

# TX-7070W45FC120-NUVENW-B01D

## PRODUCT SPECIFICATION (R&D version)

### Features:

- ◆Excellent transiting heat from LED chip operating under 4.0 A\*2.
- ◆Ceramic eutectic package allows it to have minimal internal stress and excellent thermal path.
- ◆High luminous output.
- ◆Encapsulated materials are environmentally certified and meet environmental requirements.

### Chip Material:

- ◆GaN

### Emitting Color:

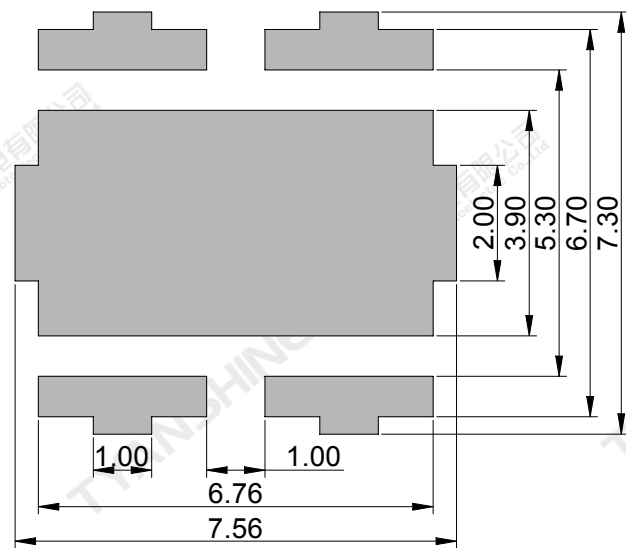
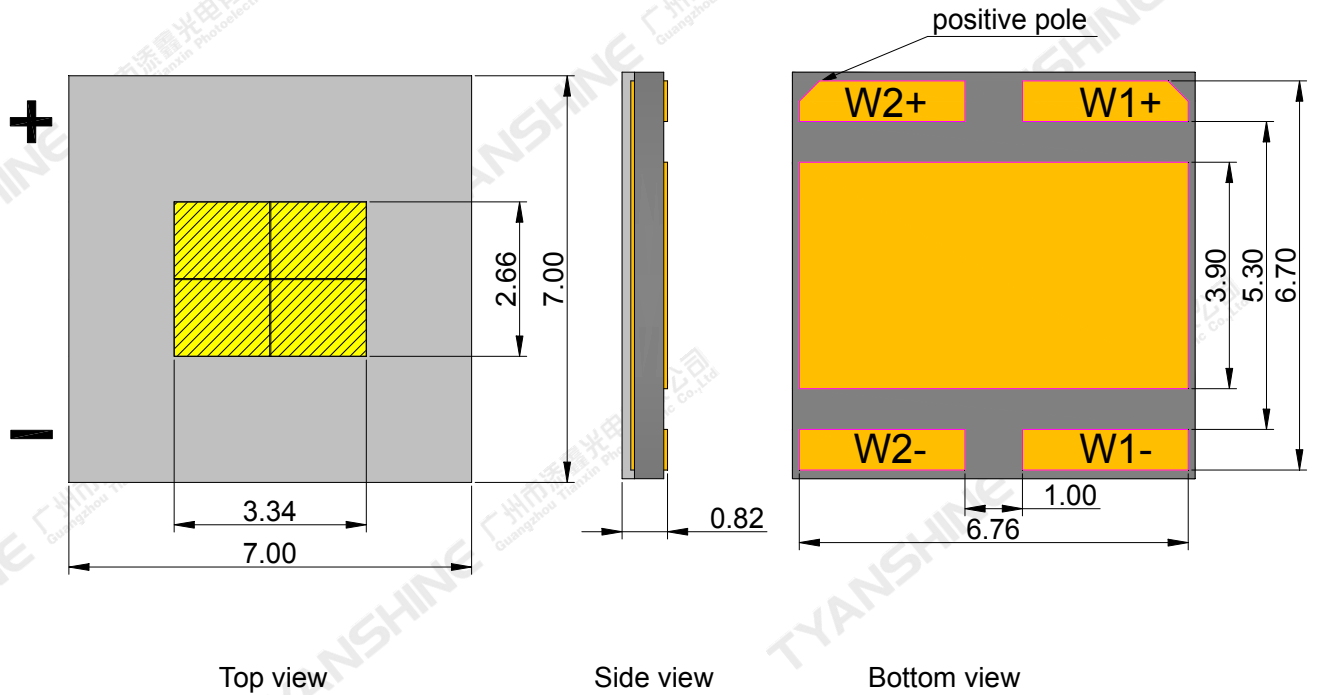
- ◆White

