

# TX-BGRWPY10B120-001C

## PRODUCT SPECIFICATION

Approved by:

Checked by:

Prepared by:

<b>Part No.</b>	TX-BGRWPY10B120-001C	<b>Spec No.</b>	WKF-BB9031	<b>Page</b>	1 of 10
-----------------	----------------------	-----------------	------------	-------------	---------

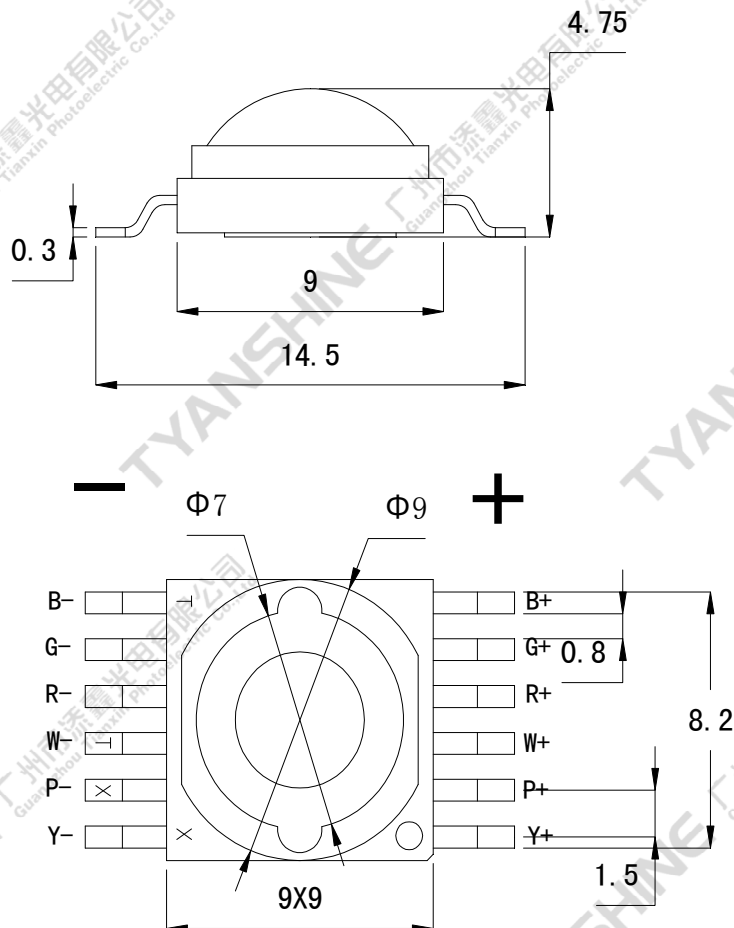
**Features:**

- ◆ Excellent Transiting Heat from LED Chip Operating under 400mA
- ◆ High Luminous Output
- ◆ No UV

**Typical purpose:**

- ◆ Portable Flashlight
- ◆ Garden lighting
- ◆ General Lighting

**Package Dimensions:**



<b>Part No.</b>	TX-BGRWPY10B120-001C	<b>Spec No.</b>	WKF-BB9031	<b>Page</b>	2 of 10
-----------------	----------------------	-----------------	------------	-------------	---------

**Notes:**

1. Thermoelectric integrated White chip packaged in this product.
2. All dimensions are in millimeters (inches).
3. Tolerance is  $\pm 0.25$  mm (0.01") unless otherwise noted.

Part NO.	Chip Material						Lens Color	Source Color
	Blue	Green	Red	White	Purple	Yellow		
TX-BGRWPY10B120-001C	GaN	GaN	AlGaN	GaN	GaN	AlGaN	Water Clear	Blue & Green & Red & White & Purple & Yellow

**Absolute Maximum Ratings at Ta=25°C**

Parameter	Symbol	MAX.	Unit
LED Junction Temperature	T <sub>j</sub>	150	°C
Power Dissipation	P <sub>D</sub>	B	1400
		G	1400
		R	1040
		W	1400
		P	1440
		Y	1040
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	I <sub>FP</sub>	1000	mA
Continuous Forward Current	I <sub>F</sub>	400	mA
Reverse Voltage	V <sub>R</sub>	5	V
Electrostatic Discharge Threshold (ESD)	ESD	2000	V
Operating Temperature Range	T <sub>opr</sub>	-40 to +70	°C
Storage Temperature Range	T <sub>spr</sub>	-40 to +100	

**Notes:**

1. Specifications are subject to change without notice.
2. Under the stipulated Characteristics parameters above, the life span of the LED is more than 50,000hours.
3. The data on this specification is for reference only and the actual data is in accordance with the acknowledgment.
4. 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.

