

# TX-5060RGBW20FC120-NUVCNG-02A

## PRODUCT SPECIFICATION

### Features:

- ◆Excellent transiting heat from LED chip operating under R:1200 GB:1500 W:2000 mA
- ◆High luminous output
- ◆No UV
- ◆Encapsulated materials are environmentally certified and meet environmental requirements.

### Chip Material:

- ◆ Red:AlInGaP
- ◆ Green: GaInN
- ◆ Blue:GaInN
- ◆ White:GaInN

### Emitting Color:

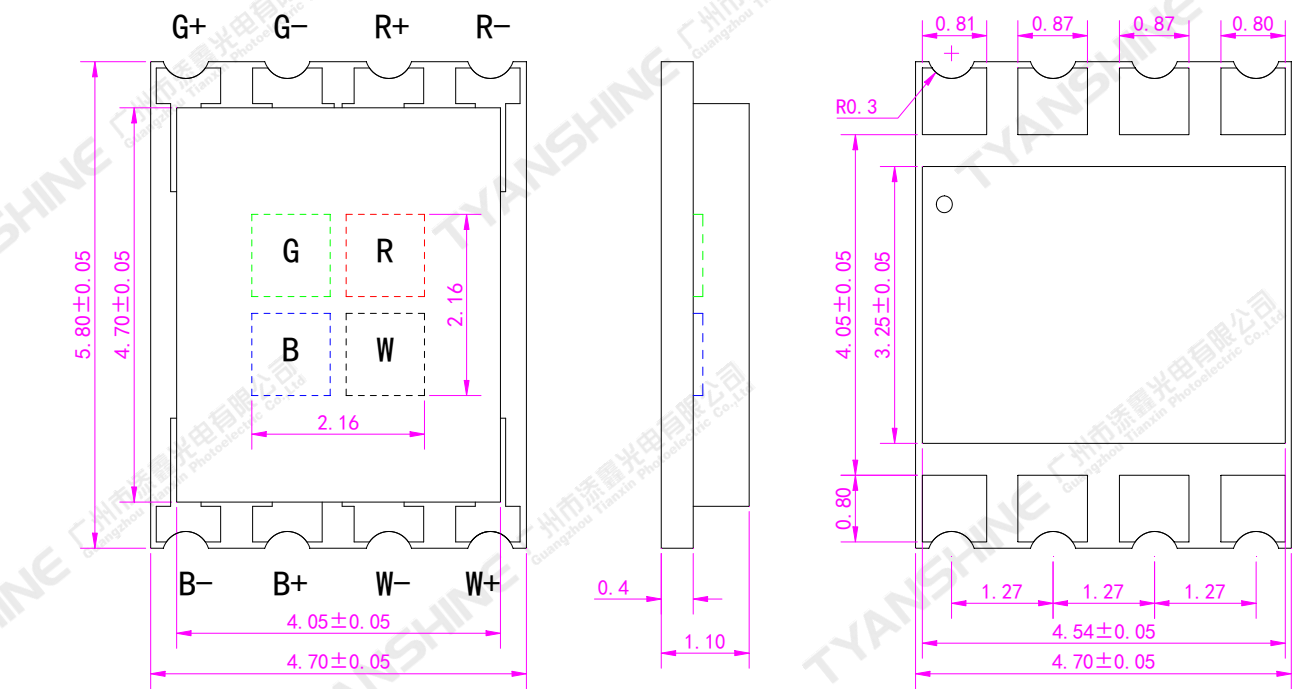
- ◆ Red
- ◆ Green
- ◆ Blue
- ◆ White

### Applications:

- ◆Auxiliary lighting
- ◆Ambient lighting
- ◆Architectural lighting
- ◆Entertainment lighting

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Package Dimensions:



Notes:

- 1.All dimensions are in millimeters .
- 2.Tolerances unless otherwise mentioned are ±0.1mm .