### Applications:

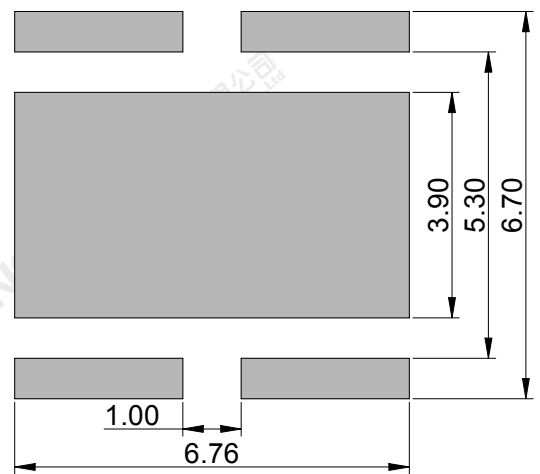
- ◆Automobile lighting

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**Package Dimensions:**



Recommended solder pad



recommended stencil pattern

**Notes:**

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

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

Parameter	Symbol	Ratings	Unit	
Forward Current	IF	W1	4.0	A
		W2	4.0	
Reverse Voltage	VR	Not designed for reverse operation	V	
Power Dissipation	PD	W1	27.2	W
		W2	27.2	
Junction Temperature	Tj	150	°C	
Electrostatic Discharge Threshold (ESD)	ESD	2000	V	
Storage Temperature	Tstg	-20~+65	°C	
Operation Temperature	Topr	-40~+125		