<b>Part No.</b>	TX-BGRWPY10B120-001C	<b>Spec No.</b>	WKF-BB9031	<b>Page</b>	3 of 10
-----------------	----------------------	-----------------	------------	-------------	---------

**Characteristics at If=400mA ,Vr=5V (Ta=25°C)**

Parameter	Symbol	Emitting Color	Values			Units
			Min.	Typ.	Max.	
Luminous Flux	$\phi_v$	B	23	35	—	lm
		G	110	140	—	
		R	55	90	—	
		W	120	145	—	
		P	1	3	—	
		Y	60	85	—	
Viewing Angle at 50% IV	$2\theta_{1/2}$	B	—	120	—	Deg
		G	—	120	—	
		R	—	120	—	
		W	—	120	—	
		P	—	120	—	
		Y	—	120	—	
Peak Emission Wavelength	$\lambda_p$	B	452	457	462	nm
		G	512	518	522	
		R	625	630	635	
		P	394	400	406	
		Y	590	594	598	
Dominant Wavelength	$\lambda_d$	B	455	460	465	nm
		G	522	527	532	
		R	618	623	628	
		P	380	390	400	
		Y	588	592	595	
Correlated Colour Temperature	CCT	W	6000	7000	8000	K
Spectral Line Half-Width	$\Delta\lambda$	B	15	20	25	nm
		G	25	30	35	
		R	15	20	25	
		W	15	20	25	
		P	15	20	25	
		Y	10	15	20	
Forward Voltage	$V_f$	B	2.9	3.2	3.5	V
		G	2.9	3.2	3.5	
		R	2.0	2.3	2.6	
		W	2.9	3.2	3.5	
		P	3.0	3.3	3.6	
		Y	2.0	2.3	2.6	
Reverse Current	$I_R$	—	—	—	10	$\mu A$
Thermal Resistance Junction to Case	$R\theta_{J-C}$	—	—	3.8	—	K/W
Temperature Coefficient of Forward Voltage	$V\Delta F/T$	—	—	-2	—	mV/°C

<b>Part No.</b>	TX-BGRWPY10B120-001C	<b>Spec No.</b>	WKF-BB9031	<b>Page</b>	4 of 10
-----------------	----------------------	-----------------	------------	-------------	---------

