TX-5050RGBWAP20FC120-NGVCNA-02

PRODUCT SPECIFICATION

Features:

◆Excellent transiting heat from LED chip operating under R:1.0 GBWA:1.2 P:0.6 A

◆High luminous output

◆Encapsulated materials are environmentally certified and meet environmental requirements.

Chip Material:

◆Red:AlInGaP

◆Green: GaInN

◆Blue:GaInN

◆ White:GaInN

◆ PC Amber:GaInN

◆Purple:GaInN

Emitting Color:

◆Red

◆Green

◆Blue

◆White

◆PC Amber

◆Purple

Applications:

◆Auxiliary lighting

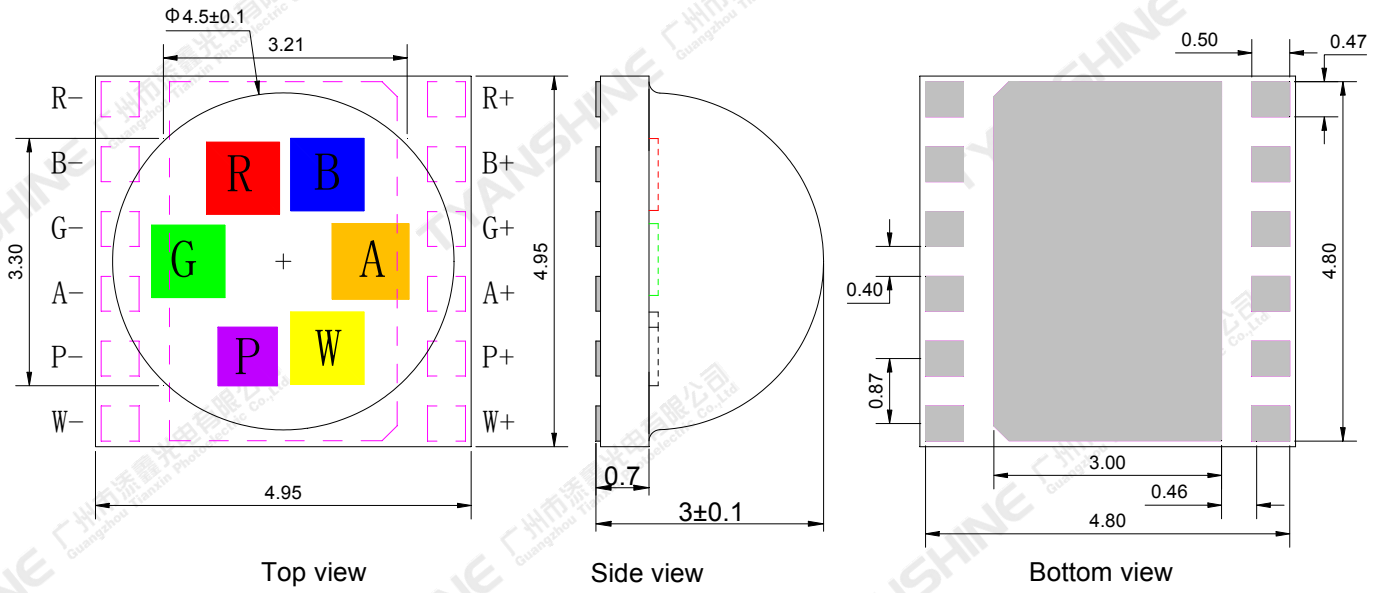
◆Ambient lighting

◆Architectural lighting

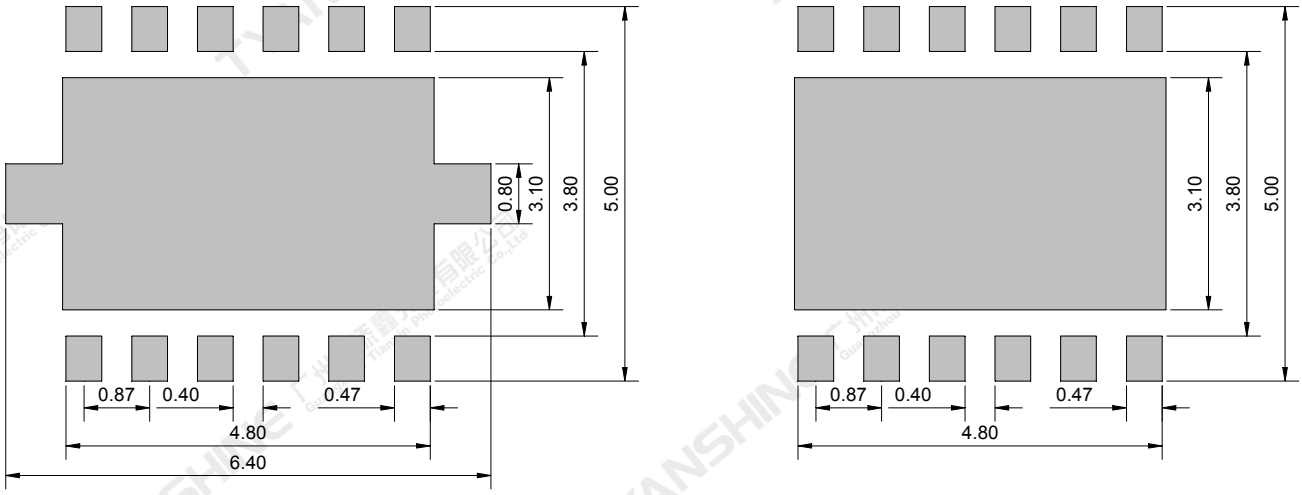
◆Entertainment lighting

◆Stage lighting

Package Dimensions:



Top view　　Side view　　Bottom view



Recommended solder pad　　Recommended stencil pattern

B:Blue　G：Green　R：Red　P：Purple　W：White　A：Pc Amber

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	1000	mA
		G	1200	
		B	1200	
		W	1200	
		A	1200	
		P	600	
Reverse Voltage	V_R		Not designed for reverse operation	V
Power Dissipation	P_D	R	3000	mW
		G	4440	
		B	4440	
		W	4440	
		A	4320	
		P	2460	
Junction Temperature	Tj	R	125	℃
		G	150	
		B	150	
		W	150	
		A	150	
		P	115	
Electrostatic Discharge Threshold (ESD)	ESD		2000	V
Storage Temperature	T_{stg}		-40~70	℃
Operation Temperature	T_{opr}		-30~100	

Notes:

1.Specifications are subject to change without notice.

