

***Paragon Semiconductor Lighting Technology***

# **ParagonLED**

## **Specifications**

**Product Type : CBAC-78-5028-IN220V-57**

**Issued Date : 03/01/2011**

## **Contents**

## 1. General Description

### 1-1 Naming Rule

### 1-2 Outline dimensions

## 2. Electro-optical characteristics

### 2-1 Absolute Maximum Rating

### 2-2 Electro-optical characteristics

### 2-3 Graphs

### 2-4 Layout

## 3. Junction Temperature measurement

## 4. Reliability Test

## 5. Instruction of ring

## 1. General Description

### (1) Naming rule

# CBAC-78-5028-IN220V-57

Product Series type: C

Power Efficiency: B

Driving conditionl:

Numbers of chips on board: 78

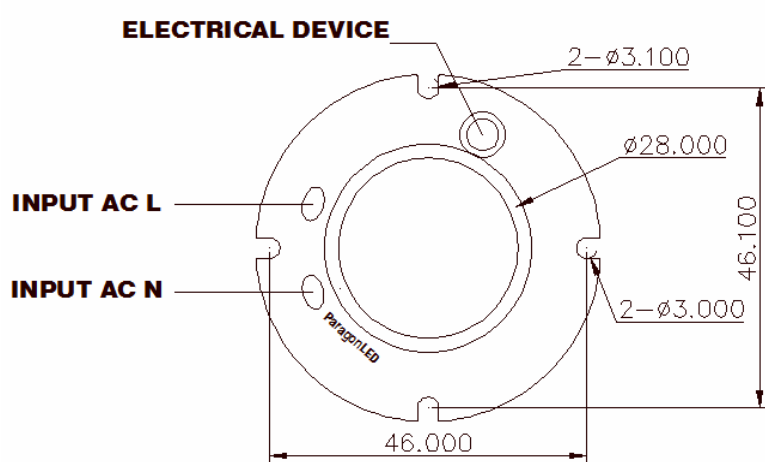
Outline Dimension

Emission area: 28mm

Voltage :220V

Color Temperature:5700K

## (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	$P_D$	20	W
Forward Current	$I_F$	—	A
Forward Voltage	$V_F$	220	V
Operating Temperature	$T_{opr}$	-40 ~ +60	°C
Storage Temperature	$T_{stg}$	-40 ~ +80	°C
Assembly process temperature	$T_{sol}$	<325°C , 5 secs	

### (2) Electro-Optical Characteristics

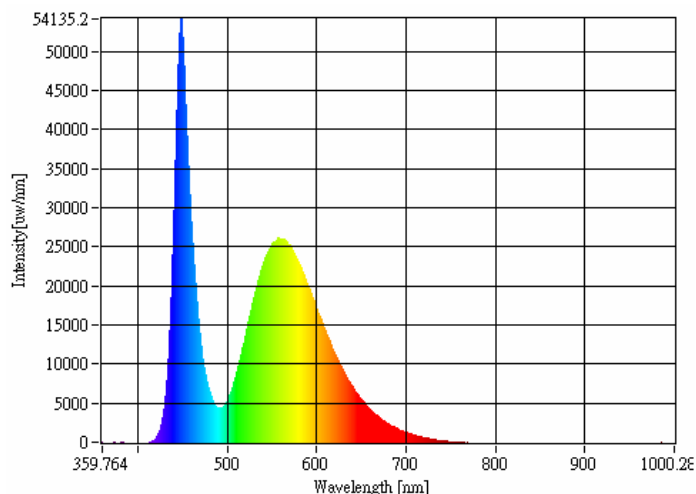
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Forward Voltage	$V_F$	—	—	220	240	V

Reverse Current	$I_R$	-	-	-	-	$\mu A$
Luminous Intensity	$\Phi_v$	$V_F=220V$	-	1600	-	Lm

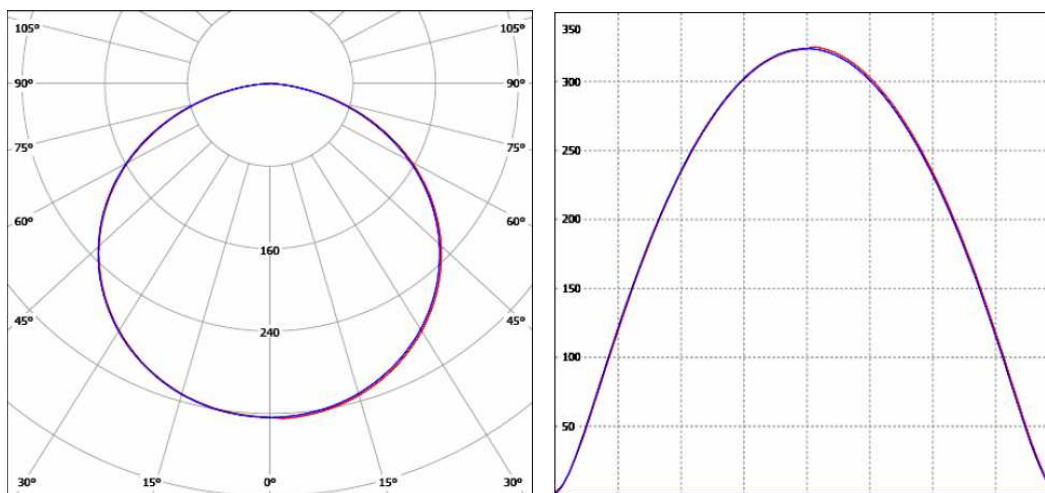
Notice: Operating voltage of CBAC-78 product varies from 210V~240V · users must keep the temperature of solder joint point under 60 °C (with suitable heat sink), or may cause Serious luminous decay. We DO NOT guarantee of improper use.

