

TX-5050RGBWAP20FC120-NUVCNA-02

PRODUCT SPECIFICATION

Features:

- ◆Excellent transiting heat from LED chip operating under RA:1.0 GBW: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

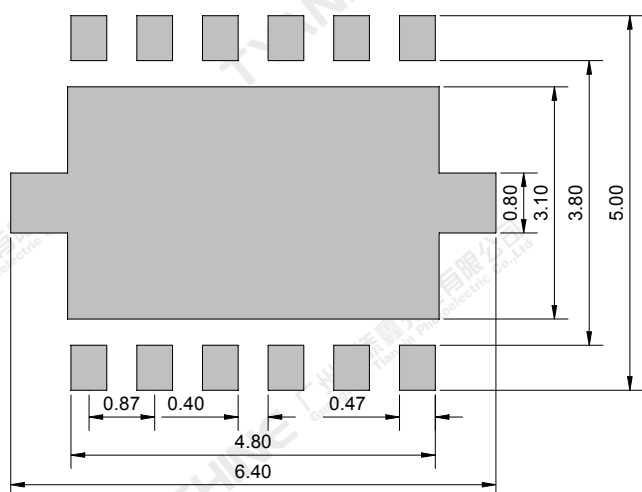
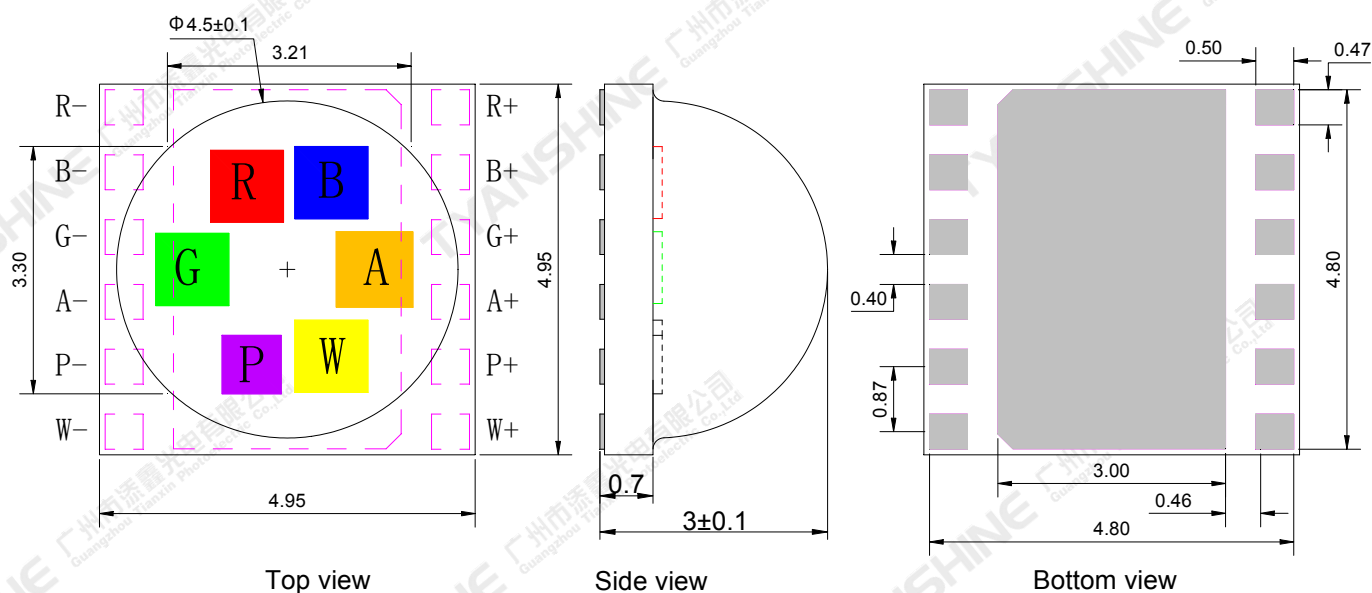
Emitting Color:

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

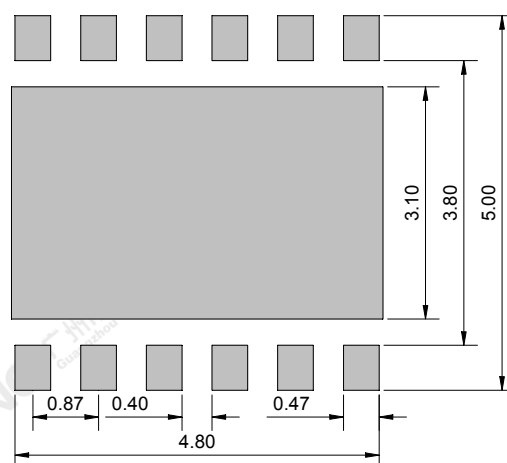
Applications:

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

Package Dimensions:



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 ± 0.1 mm .

Absolute Maximum Ratings (Tc=25℃)

Parameter	Symbol	Max Ratings	Unit
Forward Current	I _F	R	1.0
		G	1.2
		B	1.2
		W	1.2
		A	1.2
		P	0.6
Peak Forward Current (Note 1)	I _{FP}	R	1.2
		G	1.5
		B	1.5
		W	1.5
		A	1.5
		P	0.8
Reverse Voltage	V _R	Not designed for reverse operation	V
Power Dissipation	P _D	R	3.0
		G	4.44
		B	4.44
		W	4.44
		A	3.6
		P	2.46
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 ($I_{F_{RGBWA}}=0.7A$ $I_{F_P}=0.5A$, $T_c=25^{\circ}C$)

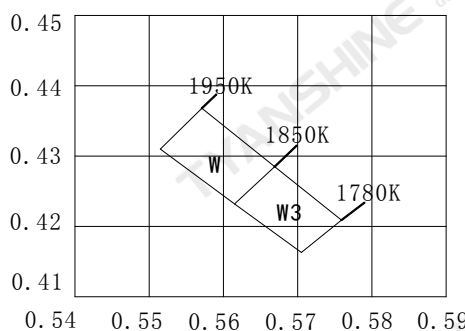
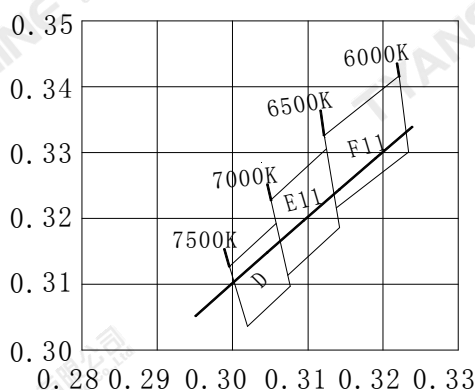
Parameter	Symbol	Emitting Color	Min.	Typ.	Max.	Units
Luminous Flux	Φ_v	R	100	110	130	lm
		G	172	192	212	
		B	25	33	38	
		W	185	210	240	
		A	120	145	165	
		P	4.0	4.5	5.0	
Radiant Flux	Φ_e	P	550	630	720	mW
Dominant Wavelength	λ_d	R	618	623	628	nm
		G	522	527	532	
		B	449	454	459	
		P	435	440	445	
Correlated Colour Temperature	CCT	W	6000	6500	7000	K
		A	1770	1800	1850	
Peak-emission Wavelength	λ_p	R	628	633	638	nm
		G	516	521	526	
		B	444	449	454	
		P	394	399	404	
Spectral Line Half-Width	$\Delta\lambda$	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	—	—	—	—	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/ $^{\circ}C$
		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=0.7A, Tc=25°C)