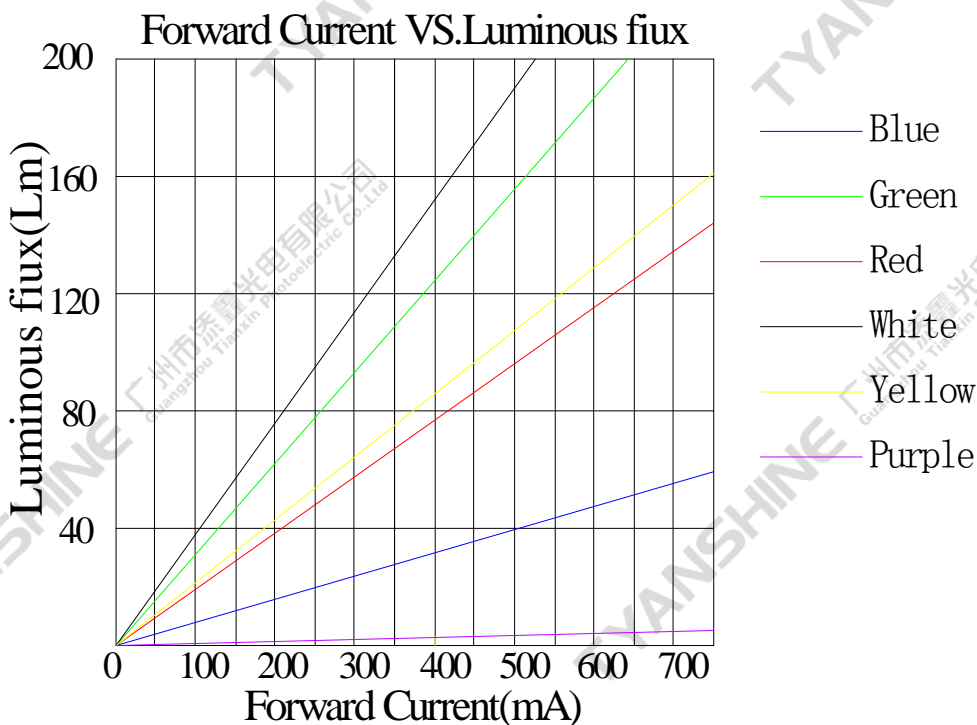
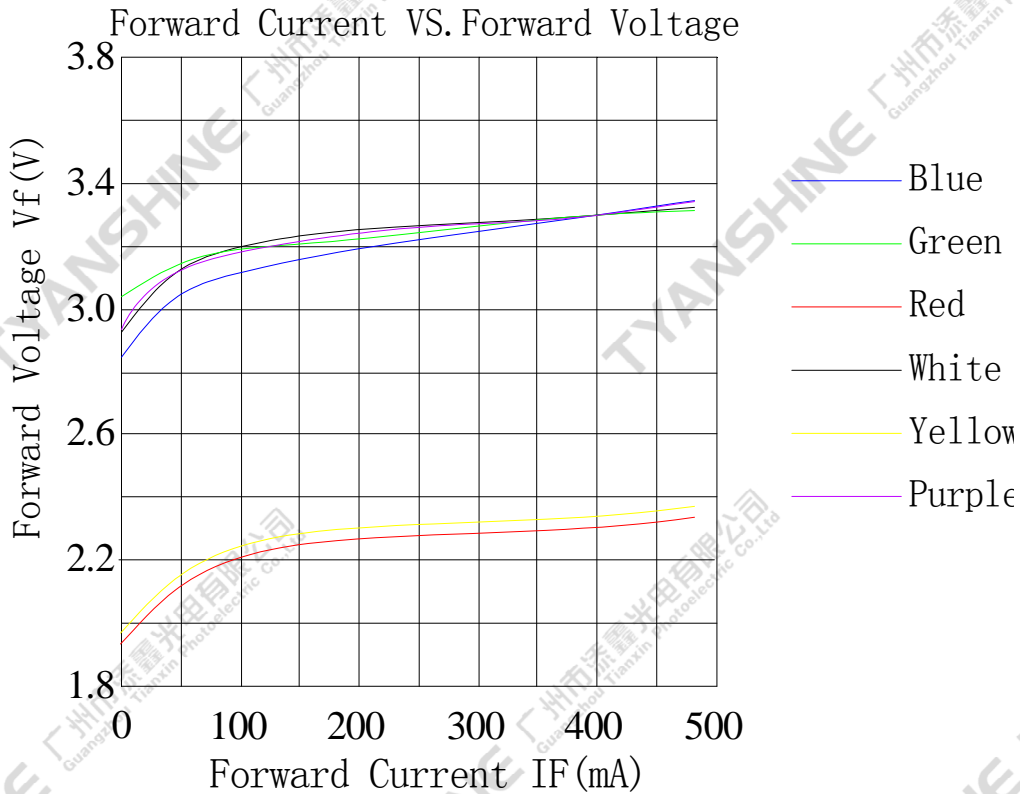
**Notes:**

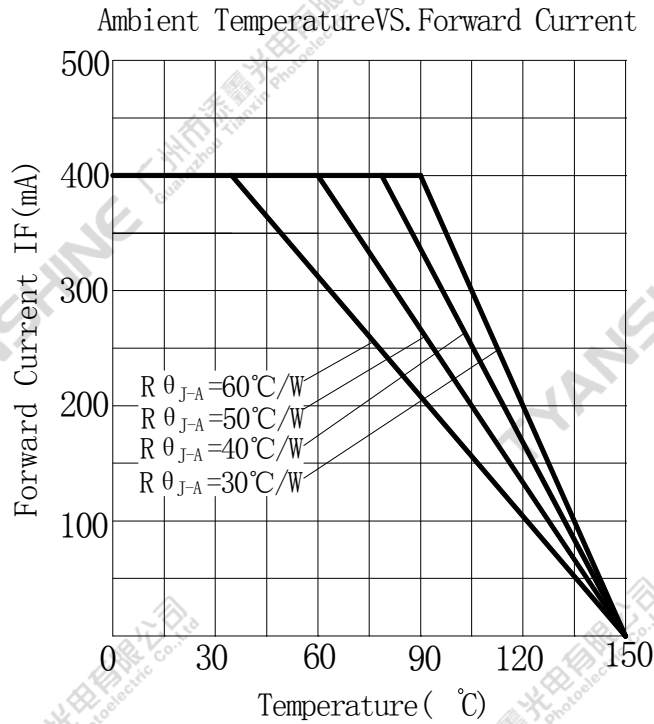
1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2.  $\theta_{1/2}$  is the off-axis angle at which the luminous intensity is half the axial luminous intensity
3. The dominant wavelength ( $\lambda_d$ ) is derived from the CIE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

