

**Preliminary**  
**RGB10C18**  
**DATA SHEET**

Approved by:

Checked by:

Prepared by:

<b>Part No.</b>	<b>RGB10C</b>	<b>Spec No.</b>	<b>S/N-201005003</b>	<b>Page</b>	<b>1 of 7</b>
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## Features:

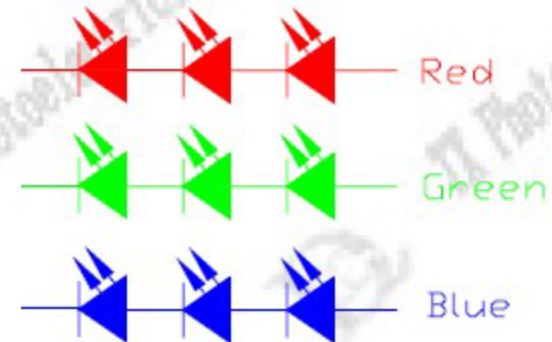
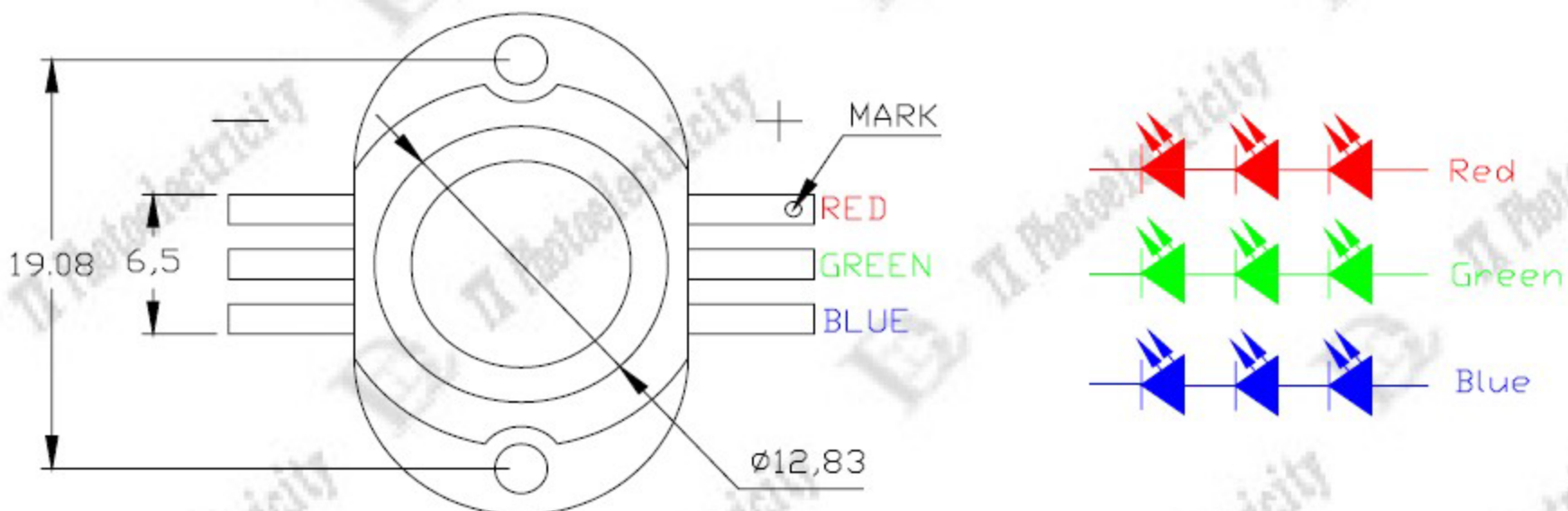
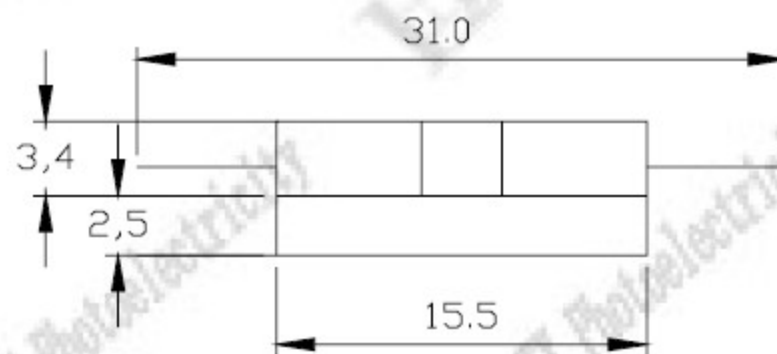
- ◆ Excellent Transiting Heat from LED Chip Operating under 700mA
- ◆ High Luminous Output
- ◆ No UV