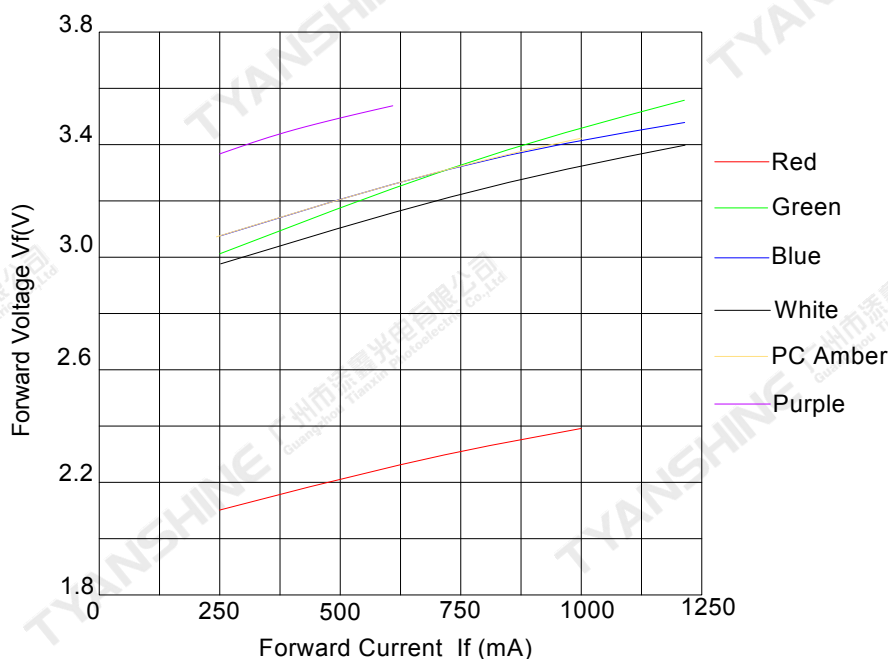


Grade	TC	P1		P2		P3		P4	
		X1	Y1	X2	Y2	X3	Y3	X4	Y4
D	7000-7500K	0.3020	0.3036	0.2996	0.3127	0.3058	0.3192	0.3077	0.3097
E11	6500-7000K	0.3074	0.3114	0.3051	0.3228	0.3125	0.3306	0.3142	0.3186
F11	6000-6500K	0.3136	0.3216	0.3122	0.3326	0.3221	0.3416	0.3234	0.3301
W	1950-1850K	0.5515	0.4310	0.5571	0.4368	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

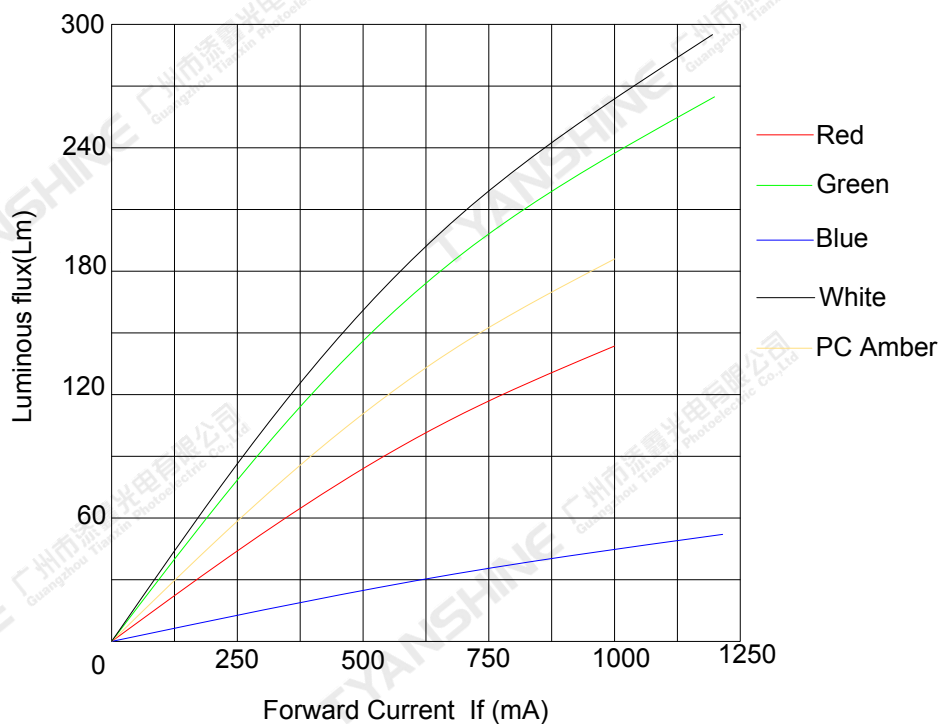
Typical Electrical/Optical Characteristics Curves

