

TX-5050RGBWAP10VCF1-NU4AA-01

PRODUCT SPECIFICATION

Features:

- ◆Excellent transiting heat from LED chip operating under RGBW:0.6 A AP:0.5A
- ◆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

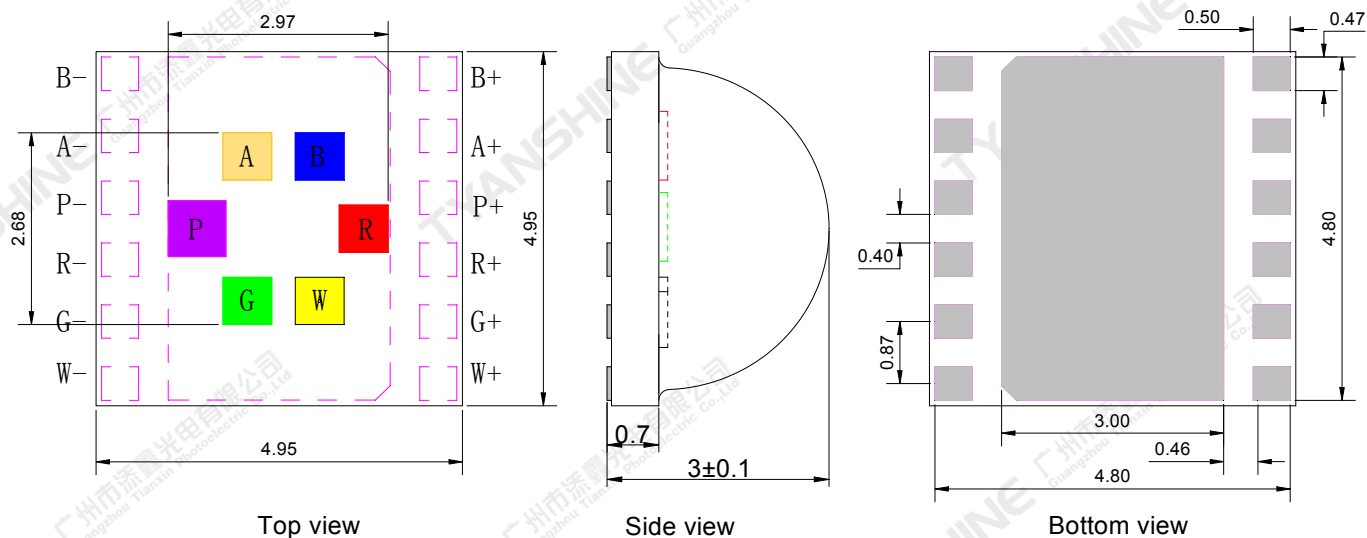
Emitting Color:

- ◆Red(R)
- ◆Green(G)
- ◆Blue(B)
- ◆White(W)
- ◆PC Amber(A)
- ◆Purple(P)

Applications:

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

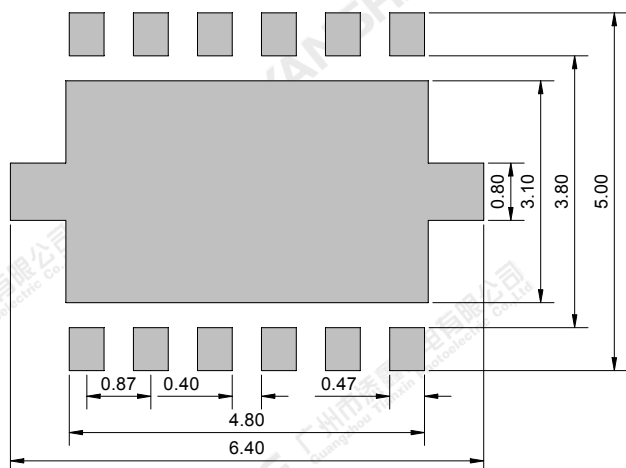
Package Dimensions:



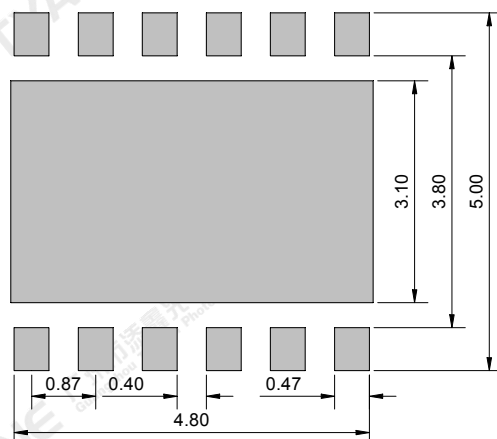
Top view

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	I _F	R	0.6
		G	0.6
		B	0.6
		W	0.6
		A	0.5
		P	0.5
Peak Forward Current (Note 1)	I _{FP}	R	0.8
		G	0.8
		B	0.8
		W	0.8
		A	0.75
		P	0.75
Reverse Voltage	V _R	Not designed for reverse operation	V
Power Dissipation	P _D	R	1.56
		G	1.98
		B	2.04
		W	2.04
		A	2.04
		P	1.80
Junction Temperature	T _j	R	115
		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}	-30~85	

Note: 1.Pulse width ≤0.1 msec, duty ≤1/10.

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 (IF=0.35A, Tc=25°C)

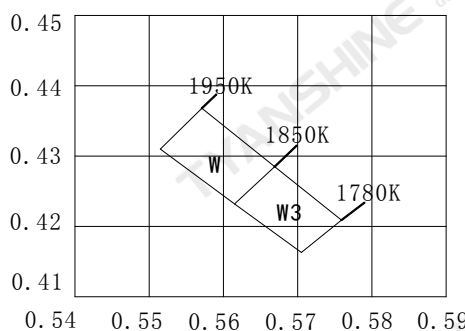
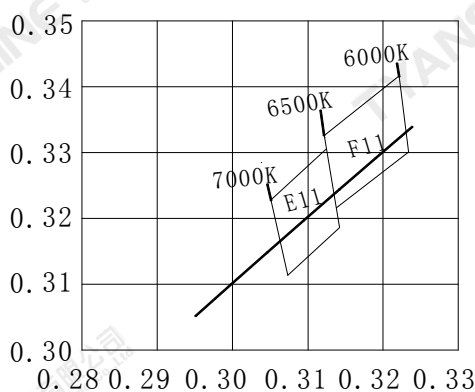
Parameter	Symbol	Emitting Color	Min.	Typ.	Max.	Units
Luminous Flux	Φ_v	R	45	60	70	lm
		G	90	105	120	
		B	15	20	25	
		W	105	115	125	
		A	55	60	70	
		P	1.0	1.25	1.5	
Radiant Flux	Φ_e	P	450	480	550	mW
Dominant Wavelength	λ_d	R	616	621	626	nm
		G	525	530	535	
		B	451	456	461	
		P	430	435	440	
Correlated Colour Temperature	CCT	W	6000	6750	7000	K
		A	1780	1850	1950	
Peak-emission Wavelength	λ_p	R	624	629	634	nm
		G	517	522	527	
		B	446	451	456	
		P	392	397	402	
Spectral Line Half-Width	$\Delta\lambda$	R	12	16	20	nm
		G	26	31	36	
		B	16	20	24	
		W	17	22	27	
		A	75	80	85	
		P	11	15	19	
Forward Voltage	V_f	R	2.0	2.3	2.6	V
		G	2.7	2.9	3.3	
		B	2.8	3.1	3.4	
		W	2.8	3.1	3.4	
		A	2.8	3.1	3.4	
		P	3.0	3.3	3.6	
Reverse Current	I_R	—	—	—	—	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	$V\Delta F/T$	R	—	-7.43	—	mV/°C
		G	—	-5.65	—	
		B	—	-3.03	—	

		W	—	-0.15	—
		A	—	-1.6	—
		P	—	-0.12	—

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 (λ_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: $\pm 0.15V$.