## Typical purpose:

- ◆ Portable Flashlight
- ◆ Garden lighting
- ◆ General Lighting



## Package Dimensions:



**Notes:**

- 1.All dimensions are in millimeters (inches).
- 2.Tolerance is  $\pm 0.25$  mm (.010") unless otherwise noted.

Part NO.	Chip Material			Lens Color	Emitting Color
TX-RGB10C180-001	Red	Green	Blue	Water Clear	Red & True Green & Blue
	AlGaInP	GaInN	GaInN		

**Absolute Maximum Ratings at Ta=25°C**

Parameter	Symbol	MAX.	Unit
LED Junction Temperature	—	120	°C
Power Dissipation	P <sub>D</sub>	R	6300
		G	8400
		B	8400
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	I <sub>FP</sub>	1000	mA
Continuous Forward Current	—	700	mA
Reverse Voltage	V <sub>R</sub>		V
Electrostatic Discharge Threshold (ESD)	—	6000	V
Operating Temperature Range	T <sub>opr</sub>	-40 to +70	°C
Storage Temperature Range	T <sub>spr</sub>	-40 to +100	
Lead Soldering Temperature	T <sub>sol</sub>	Reflow Soldering: 230°C for 10 sec. Hand Soldering: 350°C for 8	

**Notes:**

1. Specifications are subject to change without notice.
2. Under the stipulated Characteristics parameters above, the life span of the LED is more than 10,000 hours.
3. The data on this specification is for reference only and the actual data is in accordance with the acknowledgment.
4. Precautions for ESD:  
STATIC SHIELD Electricity and surge damages the LED. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.