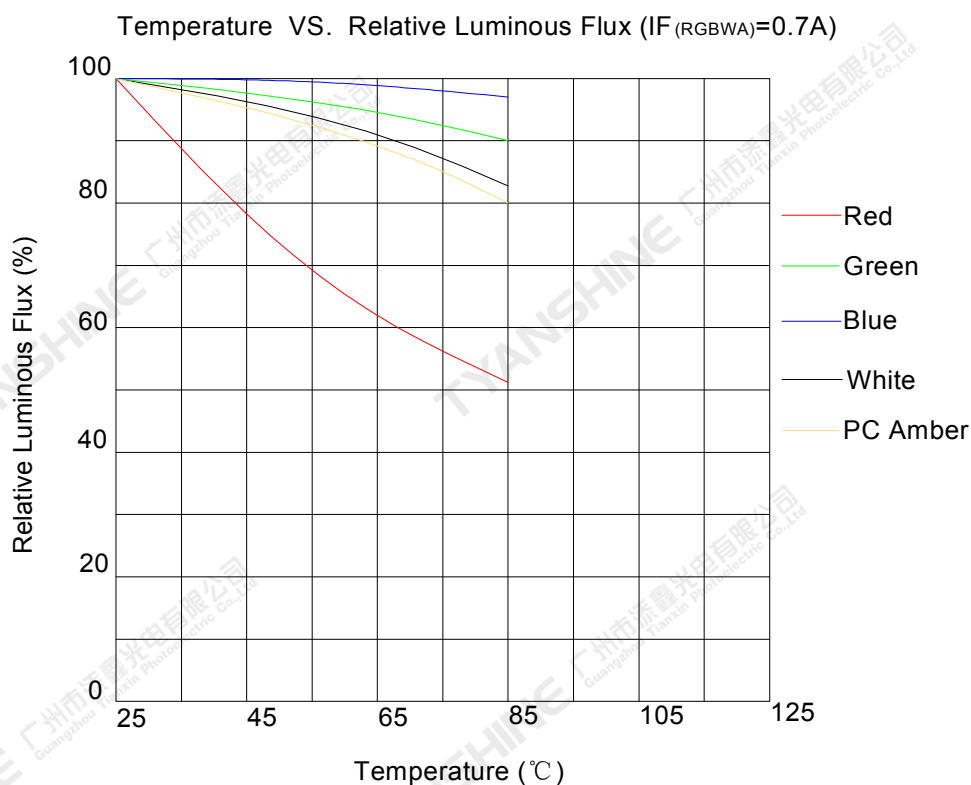
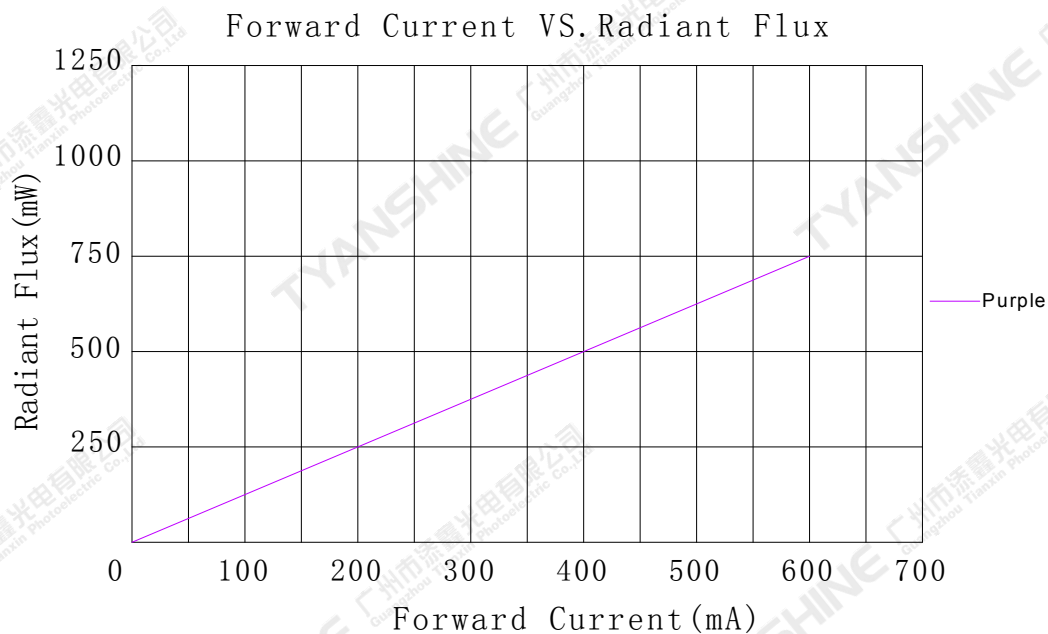
(25°C Ambient Temperature Unless Otherwise Noted)