## Absolute Maximum Ratings (Tc=25℃)

Parameter	Symbol		Max Ratings	Unit
Forward Current	IF	R	1200	mA
		G	1500	
		B	1500	
		W	2000	
Reverse Voltage	VR		5	V
Power Dissipation	PD	R	5100	mW
		G	5850	
		B	5700	
		W	7600	
Junction Temperature	Tj	R	115	℃
		G	150	
		B	150	
		W	150	
Electrostatic Discharge Threshold (ESD)	ESD		2000	V
Storage Temperature	Tstg		-20~65	℃
Operation Temperature	Topr		-40~100	

## Notes:

- Specifications are subject to change without notice.
- Under the stipulated Characteristics parameters above, the life span of the LED is more than 50,000hours.
- The data on this specification is for reference only and the actual data is in accordance with the acknowledgment.
- 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.

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## Electrical Optical Characteristics (Tc=25°C)

Parameter	Symbol	Condition	Emitting Color	Min.	Typ.	Max.	Units
Luminous Flux	$\varphi_v$	$I_{f(R)}=1.2A$ $I_{f(GBW)}=1.5A$	R	85	105	125	lm
			G	260	290	320	
			B	43	50	57	
			W	356	396	436	
Dominant Wavelength	$\lambda_d$		R	621	626	631	nm
			G	519	524	529	
			B	448	453	458	
Peak-emission Wavelength	$\lambda_p$		R	634	639	644	nm
			G	513	518	523	
			B	443	448	453	
Spectral Line Half-Width	$\Delta\lambda$		R	13	16	19	nm
			G	29	34	39	
			B	18	21	24	
			W	27	35	43	
Forward Voltage	$V_f$		R	2.4	2.7	3.1	V
			G	3.3	3.7	4.0	
		B	3.2	3.6	4.0		
		W	3.2	3.6	4.0		
Correlated Colour Temperature	CCT	$I_f=1.0A$	W	6000	6720	7000	K
Reverse Current	$I_R$	$V_R=5V$	R	—	—	2	$\mu A$
			G	—	—	2	
			B	—	—	2	
		—	W	Not designed for reverse operation			
Viewing Angle at 50 % IV	$2\theta_{1/2}$	—	—	—	120	—	Deg
Thermal Resistance Junction to Case	$R\theta_{J-C}$	—	—	—	0.8	—	K/W
Temperature Coefficient of Voltage	$V\Delta F/T$	$I_{f(R)}=1.2A$ $I_{f(GBW)}=1.5A$	R	—	-1	—	mV/°C
			G	—	-4.9	—	
			B	—	-2.5	—	
			W	—	-1.9	—	

## White light Color coordinate filing IF=1000mA

Region	CCT Range		X1	Y1	X2	Y2	X3	Y3	X4	Y4
	Min	Max								
1C	6000	6500	0.3216	0.3380	0.3128	0.3290	0.3112	0.3401	0.3207	0.3499
1A	6500	7000	0.3136	0.3235	0.3066	0.3157	0.3040	0.3285	0.3117	0.3369

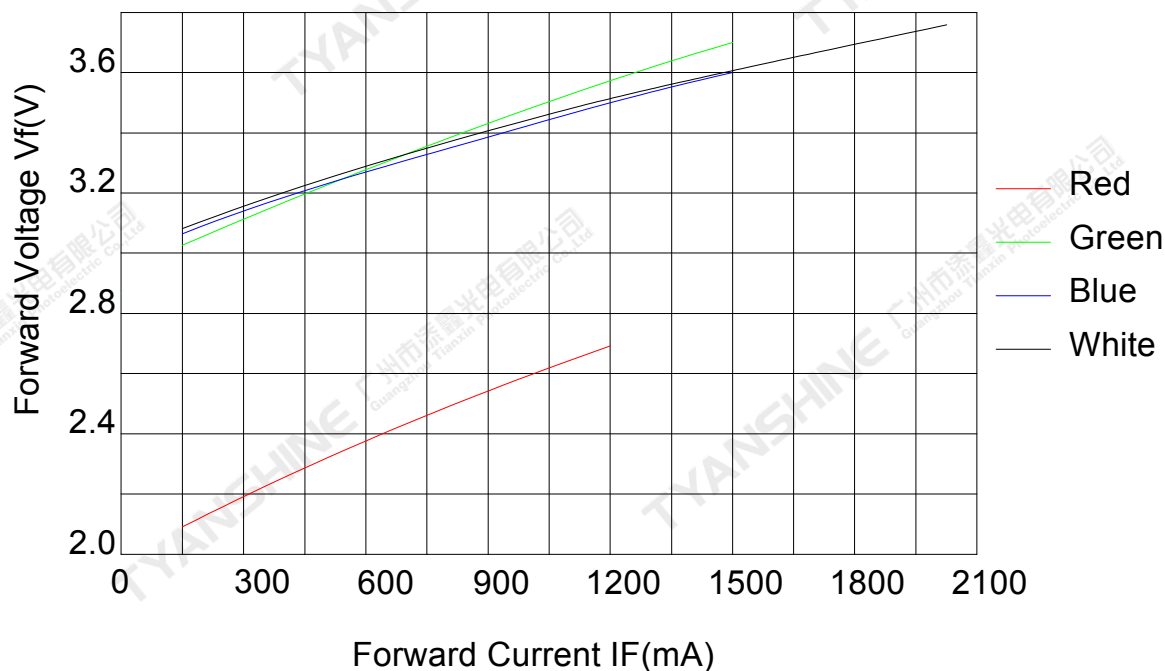
## Notes:

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

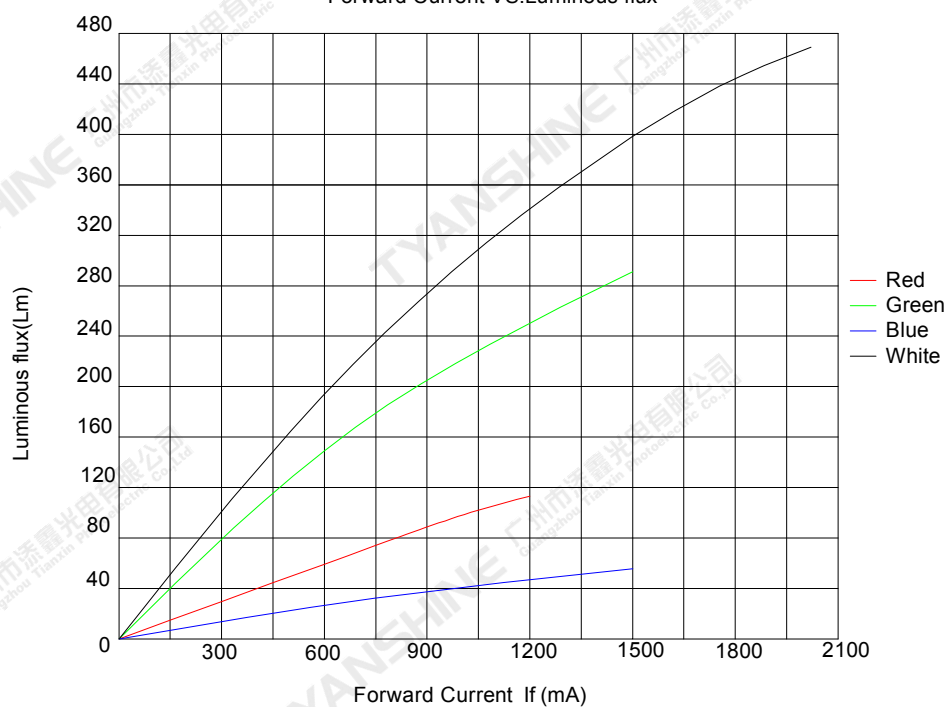
## Typical Electrical/Optical Characteristics Curves

(25°C Ambient Temperature Unless Otherwise Noted)