2.The data on this specification is for reference only and the actual data is in accordance with the acknowledgment.

3.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.

Electrical Optical Characteristics (Tc=25°C)

Parameter	Symbol	Condition	Emitting Color	Min.	Typ.	Max.	Units
Luminous Flux	φ_v	If(RGBWA)=0.7A If(P)=0.5A	R	100	110	130	lm
			G	172	192	212	
			B	25	33	36	
			W	185	210	240	
			A	125	145	165	
			P	4.0	4.5	5.0	
Radiant Flux	Φe		P	550	630	720	mW
Dominant Wavelength	λd		R	618	623	628	nm
			G	522	527	532	
			B	449	454	459	
			P	435	440	445	
Correlated Colour Temperature	CCT		W	6000	6500	7000	K
			A	1770	1800	1850	
Peak-emission Wavelength	λp		R	628	633	638	nm
			G	516	521	526	
			B	444	449	454	
			P	394	399	404	
Spectral Line Half-Width	△λ		R	12	16	20	nm
			G	26	31	36	
			B	24	29	34	
			W	18	22	26	
			A	77	83	89	
			P	11	15	19	
Forward Voltage	V_f		R	2.0	2.3	2.6	V
			G	2.9	3.3	3.6	
			B	2.9	3.3	3.6	
			W	2.9	3.2	3.5	
			A	2.9	3.3	3.6	
			P	3.2	3.5	3.9	
Reverse Current	I_R	V_R=5V	—	—	—	—	μA
Viewing Angle at 50％IV	$2\theta_{1/2}$	—	—	—	120	—	Deg
Thermal Resistance Junction to Case	$R\theta_{J-C}$	—	R	—	4.2	—	K/W
			G	—	4.2	—	
			B	—	4.2	—	
			W	—	4.2	—	

			A	—	4.0	—	
			P	—	4.0	—	
Temperature Coefficient of Voltage	V△F/T	If(RGBWA)=0.7A If(P)=0.5A	R	—	-2	—	mV/℃
			G	—	-2	—	
			B	—	-2	—	
			W	—	-2	—	
			A	—	-2	—	
			P	—	-2	—	

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.