<b>Part No.</b>	<b>RGB10C</b>	<b>Spec No.</b>	<b>S/N-201005003</b>	<b>Page</b>	<b>3 of 7</b>
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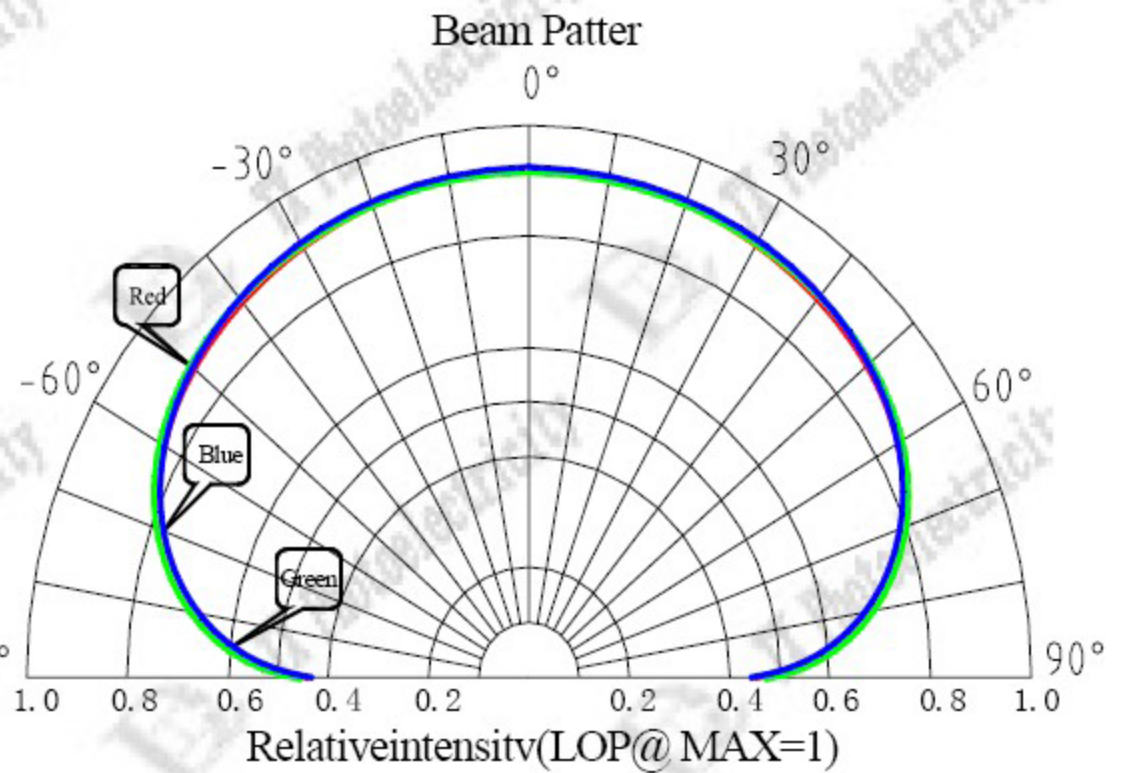
