

# Preliminary

## TX-BRPG2B140-001

### DATA SHEET

Approved by:

Checked by:

Prepared by:

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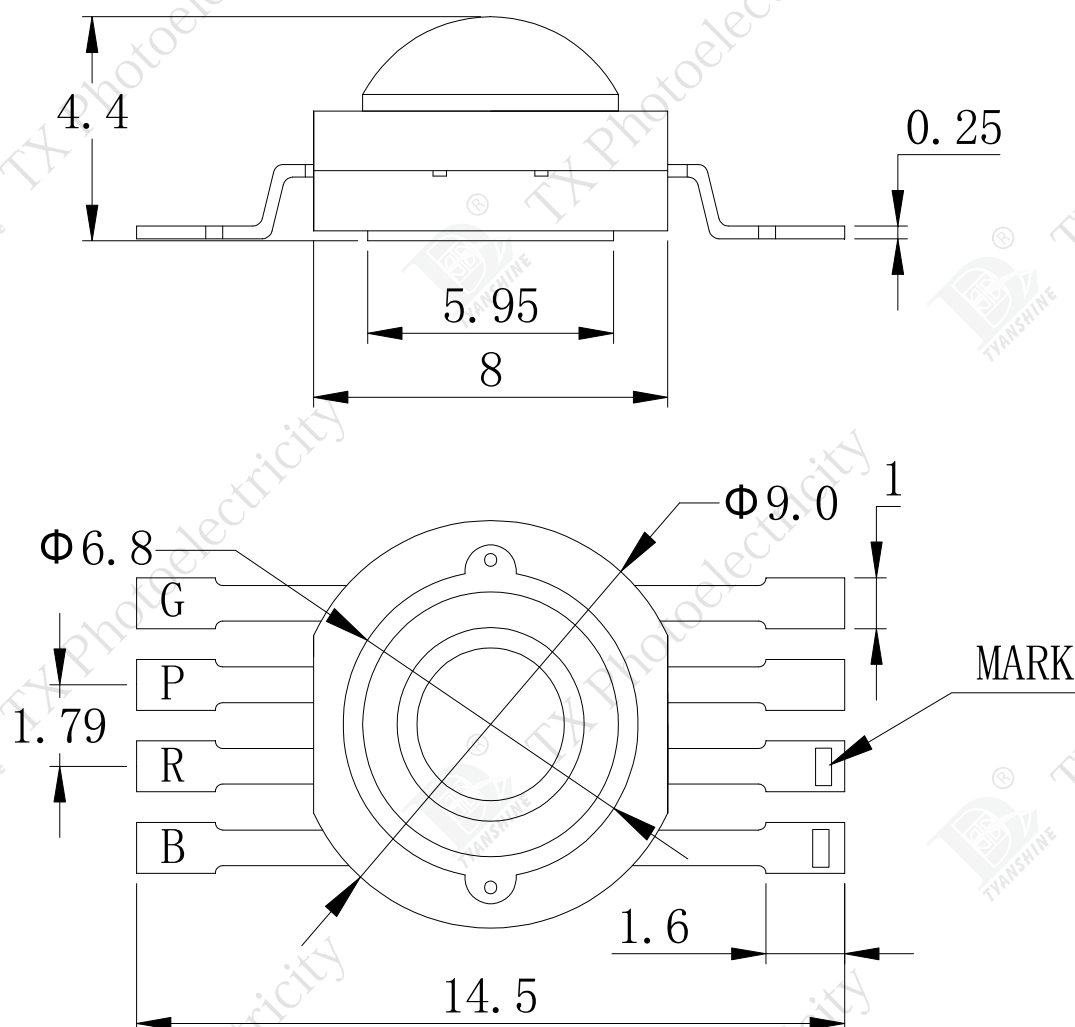
## Features:

- ◆ Excellent Transiting Heat from LED Chip Operating under 500mA
- ◆ High Luminous Output
- ◆ No UV

**Typical purpose:**

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

## Package Dimensions:



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## Notes:

1. Thermoelectric integrated Red 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
TX-BRPG2B140-001	Blue	Red	Purple	Green	Water Clear	Blue & True Red & Purple & Green
	GaInN	AlGaInP	GaInN	GaInN		

## 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	1800
		R	1300
		p	1800
		G	1800
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	I <sub>FP</sub>	1000	mA
Continuous Forward Current	I <sub>F</sub>	500	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 50,000 hours.
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.