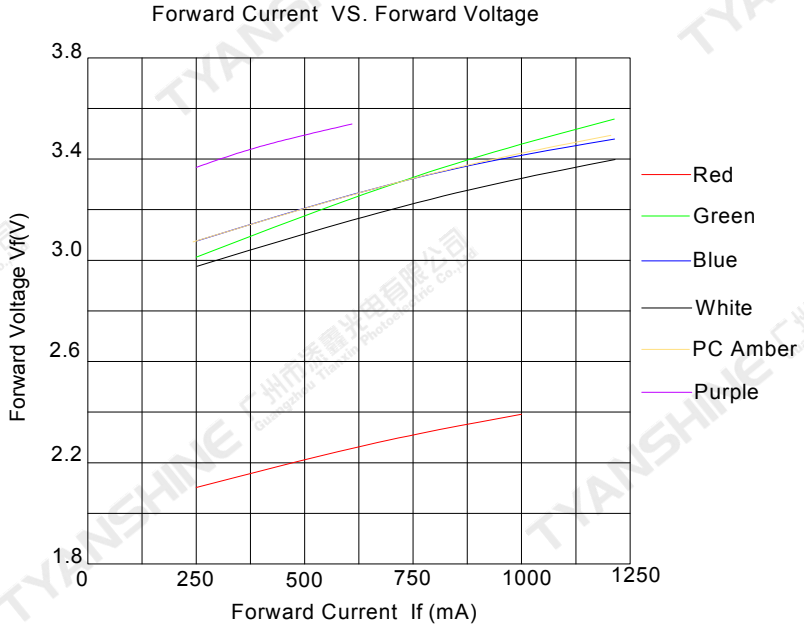
3.The dominant wavelength (λd) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

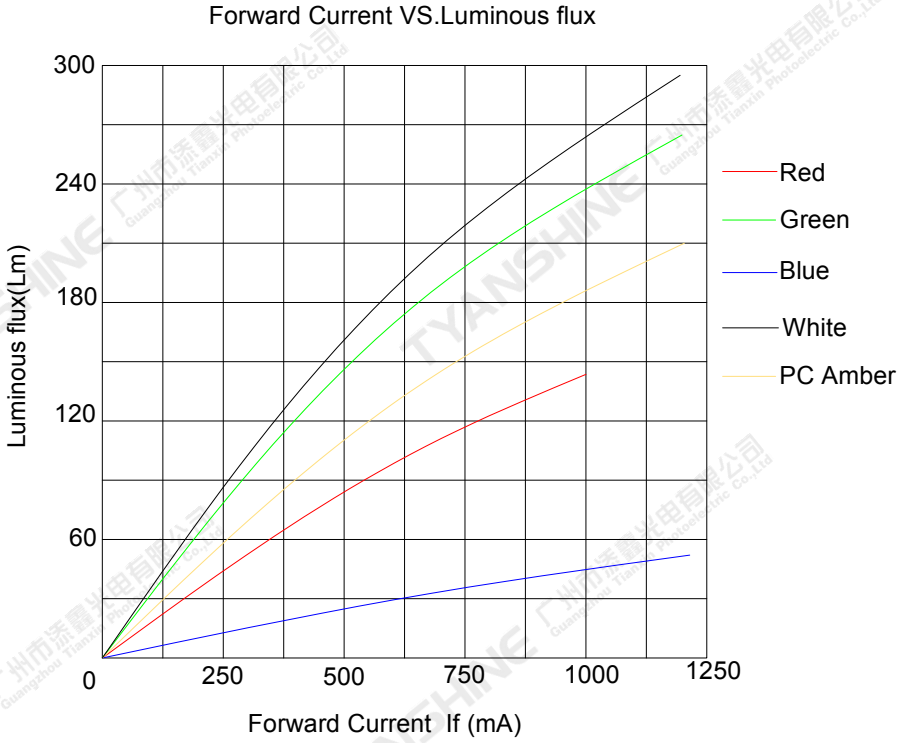
4.Luminous flux measurement tolerance:±15%.