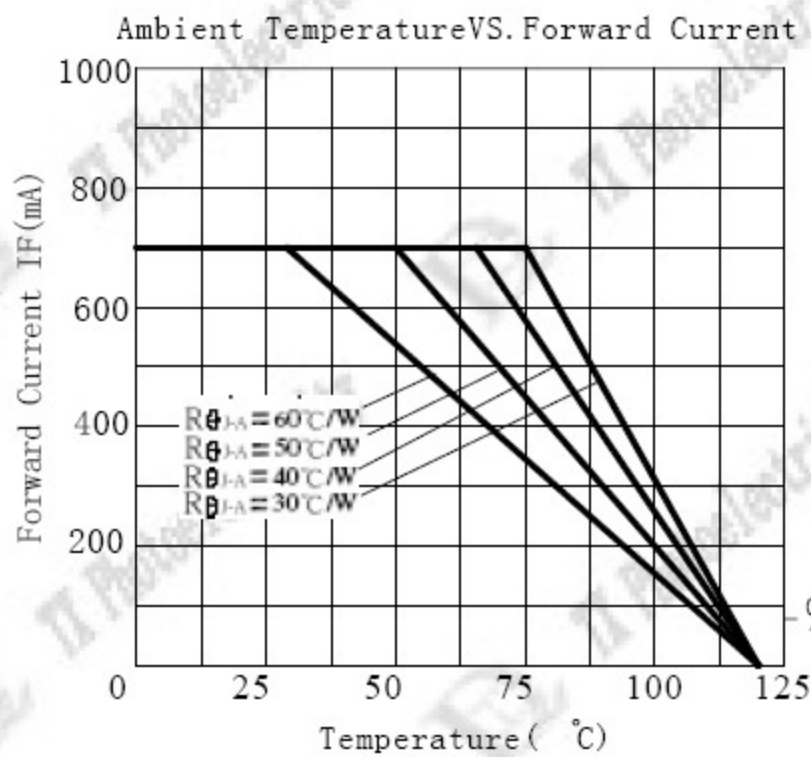
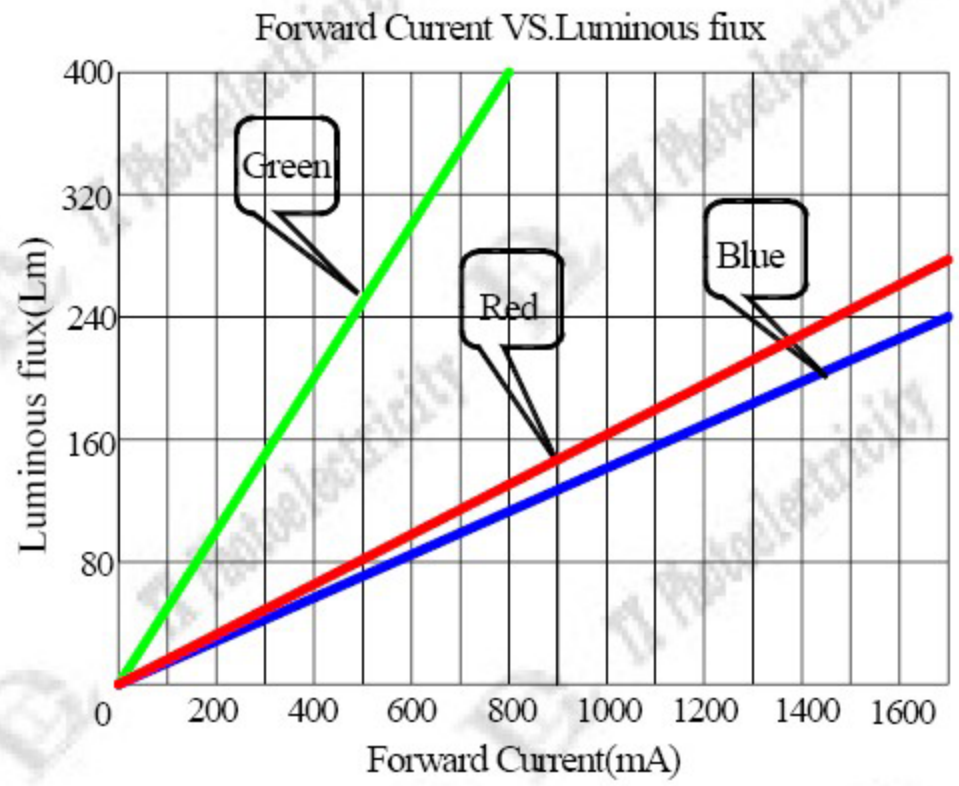
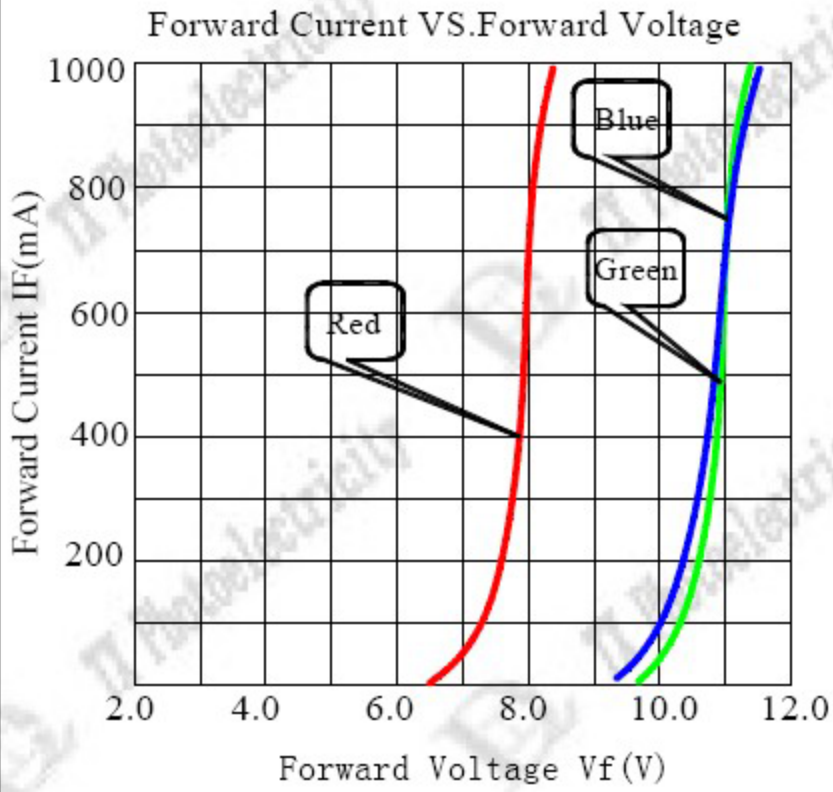
### Characteristics at $I_f=700\text{mA}$ ( $T_a=25^\circ\text{C}$ ):

