

# TX-5050WS30FC180-NUVENG-03H95

## PRODUCT SPECIFICATION

### Features:

- ◆Excellent transiting heat from LED chip operating under W:2.5A\*2 S:2.0A\*2.
- ◆Provide uniform cross distribution of positive white and warm white dual color scheme, mixed pure.
- ◆High luminous output.
- ◆No UV.
- ◆Encapsulated materials are environmentally certified and meet environmental requirements.

### Chip Material:

- ◆GaN

### Emitting Color:

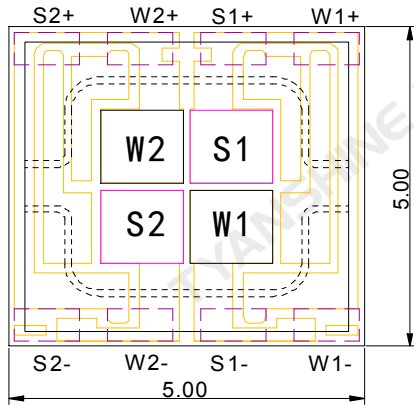
- ◆White
- ◆Warm white

### Applications:

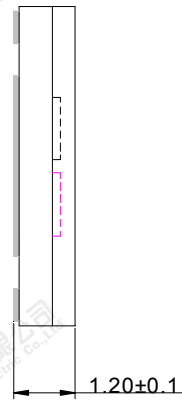
- ◆Auxiliary lighting
- ◆Ambient lighting
- ◆Architectural lighting

Part No.	TX-5050WS30FC180-NUVENG-03H95	Spec No.	WKF-BE0924	Page	1 of 10
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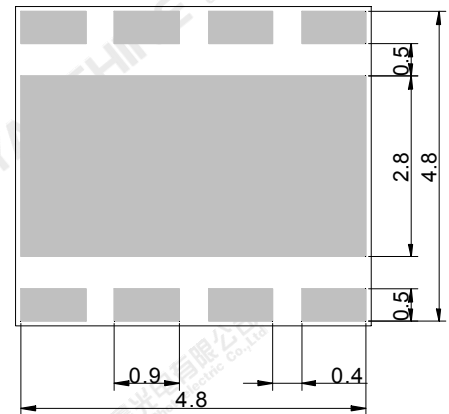
**Package Dimensions:**



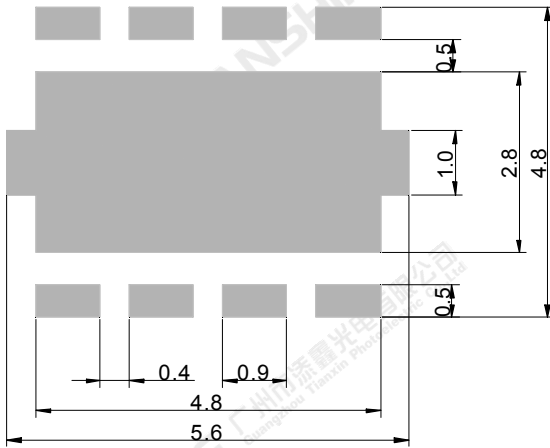
Top view



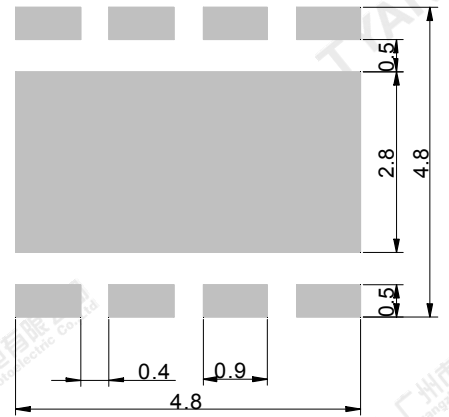
Side view



Bottom view



Recommended solder pad



Recommended stencil pattern

**Notes:**

1. All dimensions are in millimeters .
2. Tolerances unless otherwise mentioned are  $\pm 0.1$ mm .

**Absolute Maximum Ratings (Tc=25°C)**

Parameter	Symbol		Ratings	Unit
Forward Current	IF	W	2.5	A
		S	2.0	
Reverse Voltage	VR		Not designed for reverse operation	V
Power Dissipation	PD	W	19.5	W
		S	15.2	
Junction Temperature	Tj	W	150	°C
		S	150	
Electrostatic Discharge Threshold (ESD)	ESD		2000	V
Storage Temperature	Tstg		-40~+70	°C
Operation Temperature	Topr		-30~+100	

**Notes:**

- Specifications are subject to change without notice.
- 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.