White light Color coordinate filing (IF=0.35A, Tc=25°C)

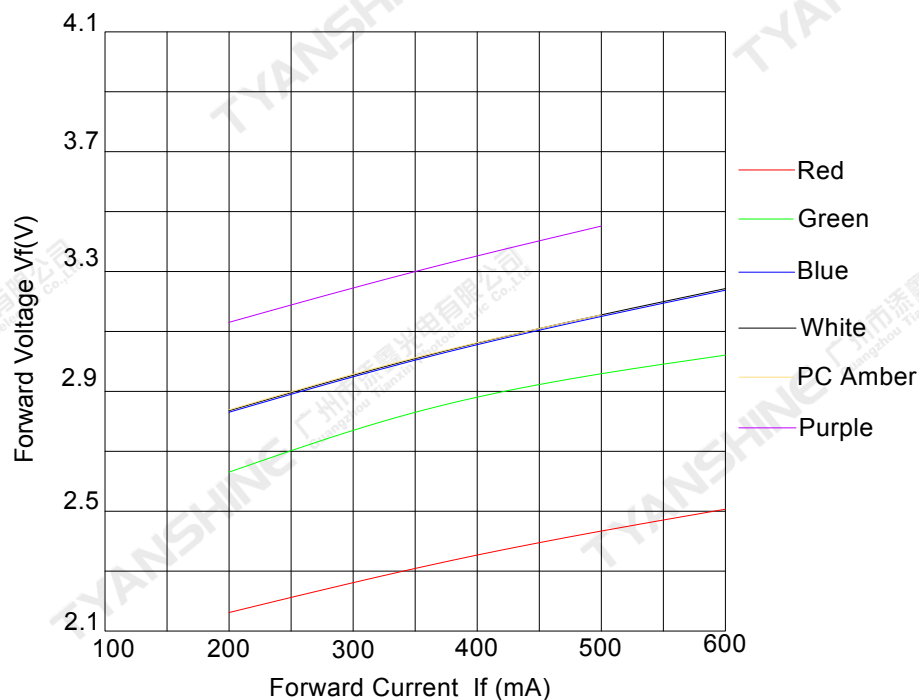


Grade	TC	P1		P2		P3		P4	
		X1	Y1	X2	Y2	X3	Y3	X4	Y4
E11	6500-7000K	0.3074	0.3114	0.3051	0.3228	0.3125	0.3306	0.3142	0.3186
F11	6000-6500K	0.3234	0.3301	0.3138	0.3216	0.3122	0.3326	0.3221	0.3416
W	1950-1850K	0.5515	0.4310	0.5571	0.4368	0.5669	0.4285	0.5615	0.4232
W3	1850-1780K	0.5615	0.4232	0.5669	0.4285	0.5759	0.4209	0.5705	0.4163

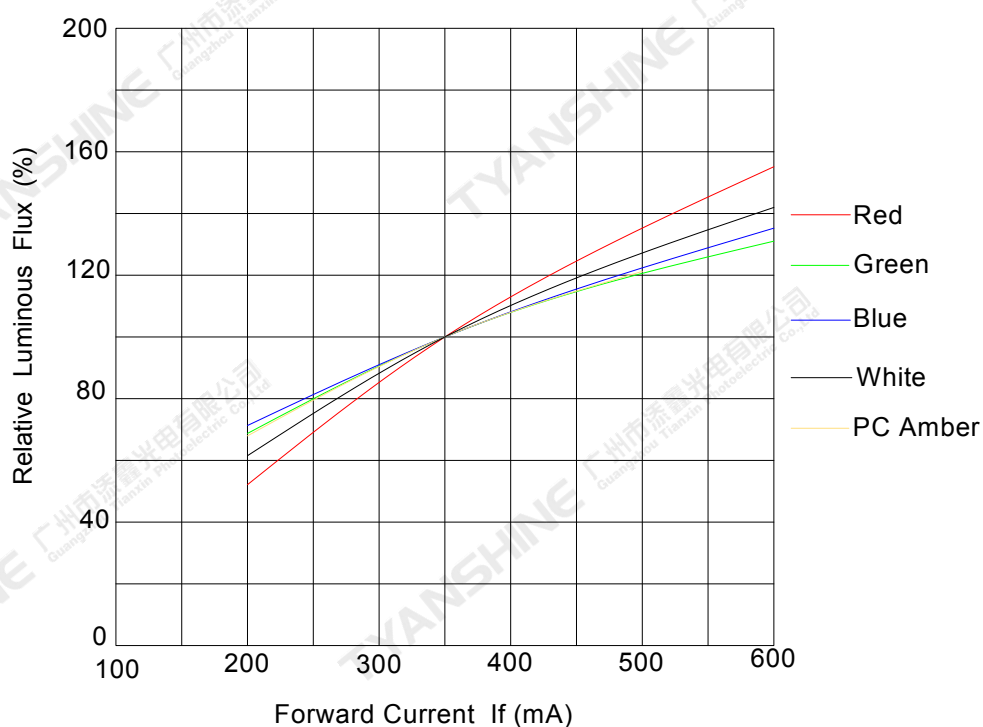
Typical Electrical/Optical Characteristics Curves