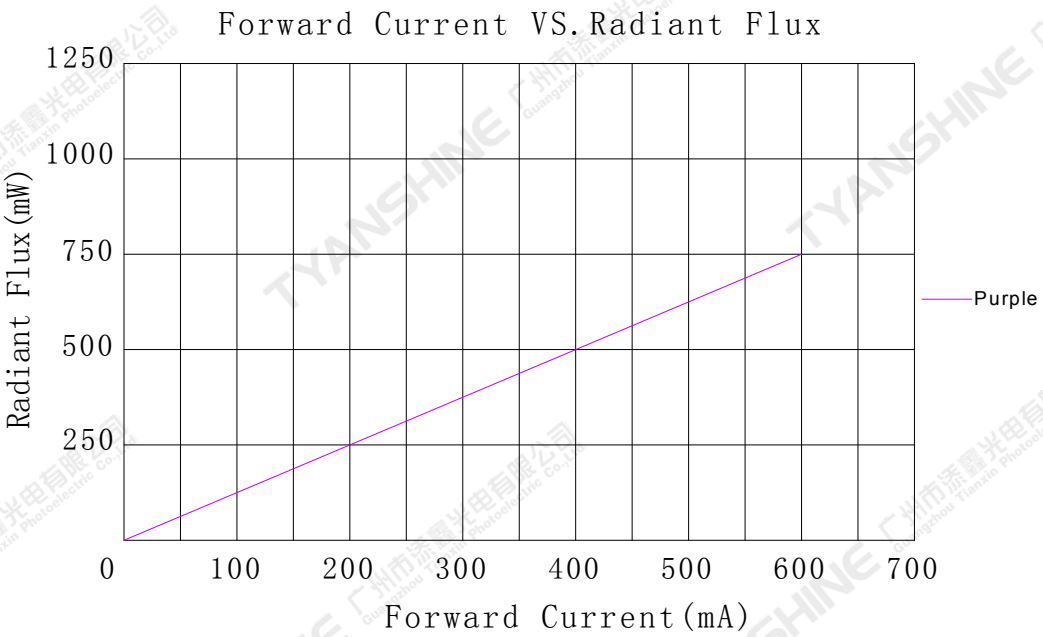
5.Forward voltage measurement tolerance:±0.15V.

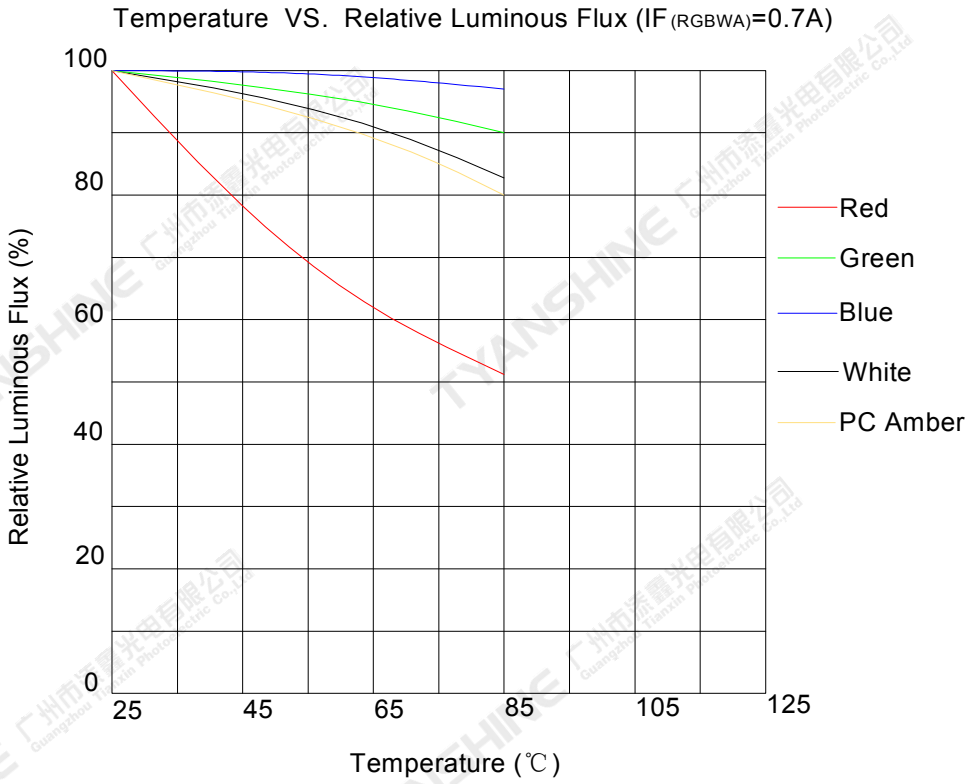
Typical Electrical/Optical Characteristics Curves