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Characteristics at If=500mA , Vr=5V (Ta=25°C)

Parameter	Symbol	Emitting Color	Values			Units
			Min.	Typ.	Max.	
Luminous Flux	$\phi_v$	B	25	35	—	lm
		R	70	85	—	
		P	1	2	—	
		G	115	145	—	
Viewing Angle at 50 % IV	$2\theta_{1/2}$	B	—	140	—	Deg
		R	—	140	—	
		P	—	140	—	
		G	—	140	—	
Peak Emission Wavelength	$\lambda_p$	B	450	452.5	455	nm
		R	625	630	635	
		P	395	400	405	
		G	510	515	520	
Dominant Wavelength	$\lambda_d$	B	458	461	464	nm
		R	620	625	630	
		P	380	390	400	
		G	522	525	528	K
Spectral Line Half-Width	$\Delta\lambda$	B	15	20	25	nm
		R	15	20	25	
		P	15	20	25	
		G	25	30	35	
Forward Voltage	$V_f$	B	3.0	3.3	3.6	V
		R	2.0	2.3	2.6	
		P	3.0	3.3	3.6	
		G	3.0	3.3	3.6	
Reverse Current	$I_R$	—	—	—	10	$\mu A$
Thermal Resistance Junction to Case	$R\theta_{J-C}$	—	—	15	—	K/W
Temperature Coefficient of Forward Voltage	$V\Delta F/T$	—	—	-2	—	mV/°C

Notes:

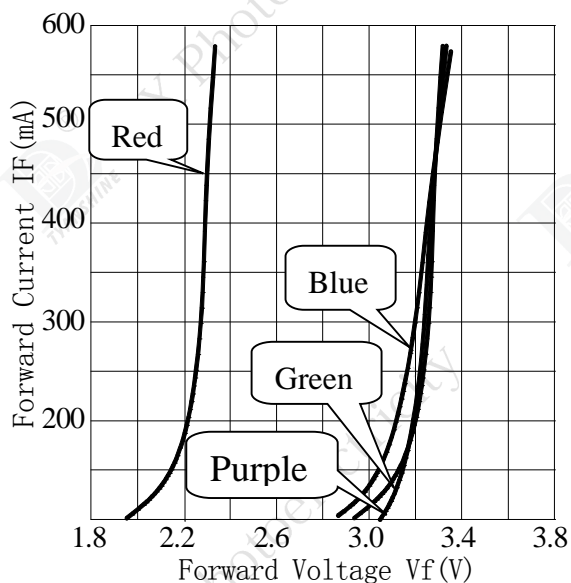
1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2.  $\theta_{1/2}$  is the off-axis angle at which the luminous intensity is half the axial luminous intensity
3. The dominant wavelength ( $\lambda_d$ ) is derived from the CIE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

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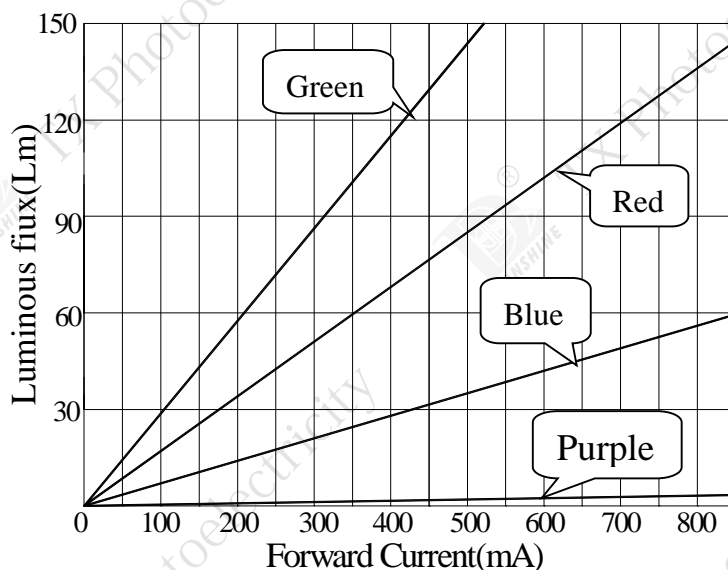
## Typical Electrical / Optical Characteristics Curves