**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)**

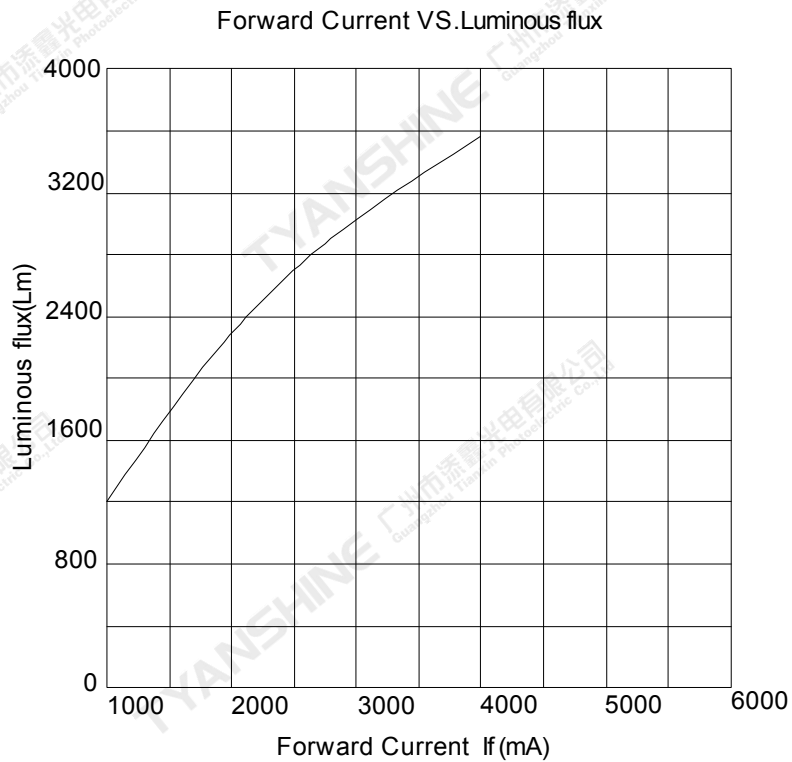
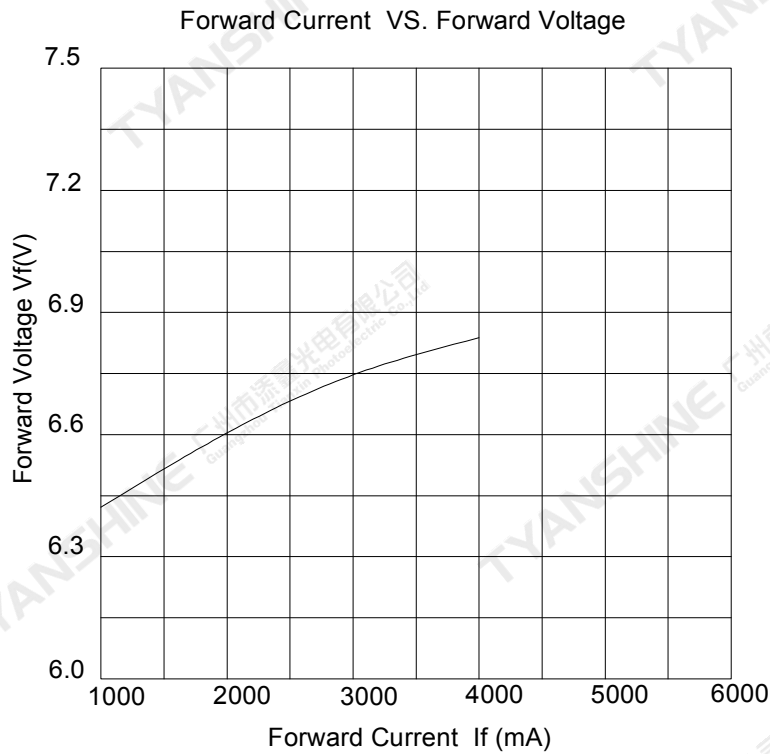
Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Luminous Flux	$\phi_v$	If=W1+W2= 3.5+3.5=7.0A	3000	3300	3600	lm
Forward Voltage	$V_f$		6.2	6.5	6.8	V
Viewing Angle at 50 % IV	$2\theta_{1/2}$		—	120	—	Deg
Correlated Colour Temperature	CCT	If=1.0A	5500	5800	6000	K
Reverse Current	$I_R$	$V_R=5V$	—	—	—	$\mu A$
Thermal Resistance Junction to Case	$R_{\theta J-C}$	—	—	0.43	—	K/W
Temperature Coefficient of Voltage	$V_{\Delta F/T}$	—	—	-10	—	mV/°C

**Notes:**

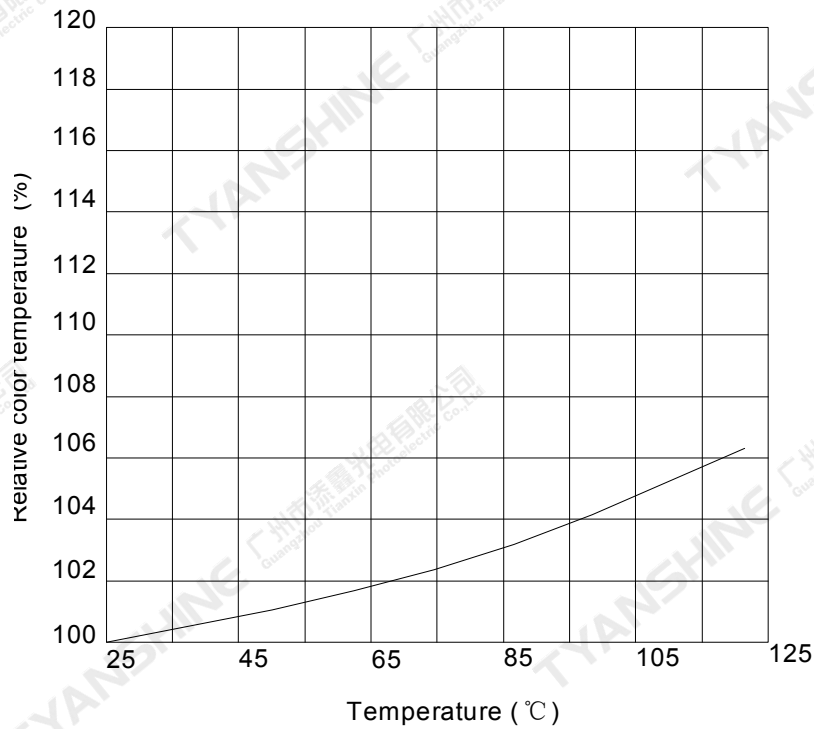
- 1.Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$  is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
- 3.The dominant wavelength ( $\lambda_d$ ) is derived from the CIE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

