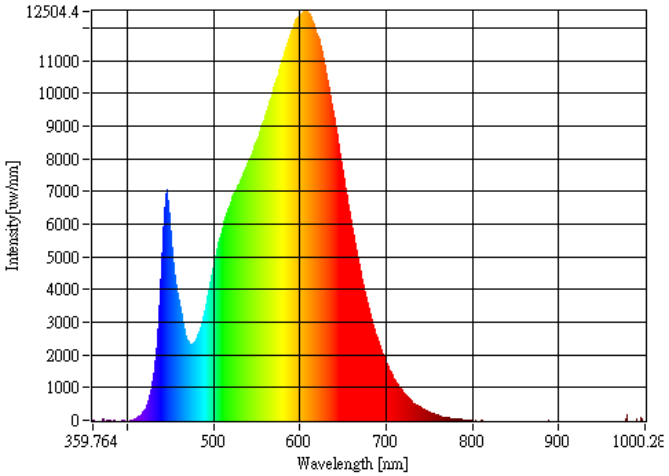
Notice: Operating Voltage of product varies from 110V~140V，users must keep the temperature of solder joint point under 85 ℃ (with suitable heat sink), or may cause Serious luminous decay. We DO NOT guarantee of improper use.

(3) Percent Flicker

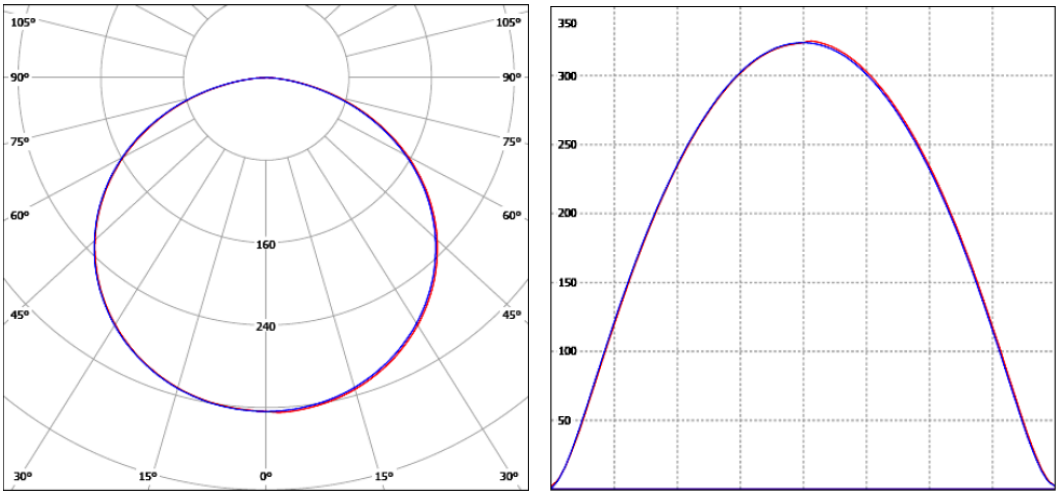
Voltage	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Wattage	1.8W	3.6W	5.4W	7.2W	9W	10.8W	12.6W	14.4W	16.2W	18W
Flicker MAX(A)	0.120	0.344	0.544	0.700	0.860	1.020	1.140	1.300	1.420	1.480
Flicker MIN(B)	0.066	0.190	0.295	0.380	0.480	0.560	0.620	0.720	0.840	0.880
Flicker (%)	29.03%	28.84%	29.68%	29.63%	28.36%	29.11%	29.55%	28.71%	25.66%	25.42%