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

Parameter	Symbol	Condition	Emitting color	Min.	Typ.	Max.	Units
Luminous Flux	$\phi_v$	IF=1.0A	W1/W2	200	225	250	lm
		IF=2.5A	W1/W2	350	400	450	
		IF=1.0A	S1/S2	160	175	190	
		IF=2.0A	S1/S2	240	265	310	
Forward Voltage	$V_f$	IF=1.0A	W1/W2	2.95	3.15	3.45	V
		IF=2.5A	W1/W2	3.3	3.6	3.9	
		IF=1.0A	S1/S2	2.8	3.1	3.4	
		IF=2.0A	S1/S2	3.1	3.4	3.7	
Correlated Colour Temperature	CCT	IF=1.0A	W1/W2	5800	6200	6600	K
			S1/S2	2590	2720	2840	
		IF=2.5A	W1/W2	6100	6550	7050	
		IF=2.0A	S1/S2	2600	2730	2870	
Color Rendering Index	Ra	IF=2.5A	W1/W2	95	97.5	—	—
		IF=2.0A	S1/S2	95	97.5	—	
	R9	IF=2.5A	W1/W2	88	90	—	—
		IF=2.0A	S1/S2	88	90	—	
Viewing Angle at 50 % IV	$2\theta_{1/2}$	—	W1/W2	—	120	—	Deg
			S1/S2	—	120	—	
Reverse Current	$I_R$	—	W1/W2	—	—	—	$\mu A$
			S1/S2	—	—	—	
Thermal Resistance Junction to Case	$R\theta_{J-C}$	—	W	—	1.8	—	K/W
			S	—	1.8	—	
Temperature Coefficient of Voltage	$V\Delta F/T$	IF=2.5A	W1/W2	—	-4.8	—	mV/°C
		IF=2.0A	S1/S2	—	-6.0	—	

**White light Color coordinate filing IF=1.0A**

Region	CCT Range		X1	Y1	X2	Y2	X3	Y3	X4	Y4
	Min	Max								
Q	2590K	2670K	0.4656	0.4072	0.4591	0.4058	0.4655	0.4175	0.4725	0.4188
P	2670K	2780K	0.4591	0.4058	0.4513	0.4041	0.4572	0.4158	0.4655	0.4175
O	2780K	2840K	0.4513	0.4041	0.4463	0.4030	0.4523	0.4147	0.4572	0.4158
G	5800K	6000K	0.3260	0.3328	0.3321	0.3293	0.3213	0.3413	0.3254	0.3419
F	6000K	6400K	0.3221	0.3281	0.3155	0.3225	0.3142	0.3328	0.3214	0.3391
E	6400K	6600K	0.3156	0.3213	0.3126	0.3192	0.3112	0.3285	0.3145	0.3308