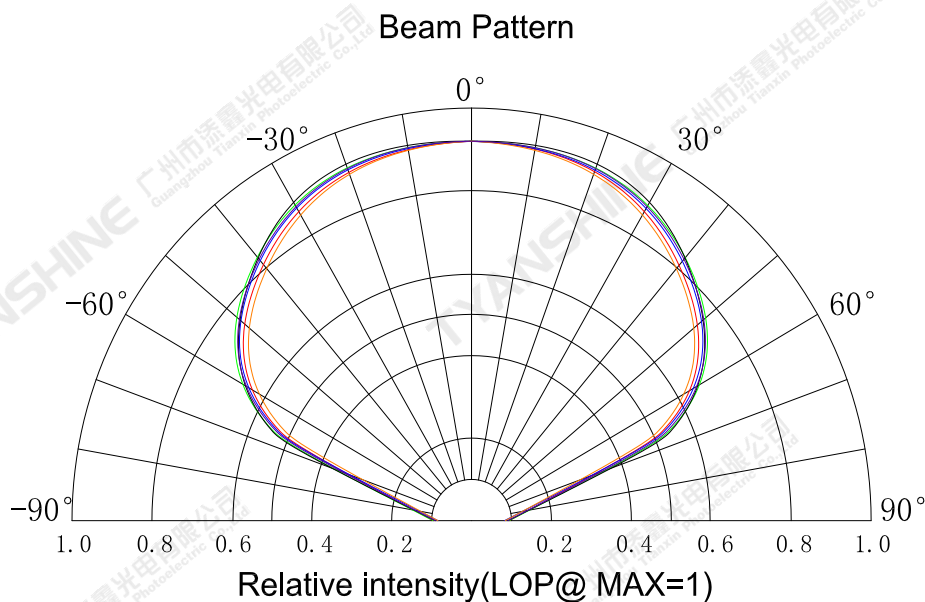