### (3) Characteristics

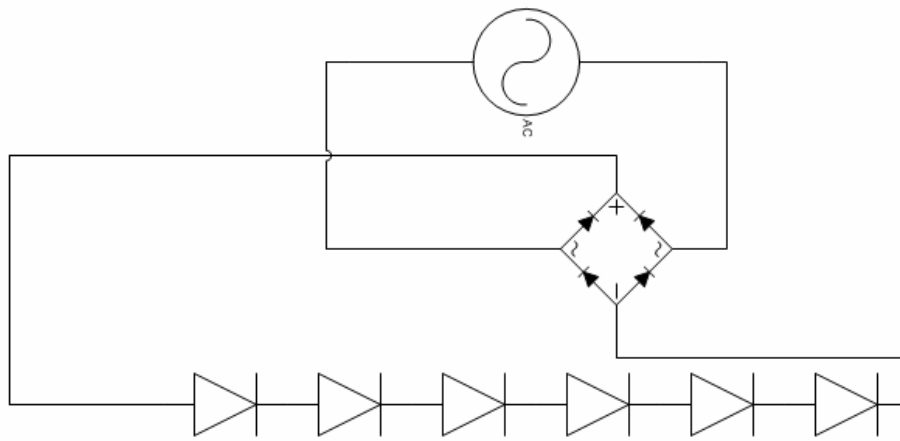
#### Spectrum



#### Candle Power Distribution & Cartesian Coordinate

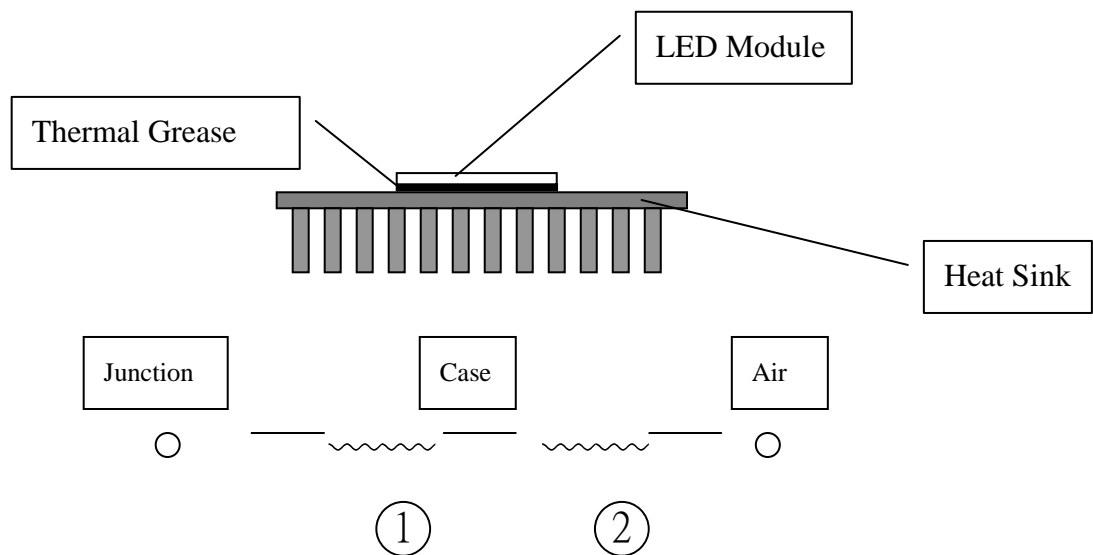


### (4) Layout



chip 78 in series=78 LED Chips

### 3. Junction Temperature Measurement



① Thermal resistance of Junction to Case without heat sink :  $10\text{ }(^{\circ}\text{C}/\text{W})$  [ 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  $1\sim 2\text{ }(^{\circ}\text{C}/\text{W})$ .

### 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	$V_f=220V$	$>0 \times 1.1$
Total Luminous Flux	$V_f=220V$	$<L \times 0.7$

## 5.Instruction of ring