Parameter	Symbol	Emitting Color	Values			Units
			Min.	Typ.	Max.	
Luminous Flux	$\Phi_v$	R	100	110		lm
		G	310	340		
		B	75	90		
Viewing Angle at 50% IV	$2\theta_{1/2}$	R	175	180	185	Deg
		G	175	180	185	
		B	175	180	185	
Peak Emission Wavelength	$\lambda_p$	R	625	630	635	nm
		G	510	515	520	
		B	458	460	462	
Dominant Wavelength	$\lambda_d$	R	620	625	630	nm
		G	520	525	530	
		B	462.5	465	467.5	
Spectral Line Half-Width	$\Delta\lambda$	R	15	20	25	nm
		G	25	30	35	
		B	15	20	25	
Forward Voltage	$V_f$	R	7	8	9	V
		G	10	11	12	
		B	10	11	12	
Reverse Current	$I_R$					$\mu\text{A}$
Thermal Resistance Junction to Case	$R\theta_{J-C}$			10		$^\circ\text{C}/\text{W}$
Temperature Coefficient of Forward Voltage	$V\Delta F/T$			-2		$\text{mV}/^\circ\text{C}$

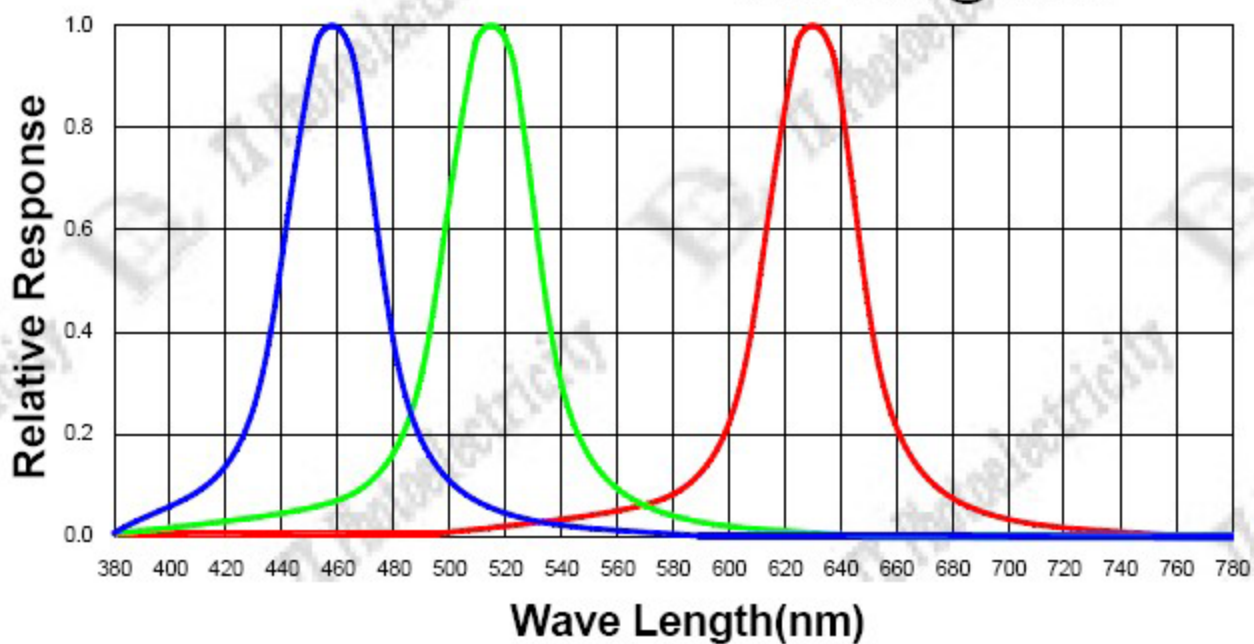
### Notes:

- Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
- $\theta_{1/2}$  is the off-axis angle at which the luminous intensity is half the axial luminous intensity
- The dominant wavelength ( $\lambda_d$ ) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.
- Flux is measured with an accuracy of  $\pm 15\%$ .
- Forward voltage is measured with an accuracy of  $\pm 0.15\text{V}$ .

# Typical Electrical / Optical Characteristics Curves (25°C Ambient Temperature Unless Otherwise Noted)



**Spectral Radiance: Red Peak@630nm  
Green Peak@515nm  
Blue Peak@458nm**



## PRECAUTION IN USE

### Storage

#### Recommended storage environment

Temperature: 5°C ~ 30°C (41°F ~ 86°F)

Humidity: 60% RH Max.