(25°C Ambient Temperature Unless Otherwise Noted)

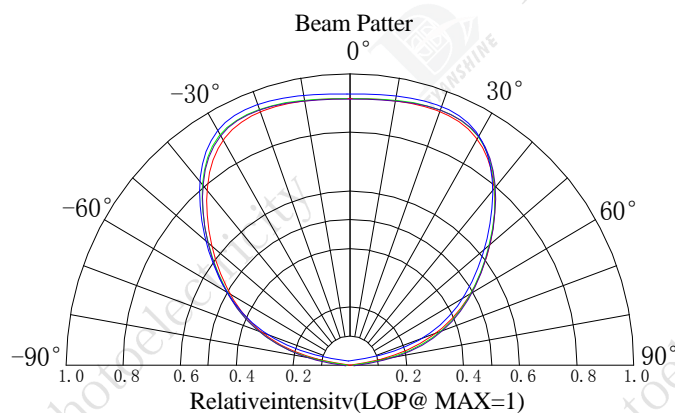
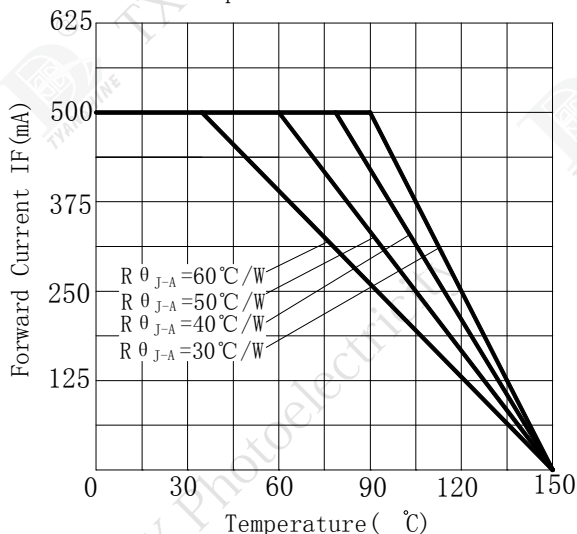
Forward Current VS. Forward Voltage