## Typical Electrical/Optical Characteristics Curves

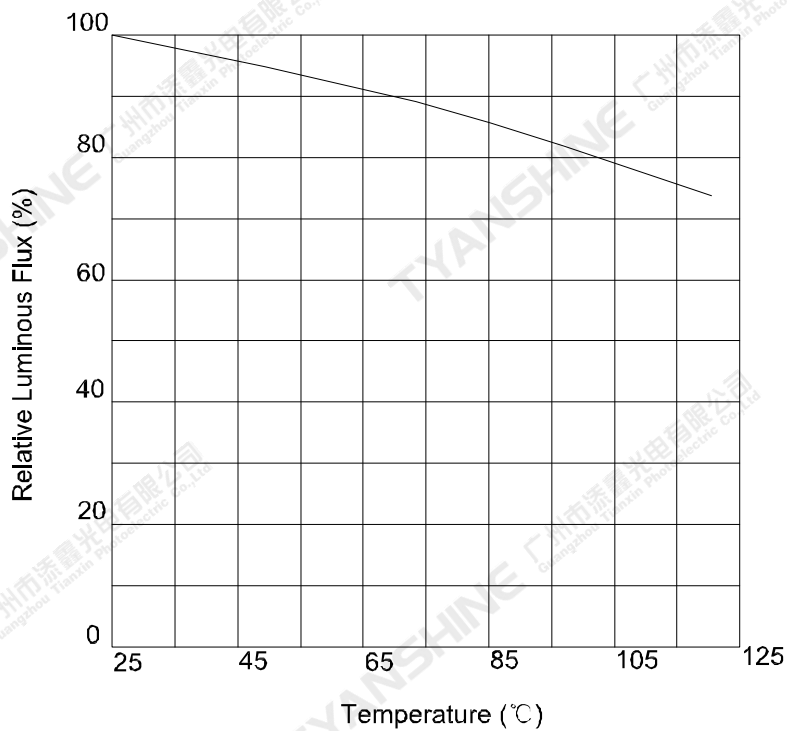
(25°C Ambient Temperature Unless Otherwise Noted)



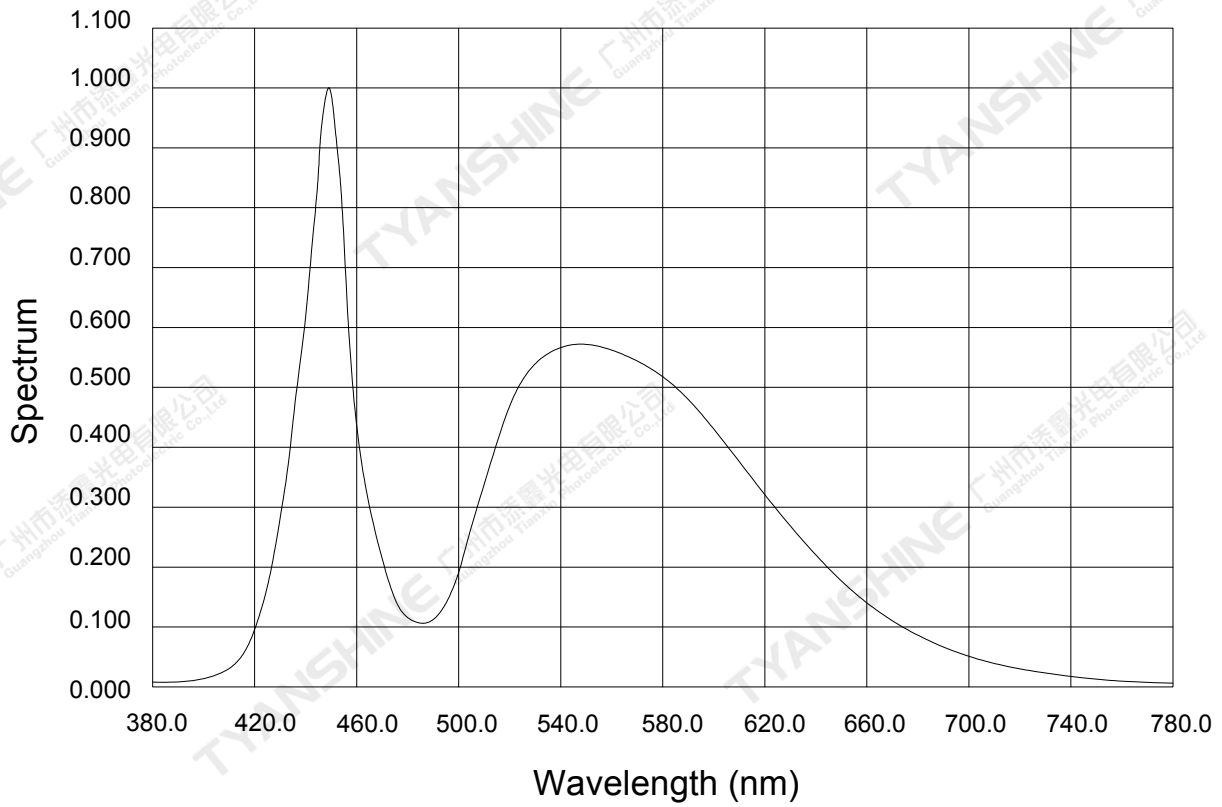
Temperature VS. Relative color temperature (IF=3.5+3.5=7A)