**Notes:**

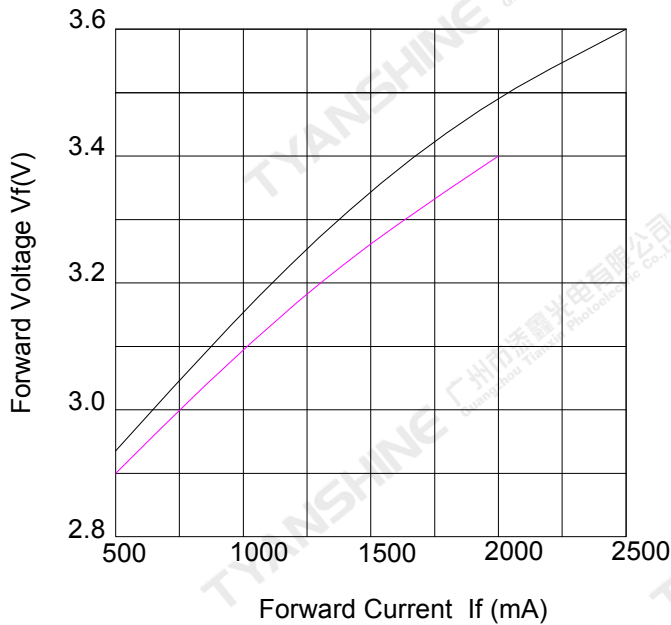
- 1.Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$  is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
- 3.Luminous flux measurement tolerance: $\pm 15\%$ .
- 4.Forward voltage measurement tolerance: $\pm 0.15V$ .

Part No.	TX-5050WS30FC180-NUVENG-03H95	Spec No.	WKF-BE0924	Page	5 of 10
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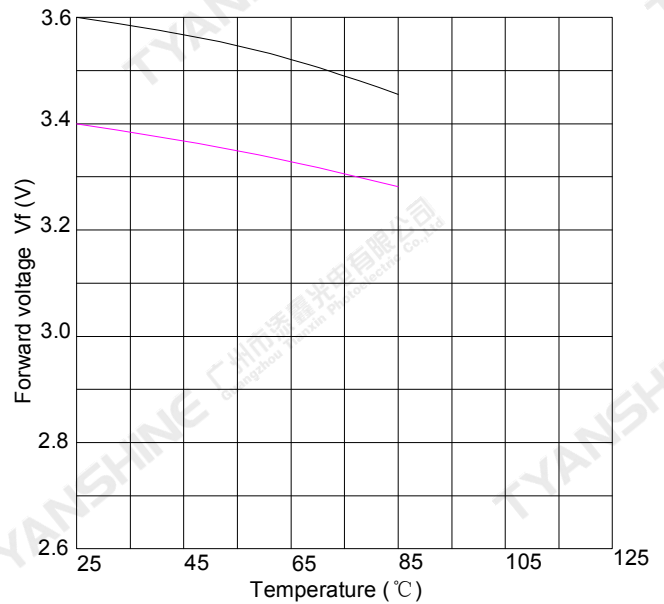
# Typical Electrical/Optical Characteristics Curves

(25°C Ambient Temperature Unless Otherwise Noted)