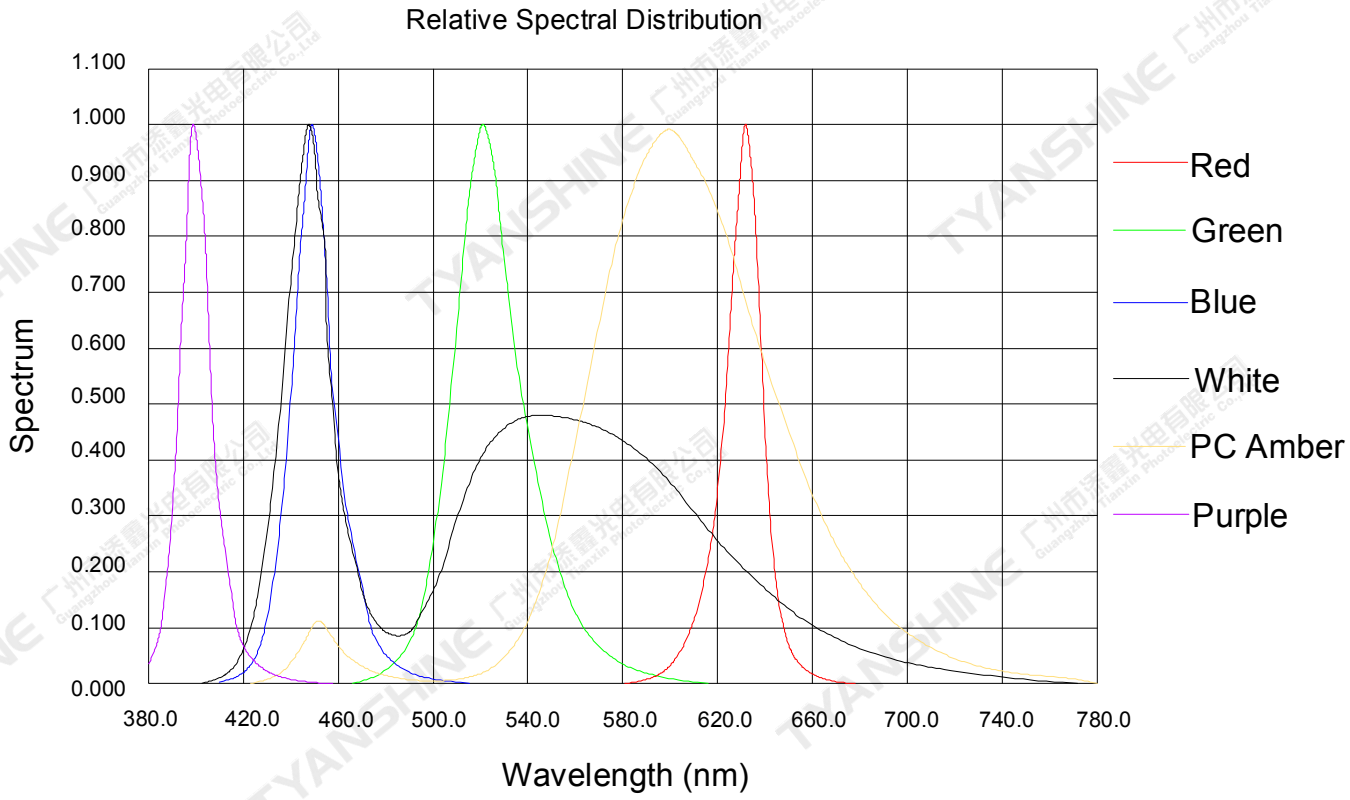
(25℃ Ambient Temperature Unless Otherwise Noted)