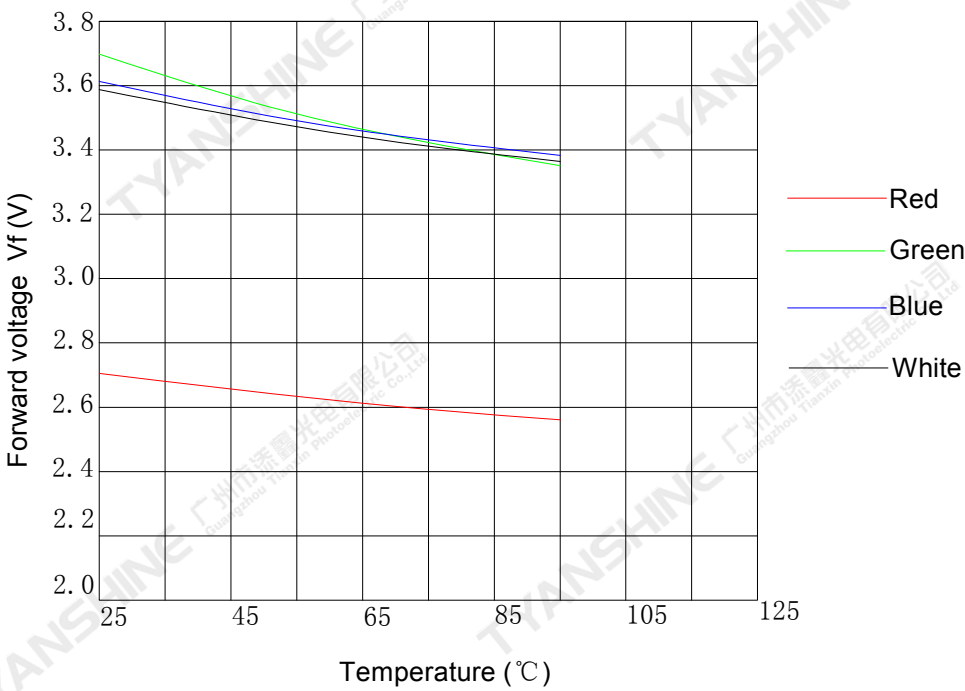
Forward Current VS. Forward Voltage



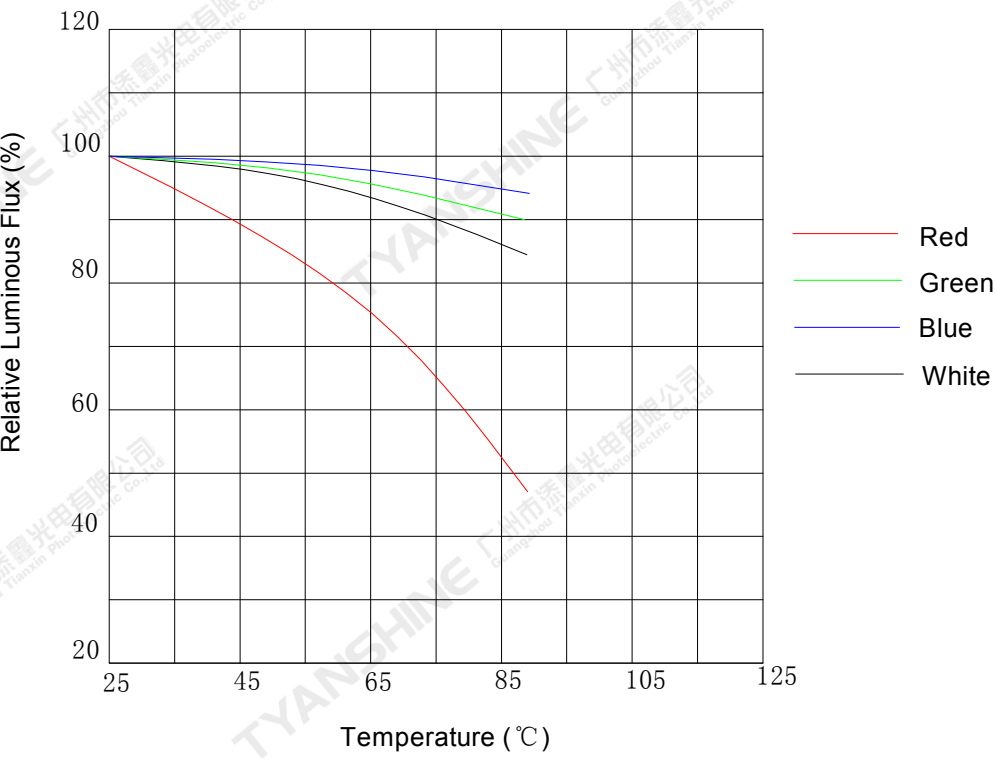
Forward Current VS. Luminous flux



Temperature VS. Forward Voltage IF(R)=1200mA IF(GBW)=1500mA

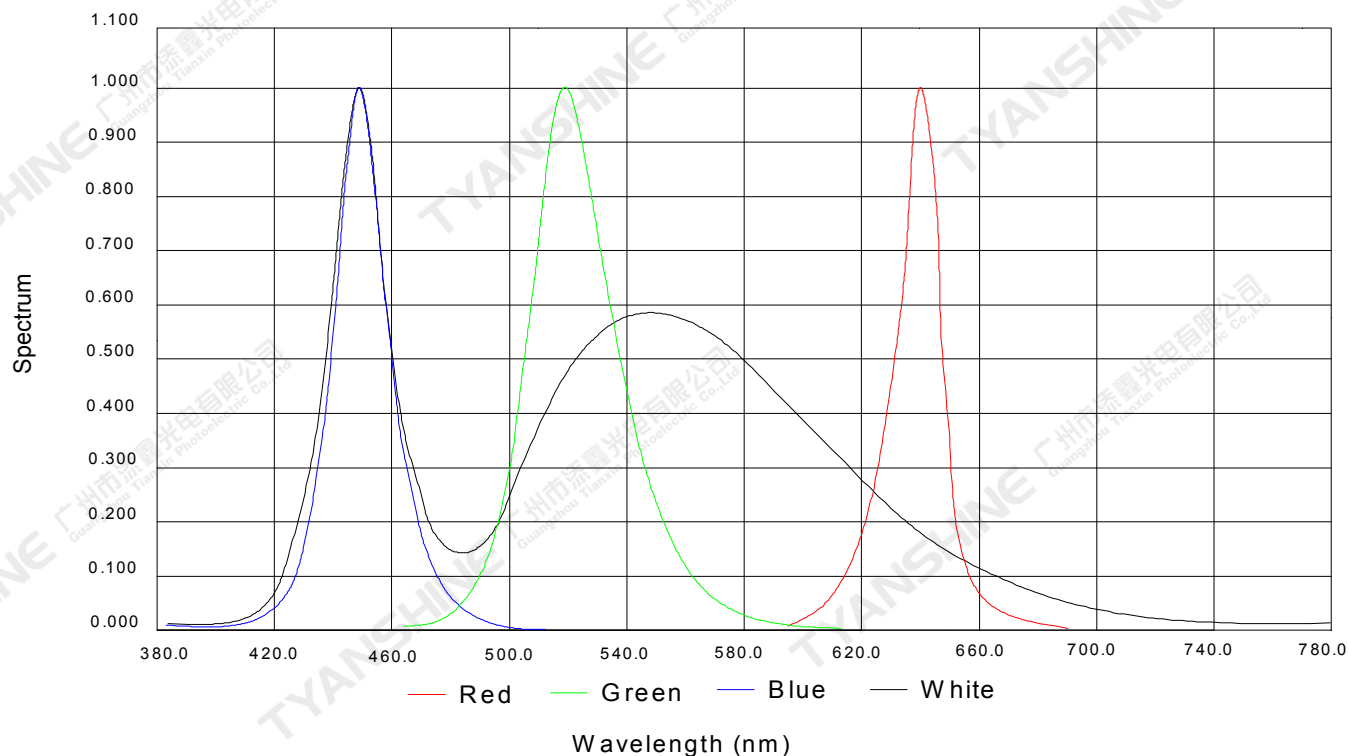