Forward Current VS. Luminous flux

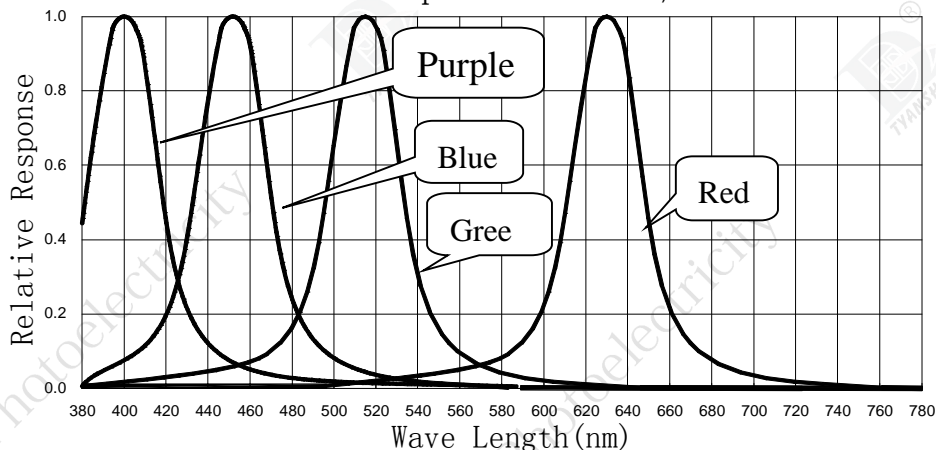


Ambient Temperature VS. Forward Current



Spectral Radiance: Blue Peak@452.5nm; Red Peak@630nm

Purple Peak@400nm; Green Peak@515nm





## PRECAUTION IN USE

### Storage

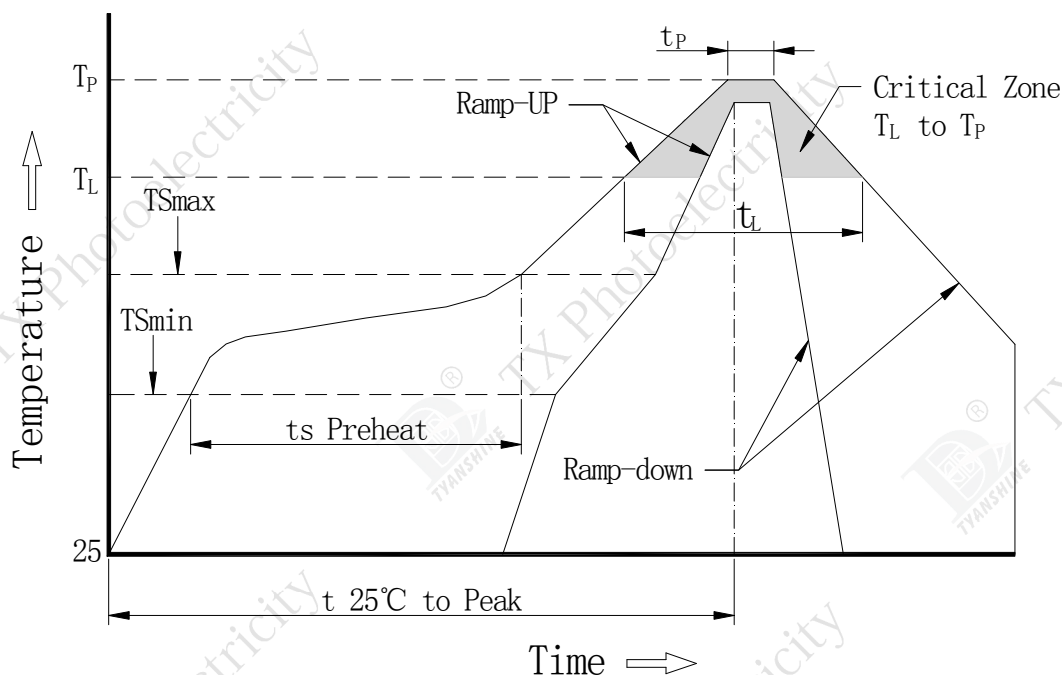
Recommended storage environment

Temperature: 5°C ~ 30°C (41oF ~ 86oF)

Humidity: 60% RH Max.

### Soldering

Use the conditions shown to the under figure.

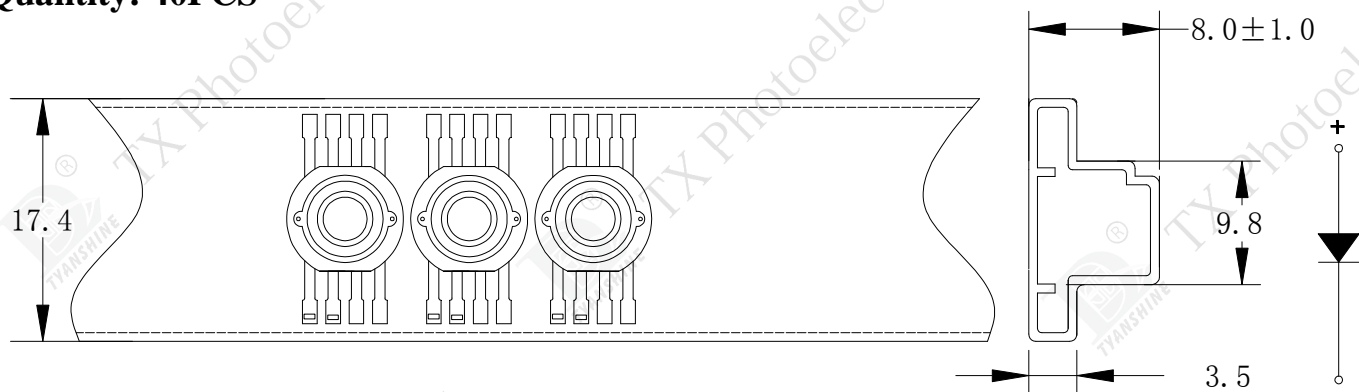


Profile Feature	Lead-Based Solder
Average Ramp-Up Rate (TSmax to TP)	3°C/second max.
Preheat: Temperature Min (TSmin)	100°C
Preheat: Temperature Max (TSmax)	150°C
Preheat: Time (TSmin to TSmax)	60-120 seconds
Time Maintained Above: Temperature (TL)	183°C
Time Maintained Above: Time (TL)	60-150 seconds
Peak/Classification Temperature (TP)	215°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: 40PCS



### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 2.0$  mm (0.08") 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.