Forward Current VS. Forward Voltage

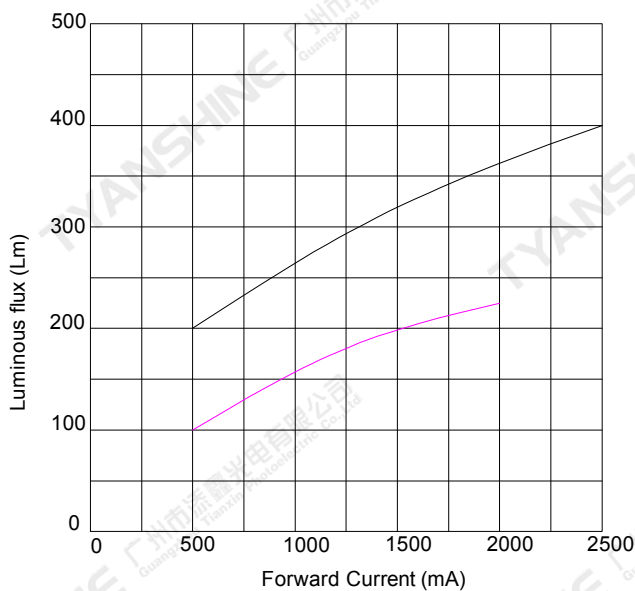


Temperature VS. Forward Voltage  $I_f(w)=2.5A$   $I_f(s)=2.0A$

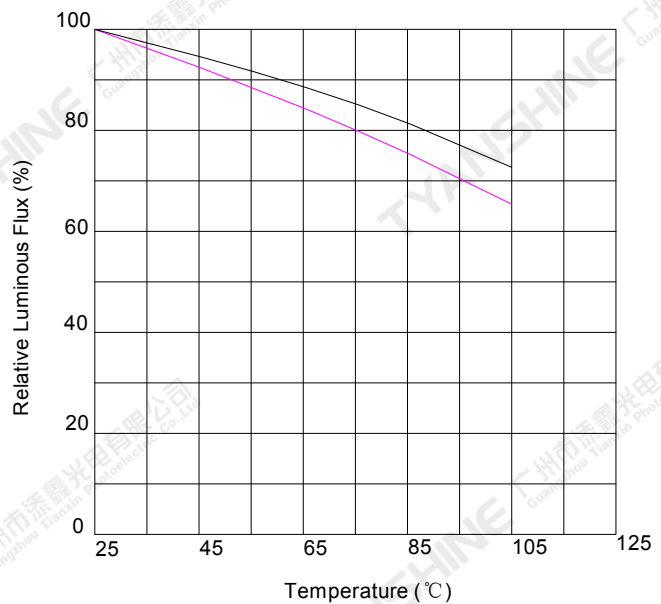


**Notes:** — White1/White2; — Warm white1/Warm white2.

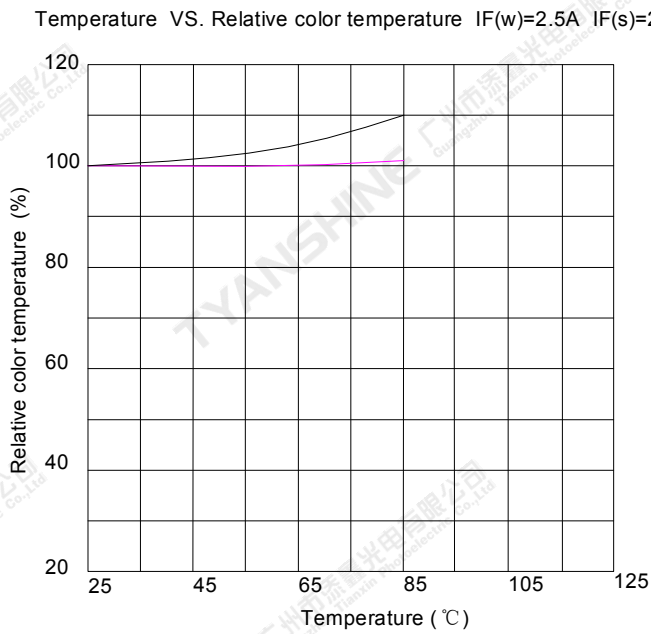
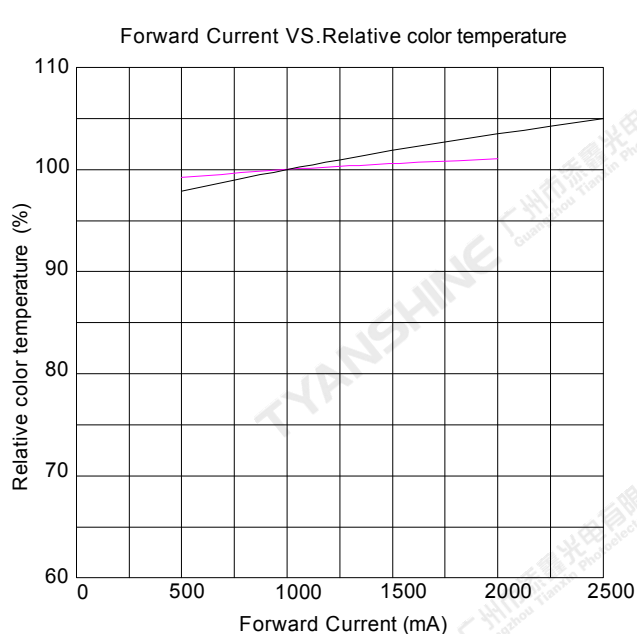
Forward Current VS. Luminous flux