Temperature VS. Relative Luminous Flux IF(R)=1200mA IF(GBW)=1500mA

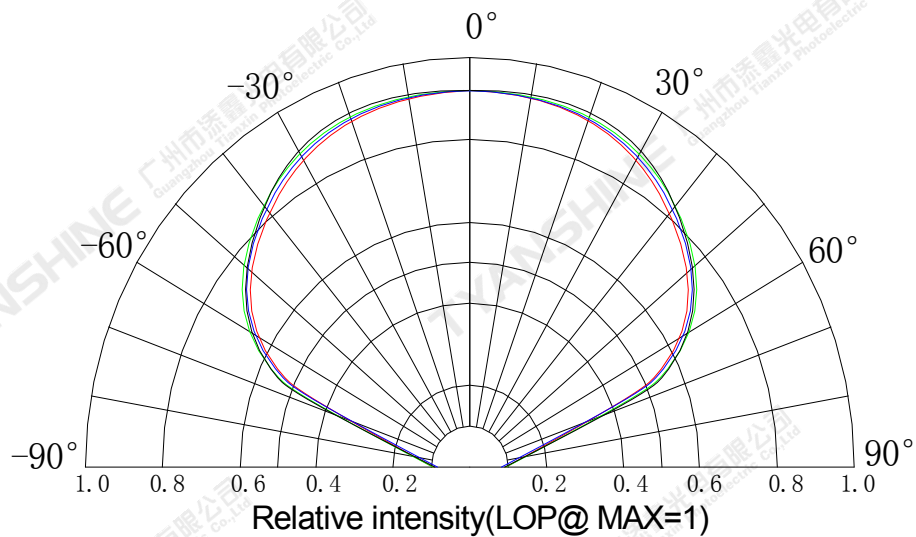


## Relative Spectral Distribution

Spectral Radiance: Red Peak@639nm Green Peak@518nm Blue Peak@448nm



## Beam Pattern



## Notes:

1.  $2\theta_{1/2}$  is the off axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value.