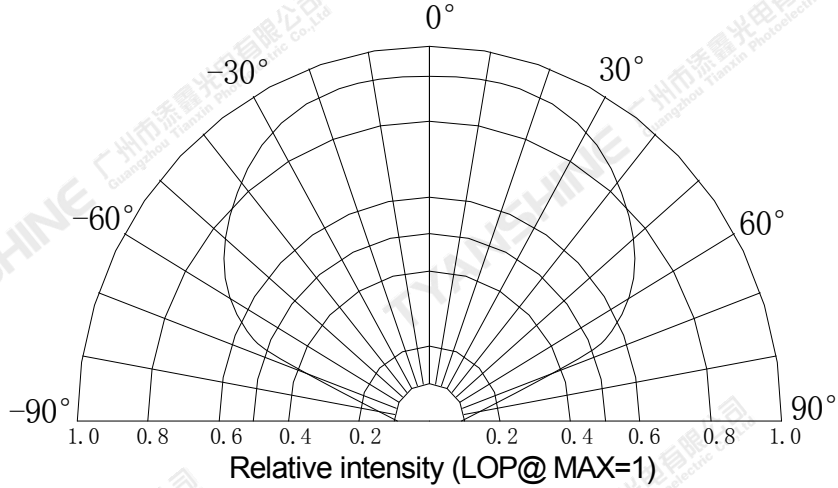
Temperature VS. Relative Luminous Flux (IF=3.5+3.5=7A)