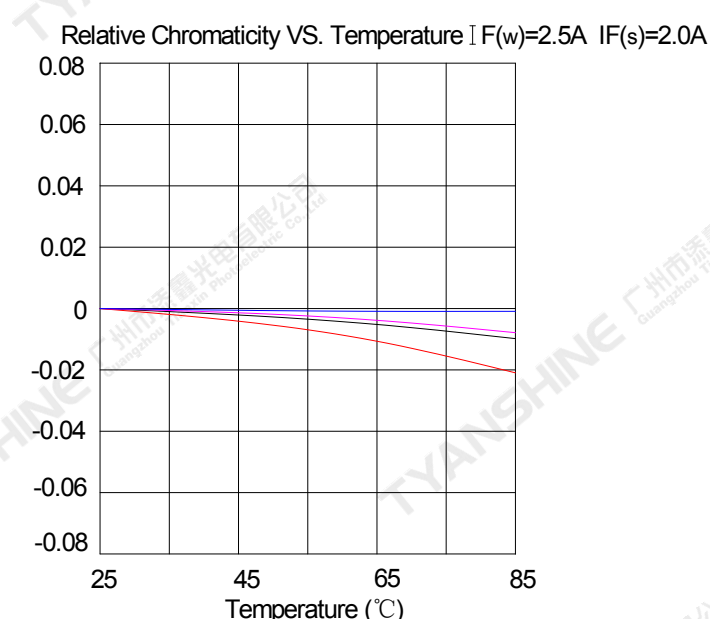
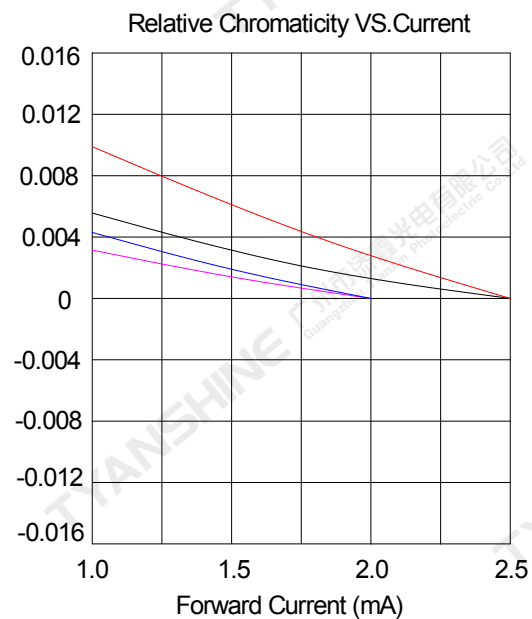
Temperature VS. Relative Luminous Flux  $I_f(w)=2.5A$   $I_f(s)=2.0A$