2. View angle tolerance is  $\pm 5^\circ$ .



## Usage Precautions

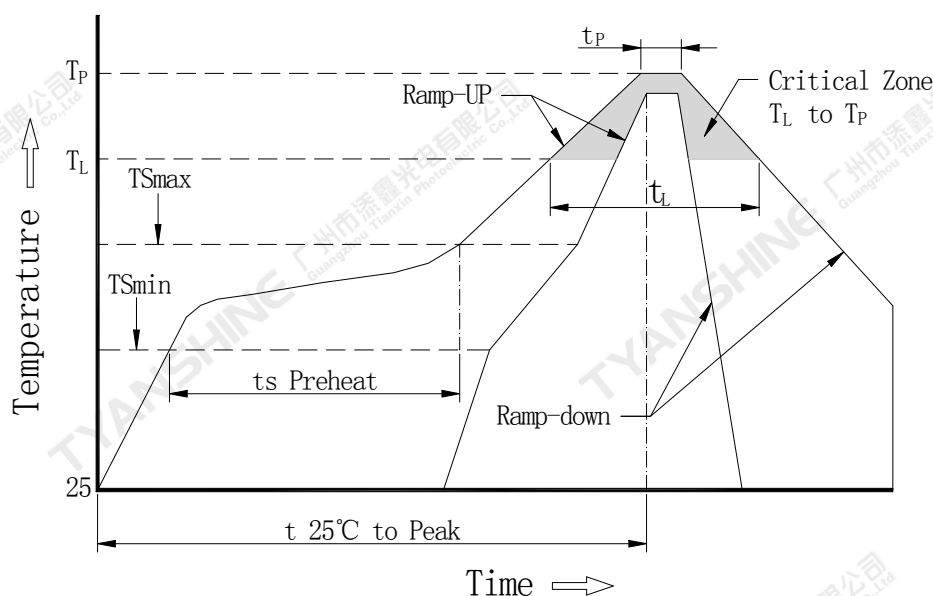
### Storage Environment Condition

Temperature: 5°C ~ 30°C (41°F ~ 86°F)

Humidity: 60% RH Max.

### Soldering Condition

Use the conditions shown to the under figure.