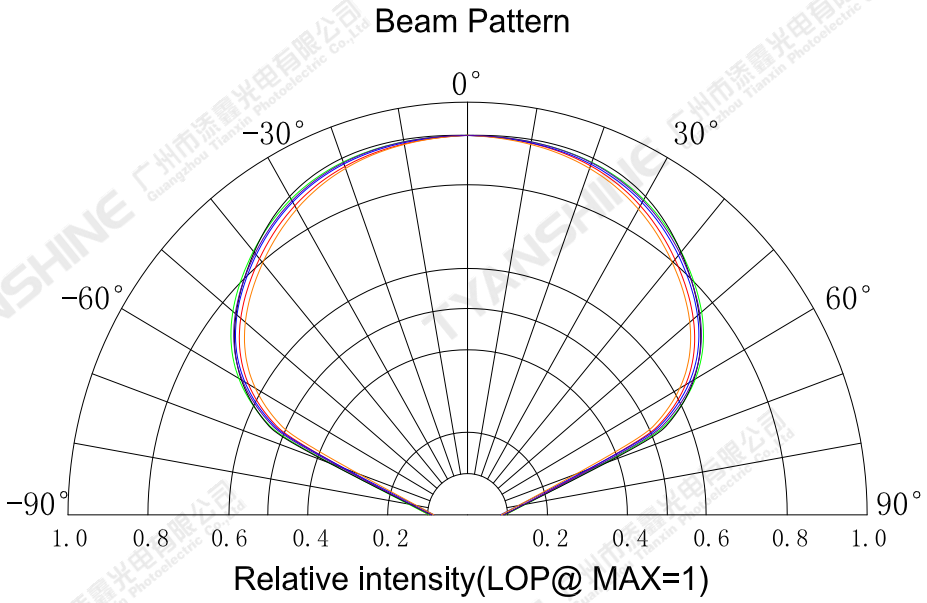





Forward Current VS. Radiant Flux
Radiant Flux (mW)
1250
1000
750
500
250
0
100
200
300
400
500
600
700
Forward Current (mA)
Purple


Temperature VS. Relative Luminous Flux (IF (RGBWA)=0.7A)
Relative Luminous Flux (%)
100
80
60
40
20
0
25
45
65
85
105
125
Temperature (℃)
Red
Green
Blue
White
PC Amber





Notes:

1. 2θ 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 ± 5°.

Usage Precautions

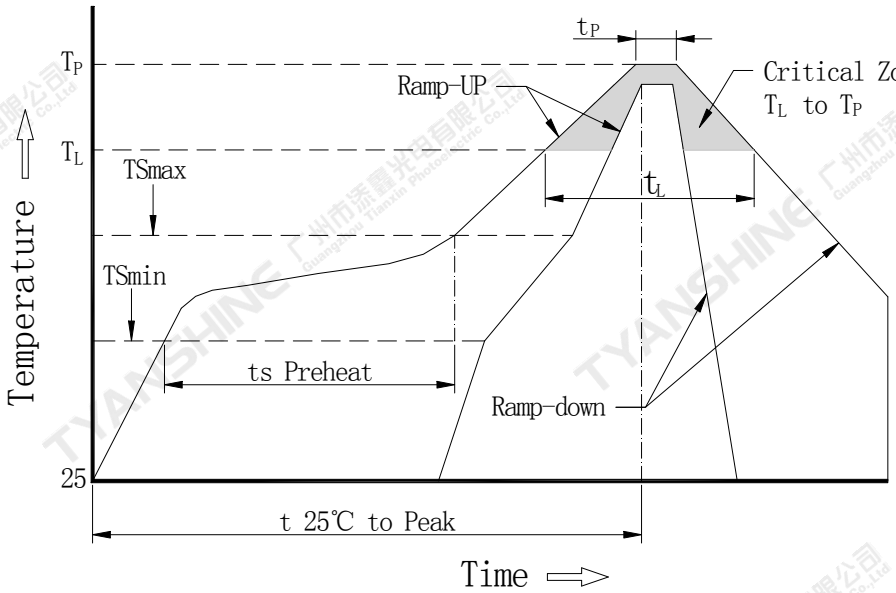
Storage Environment Condition

Temperature: 5℃ ~ 30℃ (41℉ ~ 86℉)

Humidity: 60% RH Max.