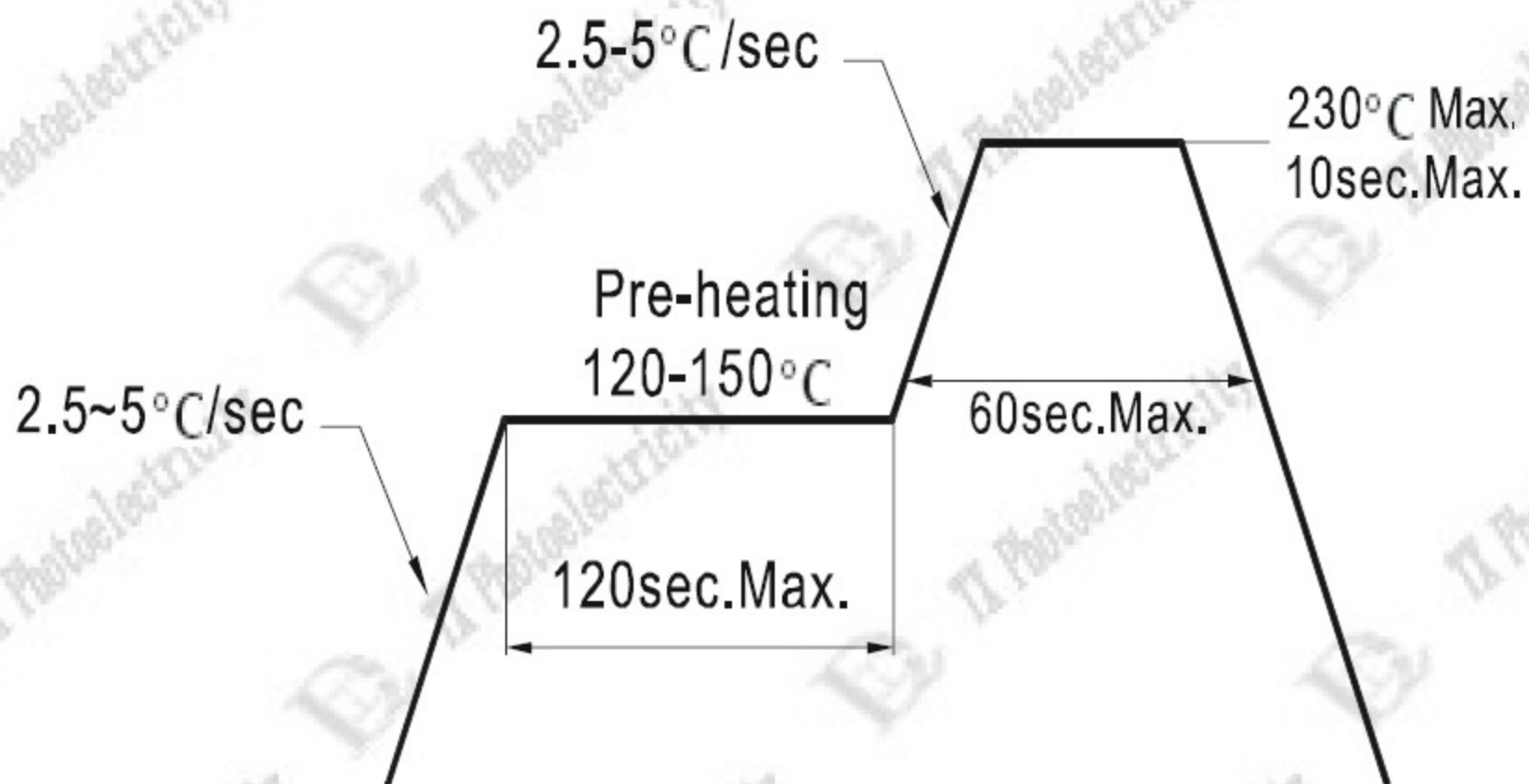
### Soldering

Reflow Soldering		Hand Soldering	
	Solder	Temperature	350°C Max.
Pre-heat	120~150°C	Soldering time	8sec. Max.
Pre-heat time	120sec. Max.		
Peak temperature	230°C Max.		
Soldering time	10sec. Max.		
Condition	refer to Temperature-		

\*After reflow soldering rapid cooling should be avoided.