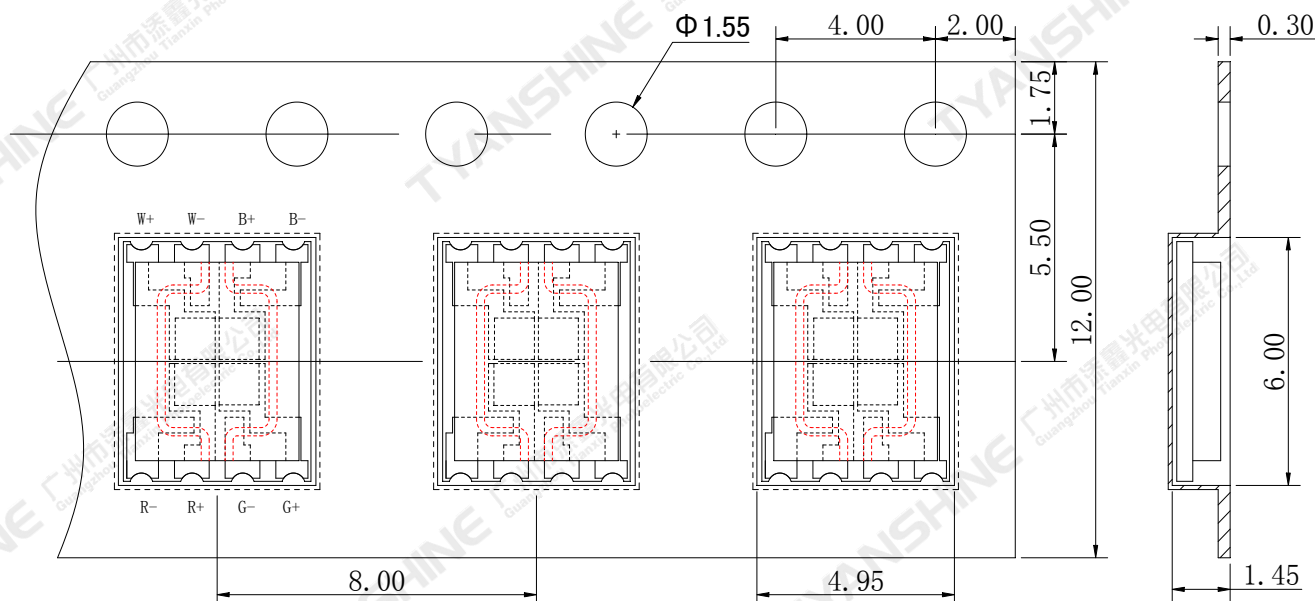
Profile Feature	Lead-Based Solder
Average Ramp-Up Rate (Tsmax to Tp)	3°C/second max.
Preheat: Temperature Min (Tsmin)	100°C
Preheat: Temperature Max (Tsmax)	150°C
Preheat: Time (Tsmin to Tsmax)	60-120 seconds
Time Maintained Above: Temperature (Tl)	183°C
Time Maintained Above: Time (Tl)	60-150 seconds
Peak/Classification Temperature (Tp)	225°C
Time Within 5°C of Actual Peak Temperature (Tp)	10-30 seconds
Ramp-Down Rate	6°C/second max.
Time 25°C to Peak Temperature	6 minutes max.

#### Note:

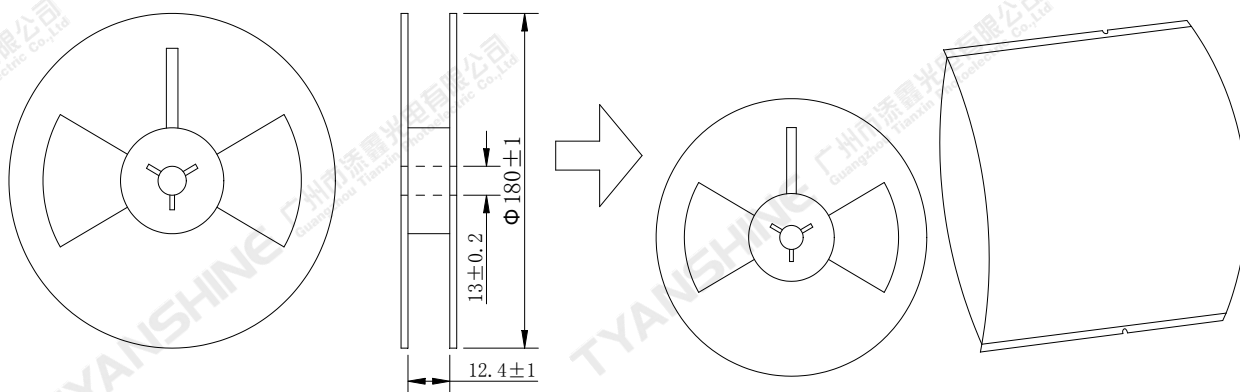
All temperatures refer to topside of the package, measured on the package body surface.

## Dimensions For Cannulation And Packaging

Quantity: 500PCS



## Package method(units:mm):



## Notes:

1. All dimensions are in millimeters.
2. Tolerances are  $\pm 2.0$  mm 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.