Soldering Condition

Use the conditions shown to the under figure.



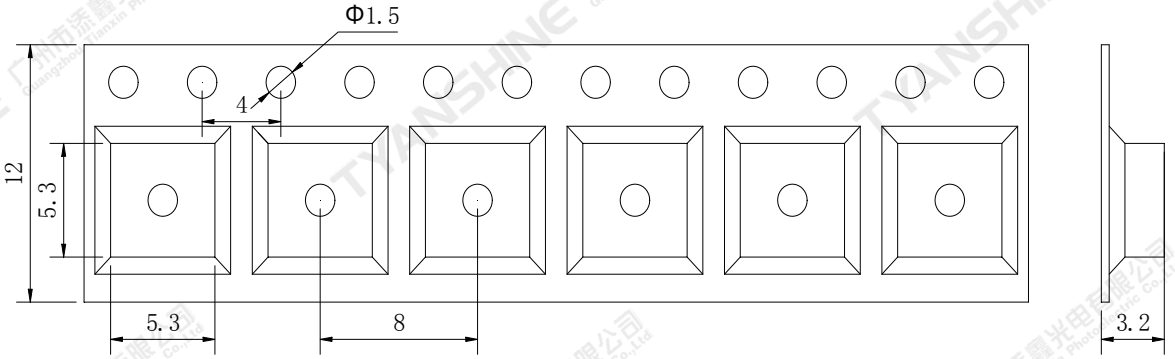
Profile Feature	Lead-Based Solder
Average Ramp-Up Rate (Ts_{max} to T_p)	3℃/second max.
Preheat: Temperature Min (Ts_{min})	100℃
Preheat: Temperature Max (Ts_{max})	150℃
Preheat: Time (Ts_{min} to Ts_{max})	60-120 seconds
Time Maintained Above: Temperature (T_L)	183℃
Time Maintained Above: Time (T_L)	60-150 seconds
Peak/Classification Temperature (T_P)	225℃
Time Within 5℃ of Actual Peak Temperature (T_P)	10-30 seconds
Ramp-Down Rate	6℃/second max.
Time 25℃ to Peak Temperature	6 minutes max.

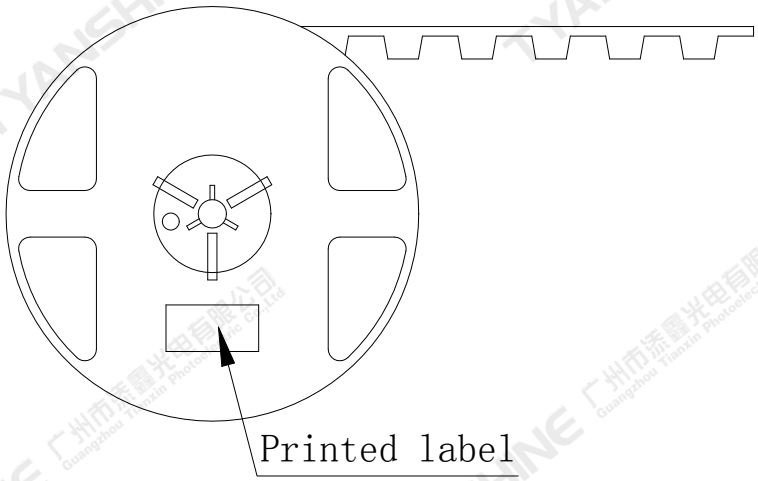
Note:

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

Dimensions For Cannulation And Packaging

Quantity: 500PCS





Notes:

1. All dimensions are in millimeters.
2. Tolerances are ±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.