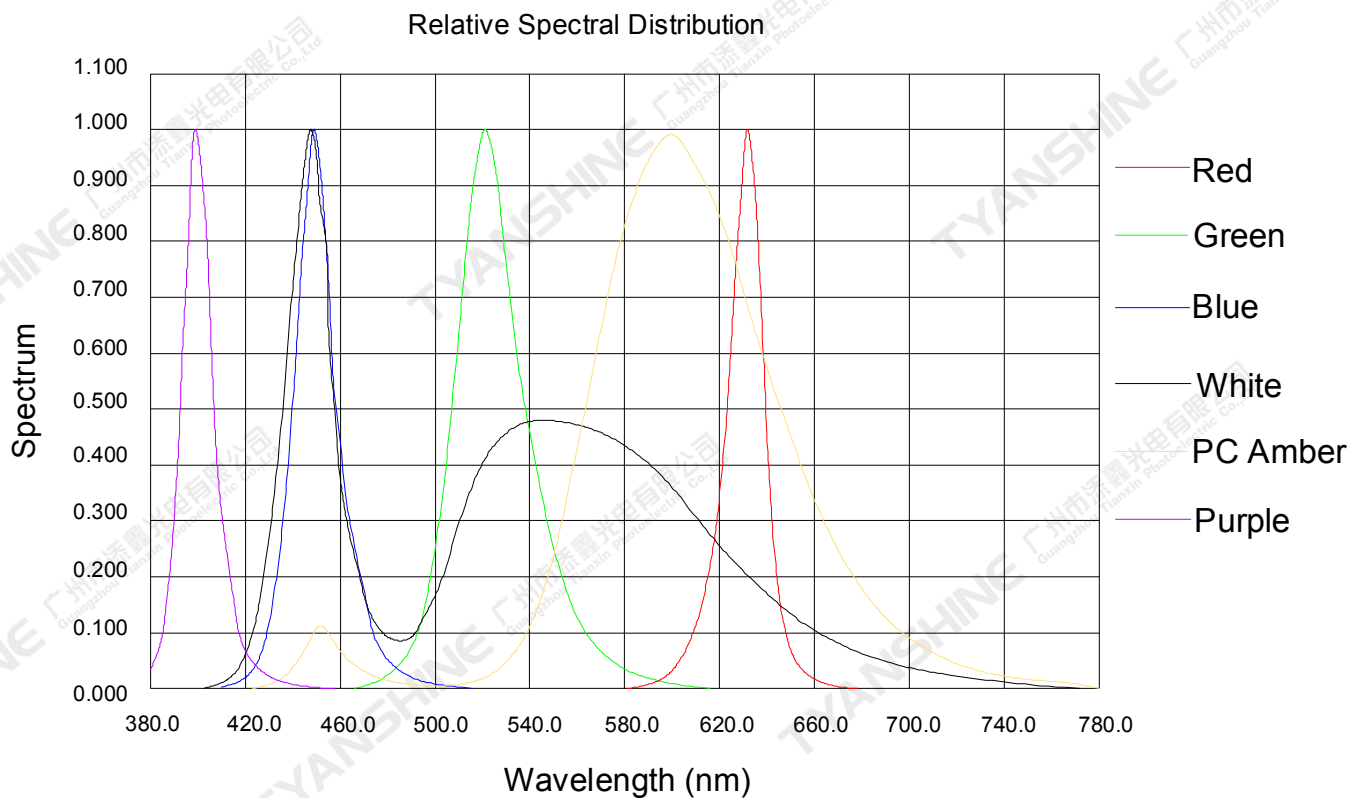
Forward Current VS. Forward Voltage