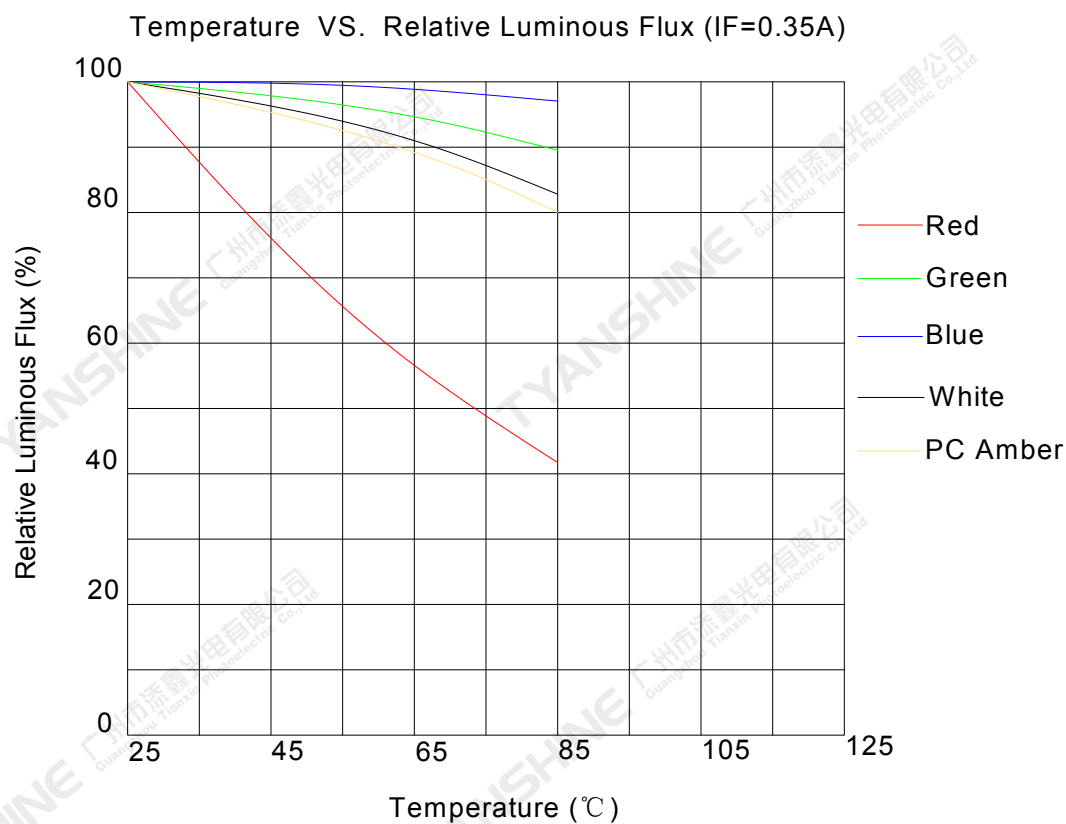
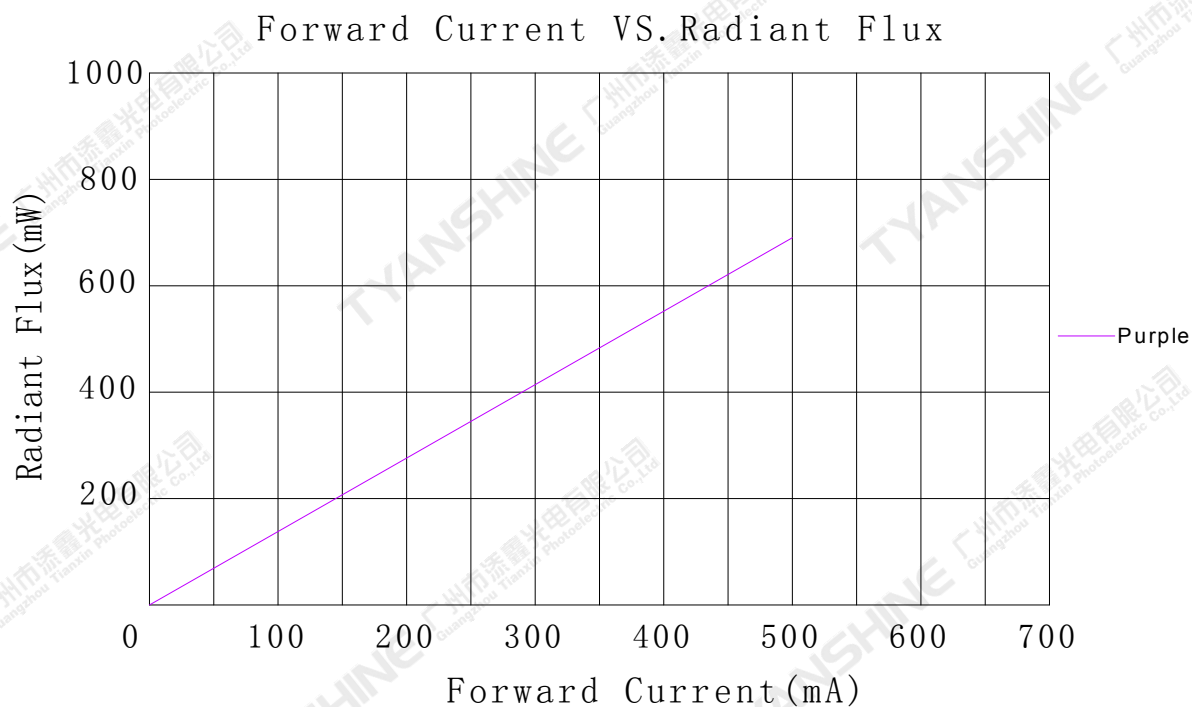
(25°C Ambient Temperature Unless Otherwise Noted)