<b>Part No.</b>	TX-BGRWPY10B120-001C	<b>Spec No.</b>	WKF-BB9031	<b>Page</b>	5 of 10
-----------------	----------------------	-----------------	------------	-------------	---------

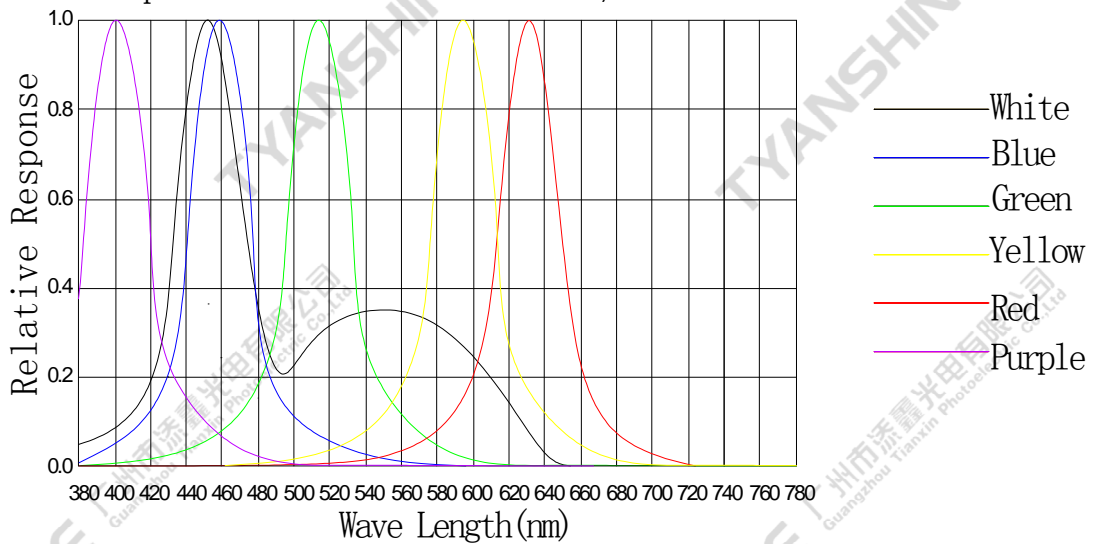
**Typical Electrical / Optical Characteristics Curves**

(25°C Ambient Temperature Unless Otherwise Noted)





Spectral Radiance: Blue Peak@457nm; Green Peak@520nm  
Purple Peak@400nm Red Peak@630nm; Yellow Peak@594nm