(3) Graphs

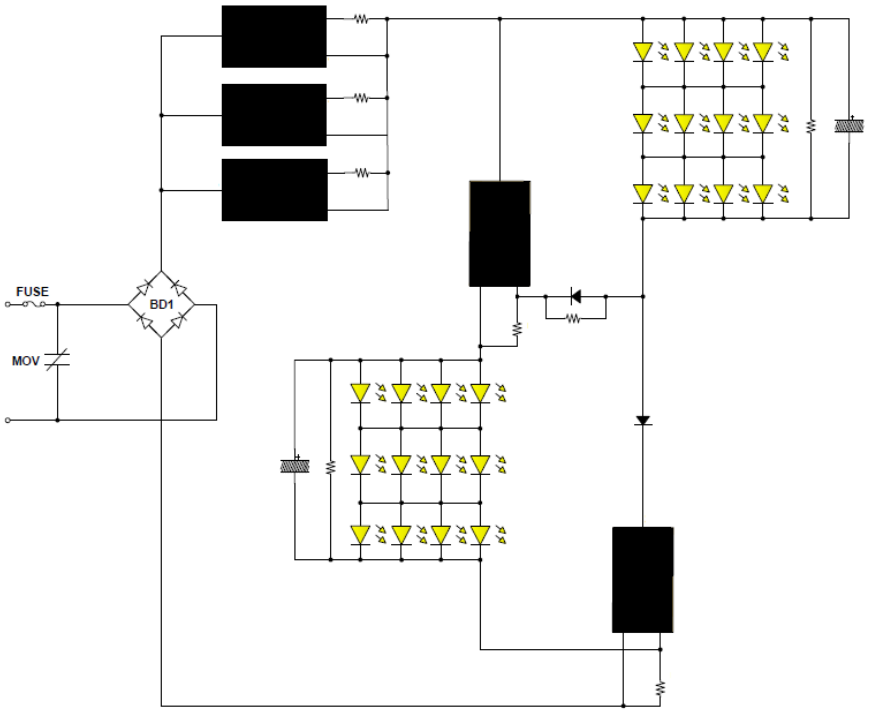
Spectrum



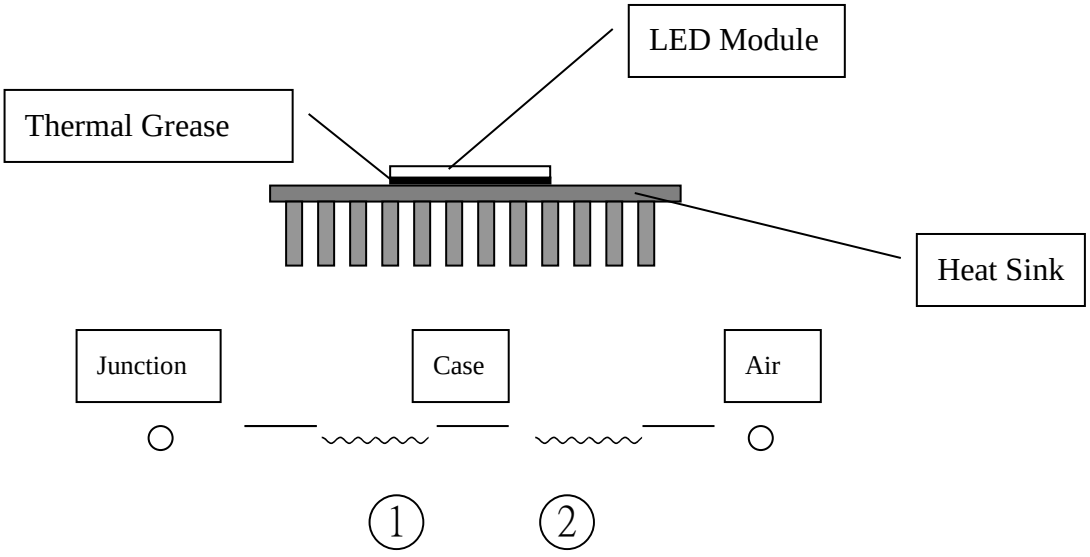
Candle Power Distribution & Cartesian Coordinate



(4)Layout



3.Junction Temperature Measurement



①Thermal resistance of Junction to Case without heat sink : 10℃/W) 〔Reference Value〕

②Thermal 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 1~2 ℃/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
Continous 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	I_F = 120V	> 0 x 1.1
Total Luminous Flux	I_F = 120V	< L x 0.7