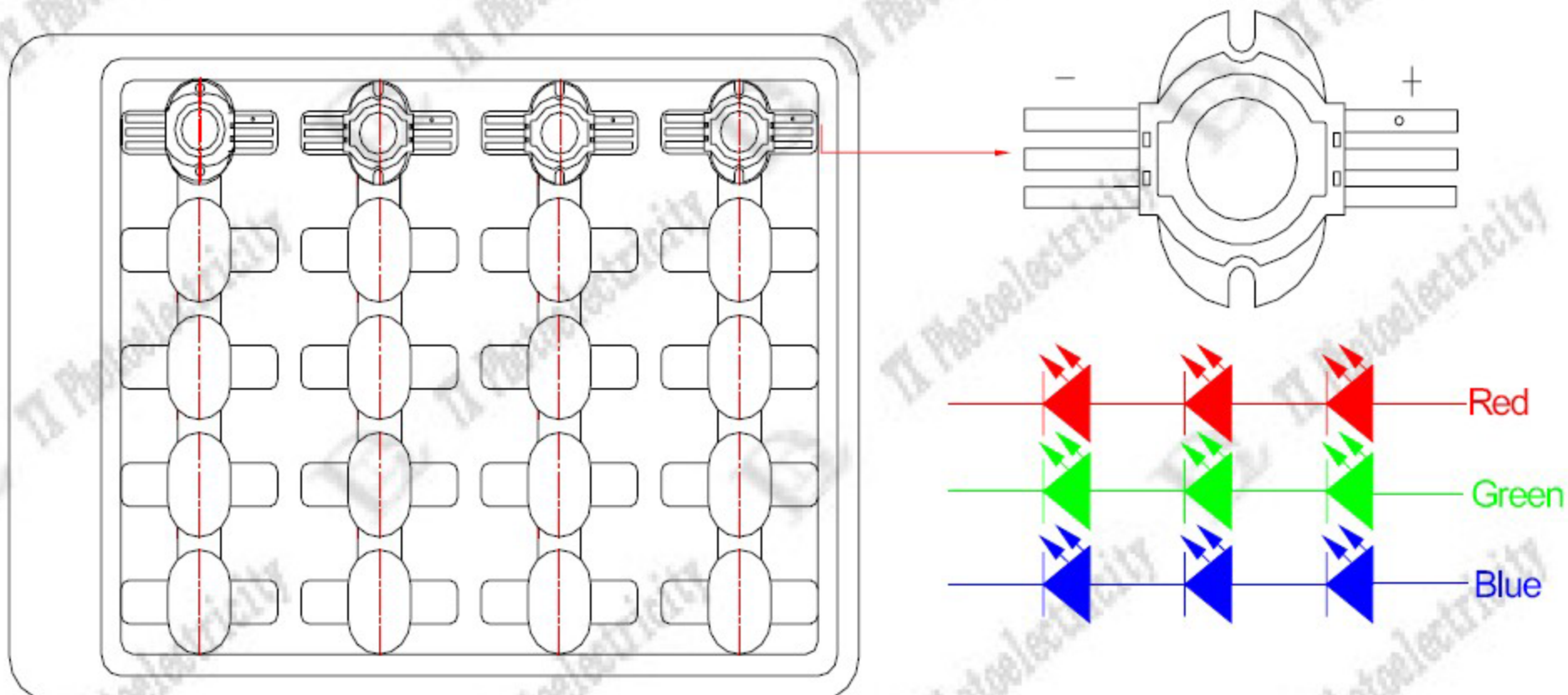
[Temperature-profile (Surface of circuit board)]

Use the conditions shown to the under figure.



## Dimensions for Cannulation and Packaging

QUANTITY: 20PCS



### Notes:

- 1.All dimensions are in millimeters (inches).
- 2.Tolerance is  $\pm 2.0$  mm (.010") unless otherwise noted.
- 3.The products are packaged together with silica gel,Transport, not to the weight of welding LED light-emitting area,As a result of the weight of LED light-emitting zone in the quality of, Irresponsible of the Company.