Forward Current VS. 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

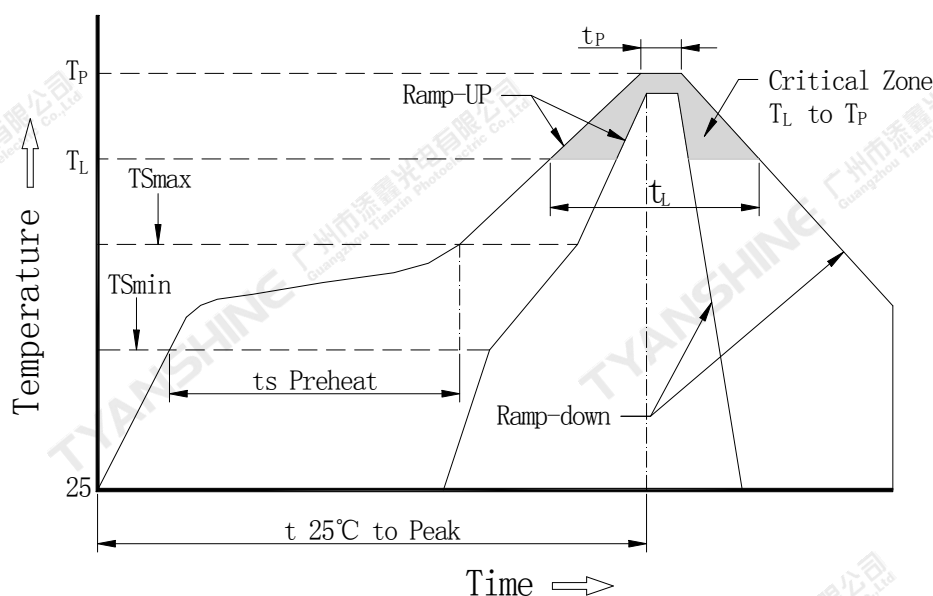
Storage Environment Condition

Temperature: 5°C ~ 30°C (41°F ~ 86°F)

Humidity: 60% RH Max.

Soldering Condition

Use the conditions shown to the under figure.



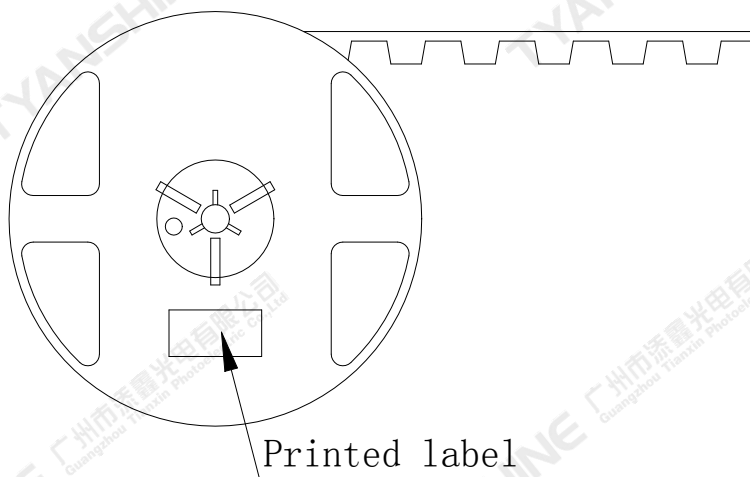
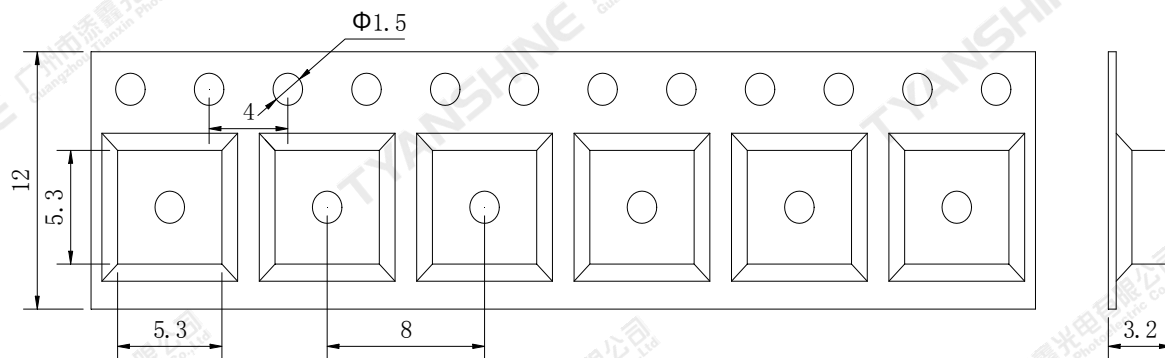
Profile Feature	Lead-Based Solder
Average Ramp-Up Rate (Tsmax to Tp)	3°C/second max.
Preheat: Temperature Min (Tsmin)	100°C
Preheat: Temperature Max (Tsmax)	150°C
Preheat: Time (Tsmin to Tsmax)	60-120 seconds
Time Maintained Above: Temperature (Tl)	183°C
Time Maintained Above: Time (Tl)	60-150 seconds
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



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.