**Relative Spectral Distribution**



**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  $\pm 5^\circ$ .

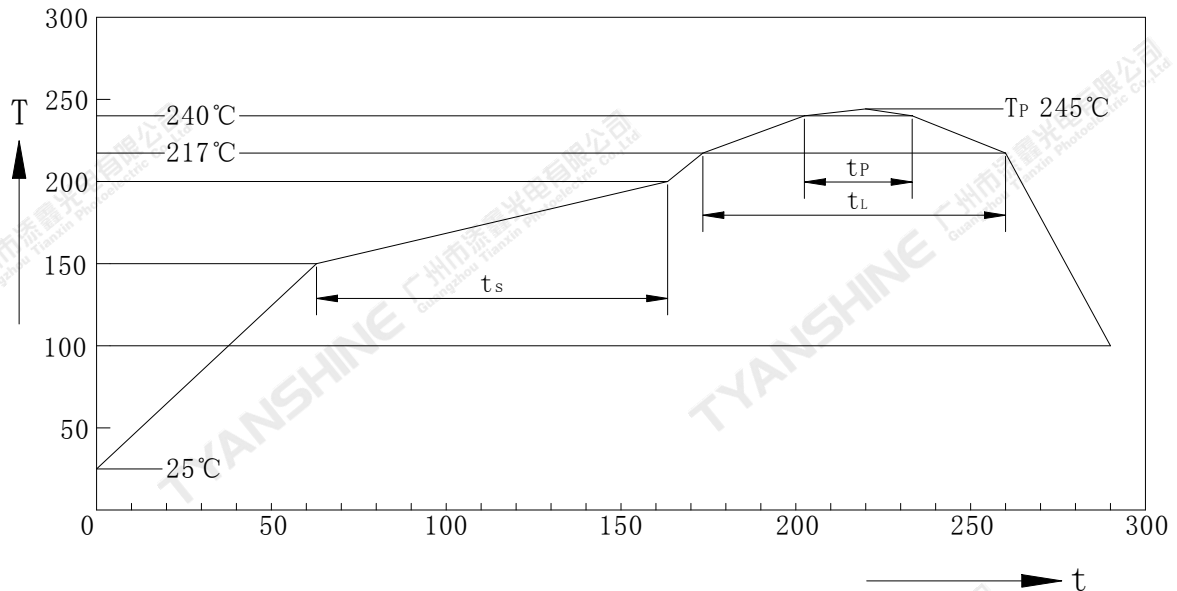
## Usage Precautions

### Storage Environment Condition

Temperature: 5°C ~ 30°C (41°F ~ 86°F)

Humidity: 60% RH Max.

### Soldering Condition



Profil-Charakteristik Profile Feature	Symbol	Pb-Free(SnAgCu)Assembly			Einheit Unit
		Minimum	Recommendation	Maximum	
Ramp-up Rate to Preheat 25°C to 150°C	-	-	2	3	K/s
Time $t_s$ $T_{Smin}$ to $T_{Smax}$	$t_s$	60	100	120	s
Ramp-up Rate to Peak $T_{Smax}$ to $T_p$	-	-	2	3	K/s
Liquidus Temperature	$T_L$	217			°C
Time above Liquidus temperature	$t_L$	-	80	100	s
Peak Temperature	$T_P$	-	245	260	°C
Time within 5°C of the specified peak temperature $T_p-5$ K	$t_p$	10	20	30	s
Ramp-down Rate $T_p$ to 100°C	-	-	3	6	K/s
Time 25°C to $T_p$	-	-	-	480	-

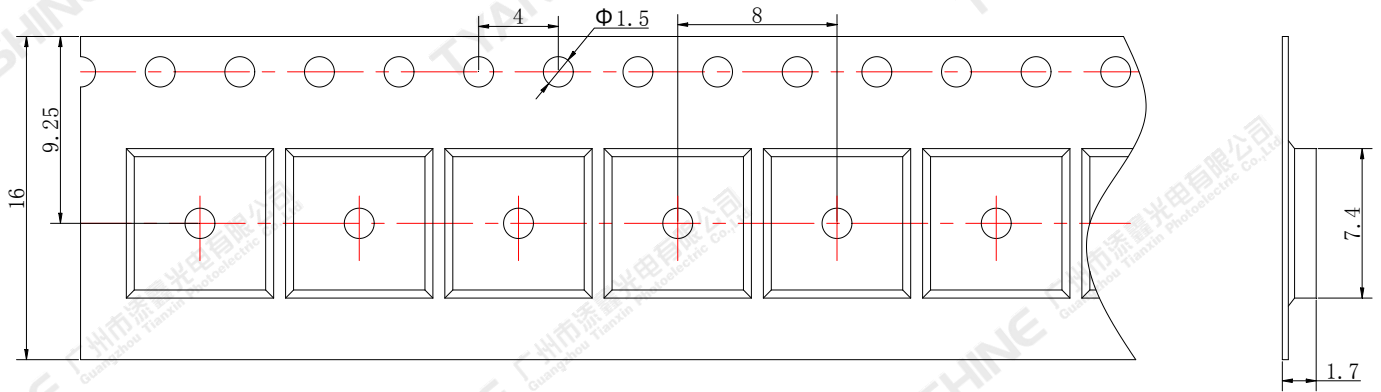
#### Note:

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



**Dimensions For Cannulation And Packaging**

**Quantity: 1000PCS**



**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.

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