**Notes:** — White1/White2; — Warm white1/Warm white2.



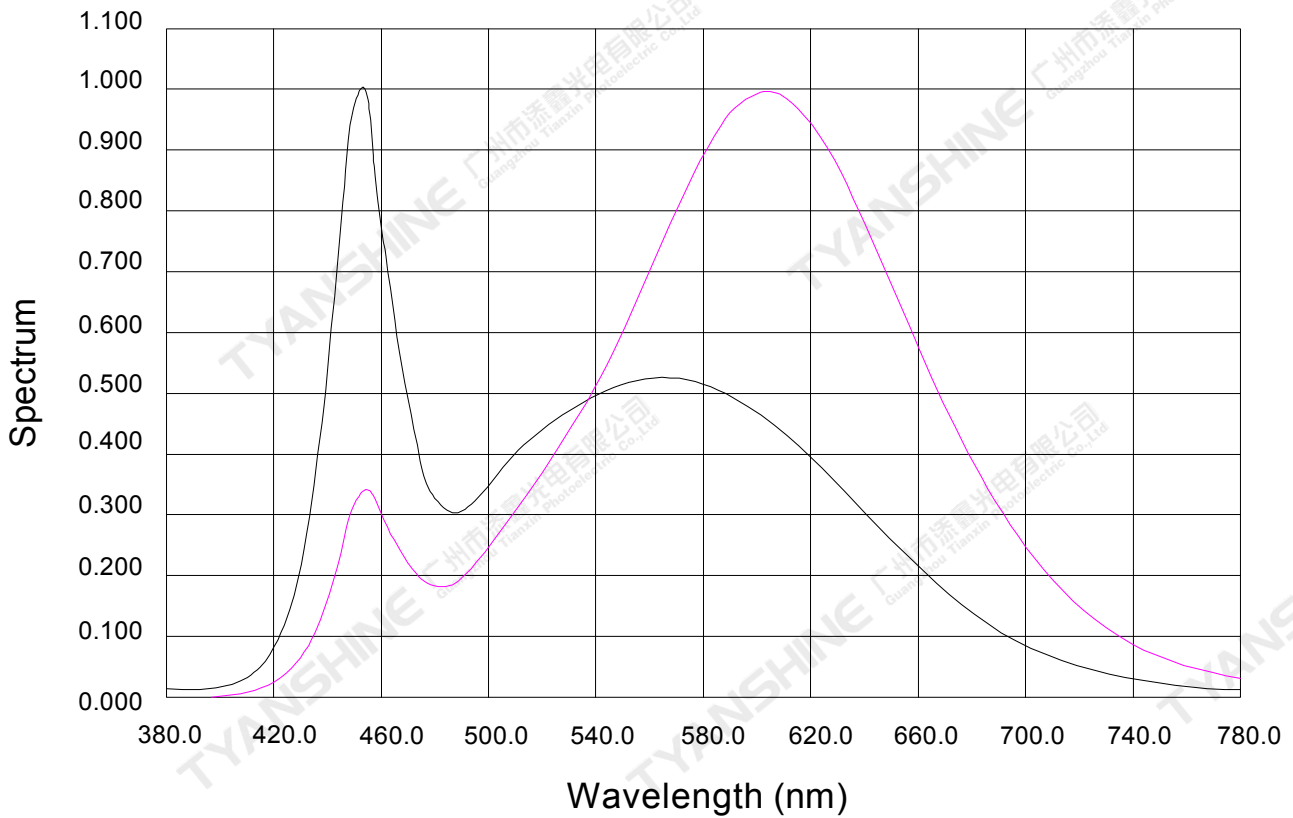
**Notes:** — White1/White2; — Warm white1/Warm white2.



— x ( White1/2 )      — y ( White1/2 )  
— x ( Warm white1/2 )      — y ( Warm white1/2 )

— x ( White1/2 )      — y ( White1/2 )  
— x ( Warm white1/2 )      — y ( Warm white1/2 )