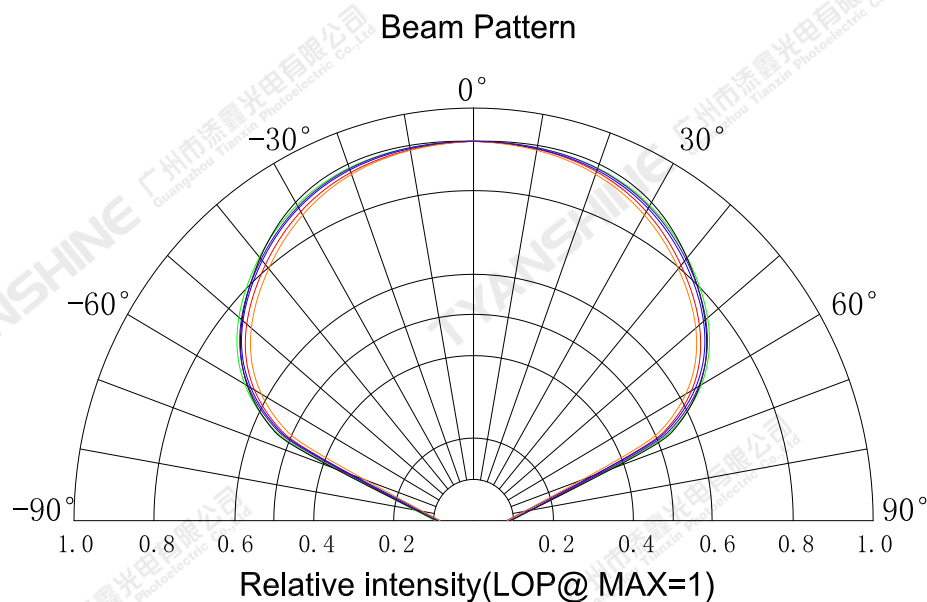
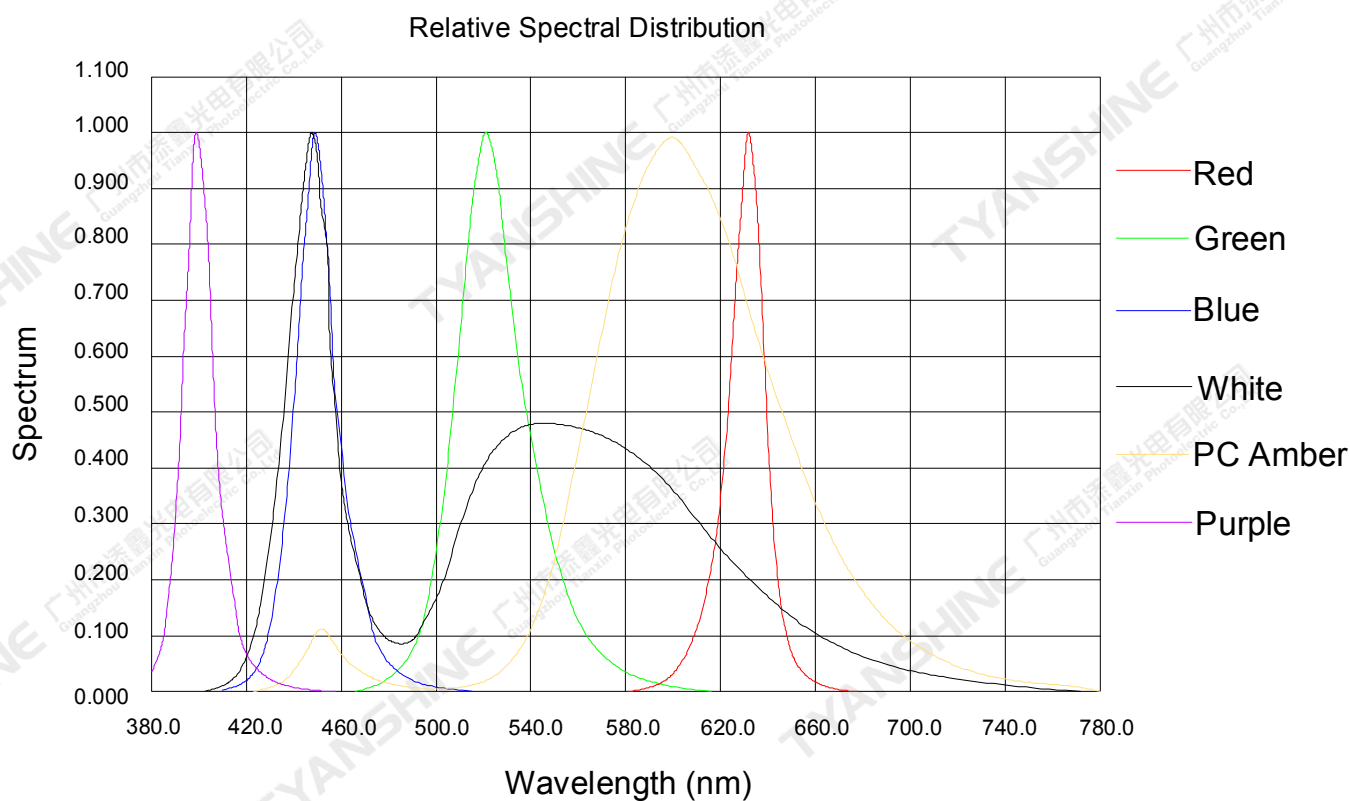
Forward Current VS. Forward Voltage