**PRECAUTION IN USE**

**Storage**

Recommended storage environment

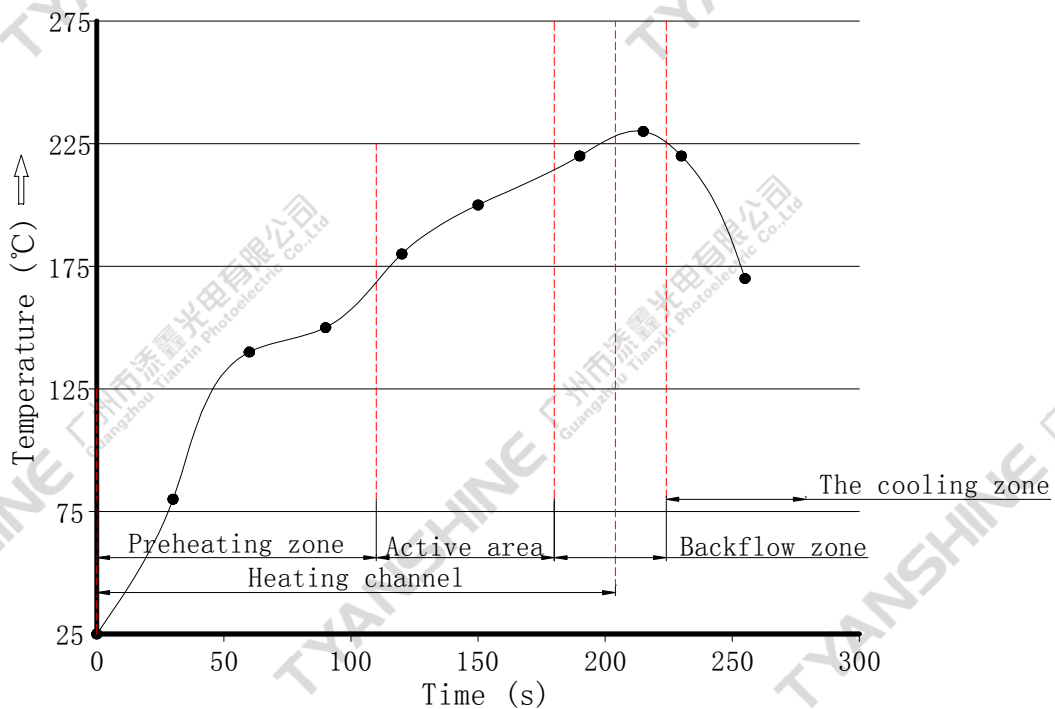
Temperature: 5°C ~ 30°C (41oF ~ 86oF)

Humidity: 60% RH Max.

**Soldering**

Use the conditions shown to the under figure.

Backflow welding recommended temperature curve

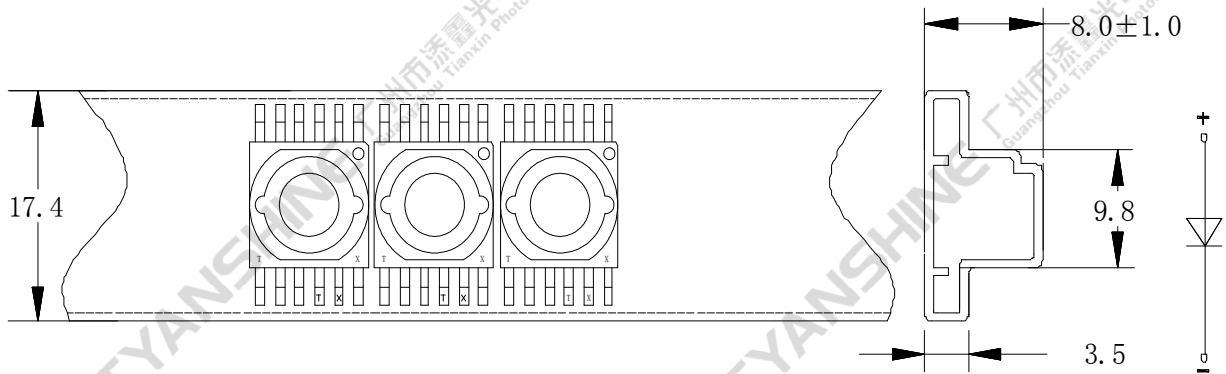


Profile Feature	Lead-Based Solder
Preheat: Temperature Min (T <sub>smin</sub> )	25°C
Preheat: Temperature Max (T <sub>smax</sub> )	170°C
Preheat: Time (T <sub>smin</sub> to T <sub>smax</sub> )	60-120 seconds
Heating rate	1-3°C/sec
Time Maintained Above: Temperature (T <sub>L</sub> )	170-215°C
Time Maintained Above: Time (T <sub>L</sub> )	60-110 seconds
Reflux temperature	215-235°C
Reflux time	30-70 seconds
Cooling rate	3-5°C/sec

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

**Dimensions for Cannulation and Packaging**

**Quantity: 40PCS**



**Notes:**

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 2.0$  mm (0.08") unless otherwise noted.
3. Product is packaged with silica gel to protect the light-emitting zone. Please avoid the light-emitting area from being pressed, stressed, rubbed, come into contact with sharp metal part which would damage the product.

<b>Part No.</b>	TX-BGRWPY10B120-001C	<b>Spec No.</b>	WKF-BB9031	<b>Page</b>	10 of 10
-----------------	----------------------	-----------------	------------	-------------	----------