Relative Spectral Distribution



**Notes:** — White1/White2; — Warm white1/Warm white2.

**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

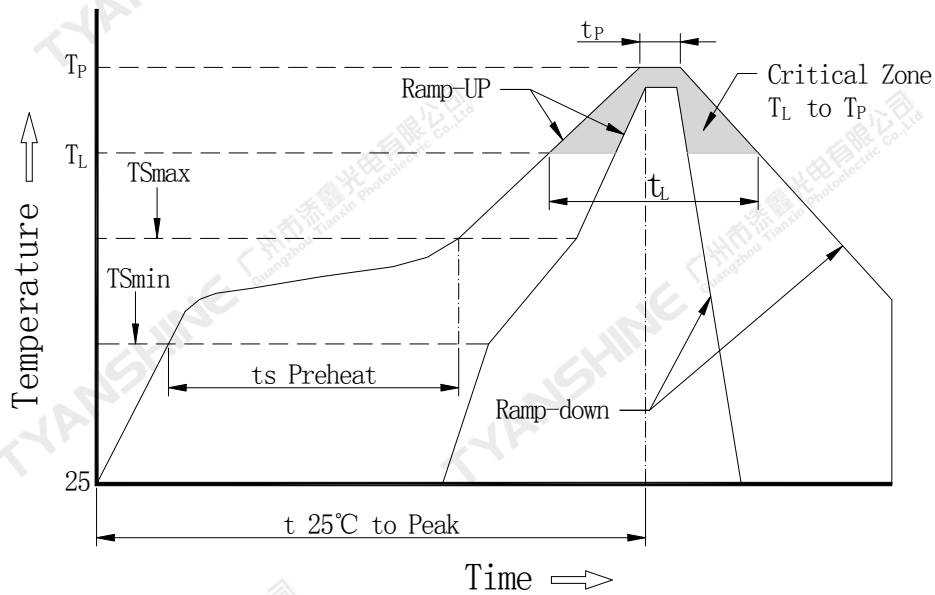
### Storage Environment Condition

Temperature: 5°C ~ 30°C (41°F ~ 86°F)

Humidity: 60% RH Max.

### Soldering Condition

Use the conditions shown to the under figure.



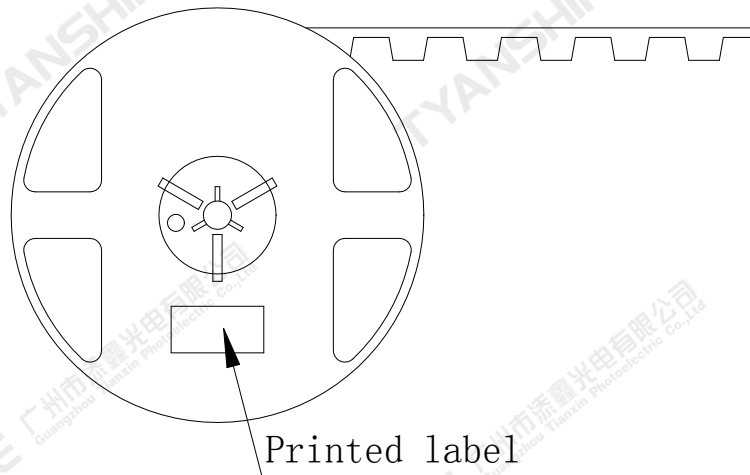
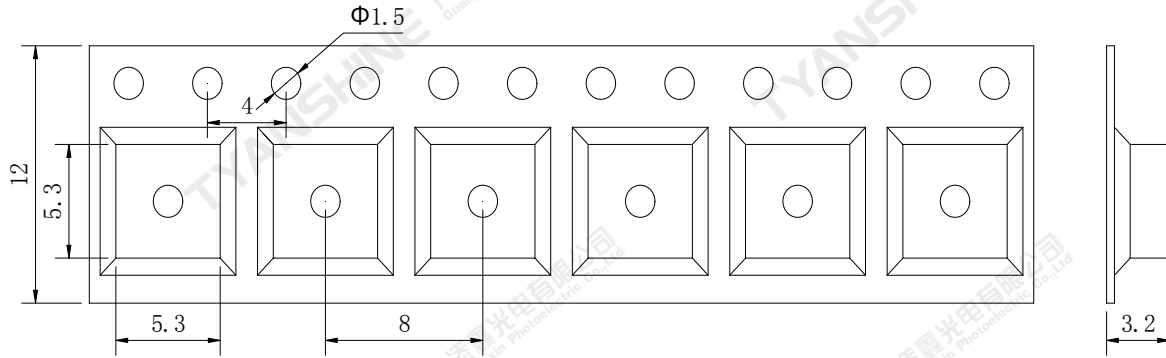
Profile Feature	Lead-Based Solder
Average Ramp-Up Rate (TS <sub>max</sub> to TP)	3°C/second max.
Preheat: Temperature Min (TS <sub>min</sub> )	100°C
Preheat: Temperature Max (TS <sub>max</sub> )	150°C
Preheat: Time (TS <sub>min</sub> to TS <sub>max</sub> )	60-120 seconds
Time Maintained Above: Temperature (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  $\pm 2.0$  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, Irre sponsible of the Company.

Part No.	TX-5050WS30FC180-NUVENG-03H95	Spec No.	WKF-BE0924	Page	10 of 10
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