Forward Current VS. Relative Luminous Flux





**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

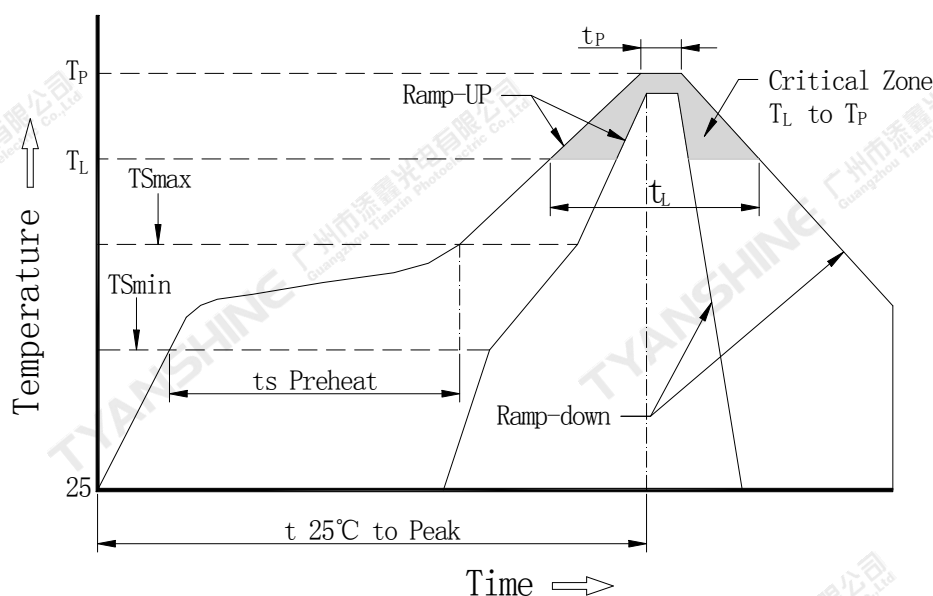
Storage Environment Condition

Temperature: 5°C ~ 30°C (41°F ~ 86°F)

Humidity: 60% RH Max.

Soldering Condition

Use the conditions shown to the under figure.



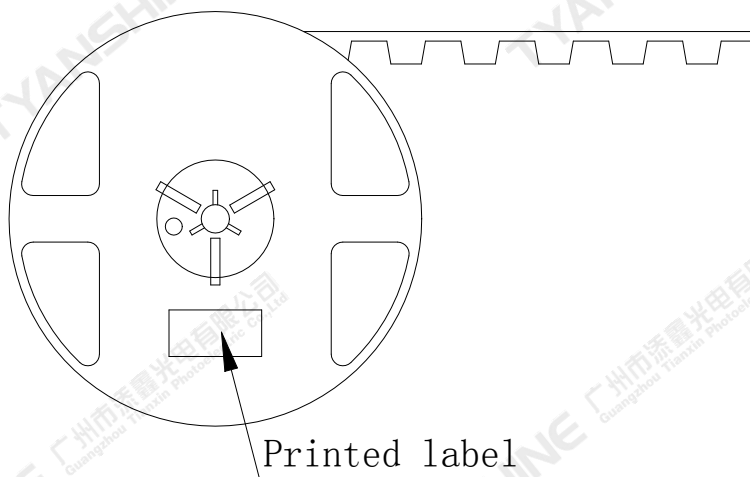
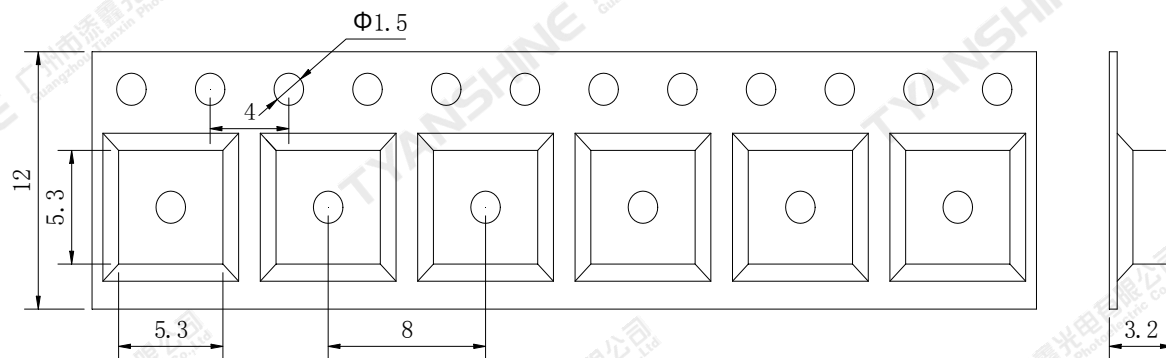
Profile Feature	Pb-Free Solderr(SnBi35Ag0.3)
Average Ramp-Up Rate (T_{Smax} to T_P)	3°C/second max.
Preheat: Temperature Min (T_{Smin})	100°C
Preheat: Temperature Max (T_{Smax})	150°C
Preheat: Time (T_{Smin} to T_{Smax})	60-120 seconds
Time Maintained Above: Temperature (T_L)	183°C
Time Maintained Above: Time (T_L)	60-150 seconds
Peak/Classification Temperature (T_P)	225°C
Time Within 5°C of Actual Peak Temperature (T_P)	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

**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.