

**Preliminary**  
**2828RGBW30D180-001**  
**DATA SHEET**



Approved by:

Checked by:

Prepared by:

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Version:1.0

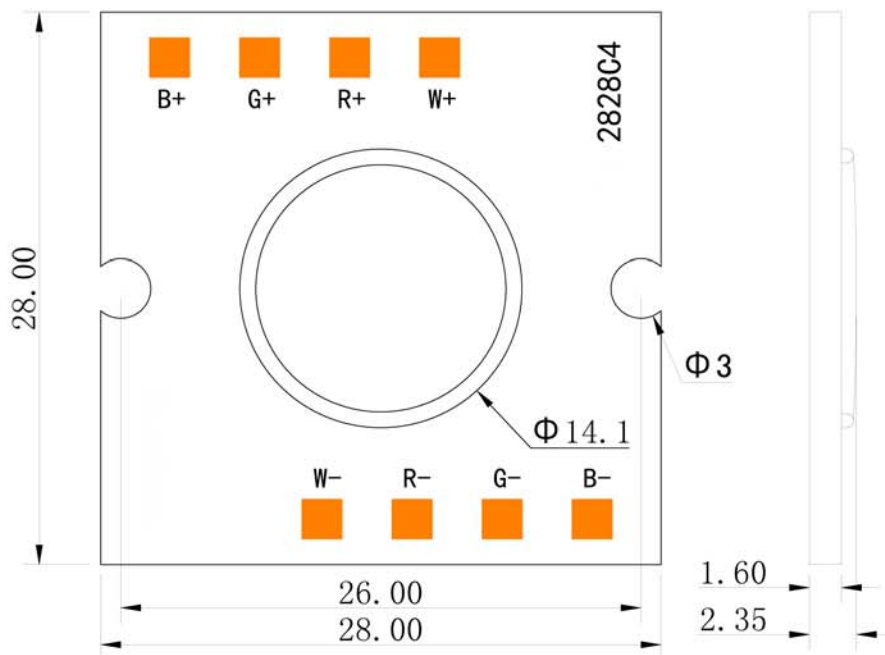
## Features:

- ◆ Excellent Transiting Heat from LED Chip Operating under 700 mA
- ◆ High Luminous Output
- ◆ No UV

## Typical purpose:

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

## Package Dimensions:



**Notes:**

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25$  mm (0.01") unless otherwise noted.

Part NO.	Chip Material				Lens Color	Emitting Color
	2828RGBW30D180-001	Red	Green	Blue	White	Water
AlGaInP		GaInN	GaInN	GaInN	Clear	

**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>	R	8400
		G	8400
		B	8400
		W	8400
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	I <sub>FP</sub>	1000	mA
Continuous Forward Current	I <sub>F</sub>	700	mA
Reverse Voltage	V <sub>R</sub>	—	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.

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**Characteristics at If=700mA (Ta=25°C):**

Parameter	Symbol	Emitting Color	Values			Units
			Min.	Typ.	Max.	
Luminous Flux	$\phi_v$	R	350	400	—	lm
		G	380	420	—	
		B	100	120	—	
		W	450	550	—	
Viewing Angle at 50 % IV	$2\theta_{1/2}$	R	—	120	—	Deg
		G	—	120	—	
		B	—	120	—	
		W	—	120	—	
Peak Emission Wavelength	$\lambda_p$	R	625	—	635	nm
		G	510	—	520	
		B	458	—	462	
Dominant Wavelength	$\lambda_d$	R	620	623	626	nm
		G	522	525	528	
		B	460	463	466	
Correlated Colour Temperature	CCT	W	7000	7500	8000	K
Spectral Line Half-Width	$\Delta\lambda$	R	15	20	25	nm
		G	25	30	35	
		B	15	20	25	
		W	15	20	25	
Forward Voltage	$V_f$	R	9	—	12	V
		G	9	—	12	
		B	9	—	12	
		W	9	—	12	
Reverse Current	$I_R$	—	—	—	—	$\mu A$
Thermal Resistance Junction to Case	$R\theta_{J-C}$	—	—	1.0	—	K/W
Temperature Coefficient of Forward Voltage	$V\Delta F/T$	—	—	-2	—	mV/°C

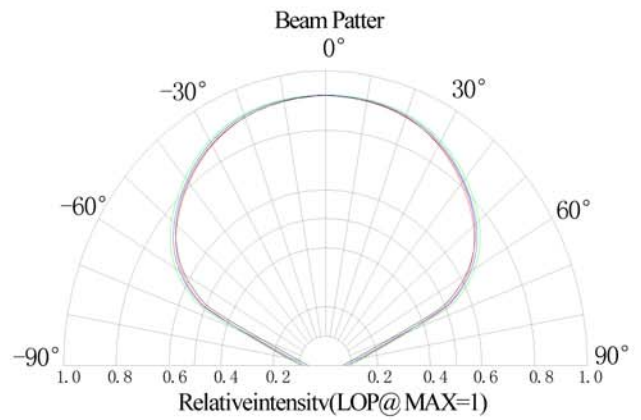
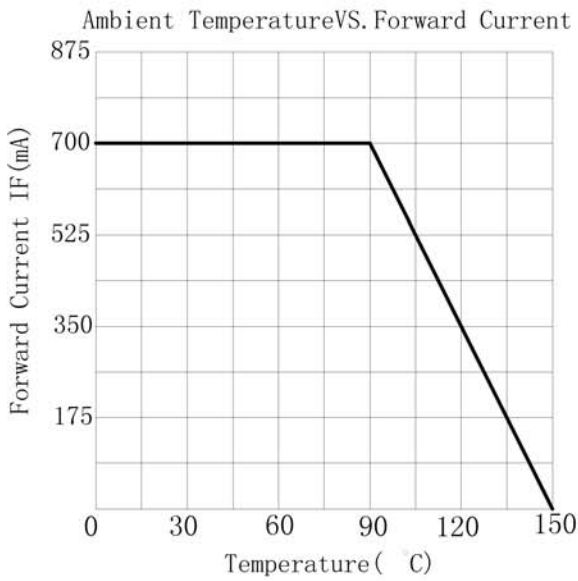
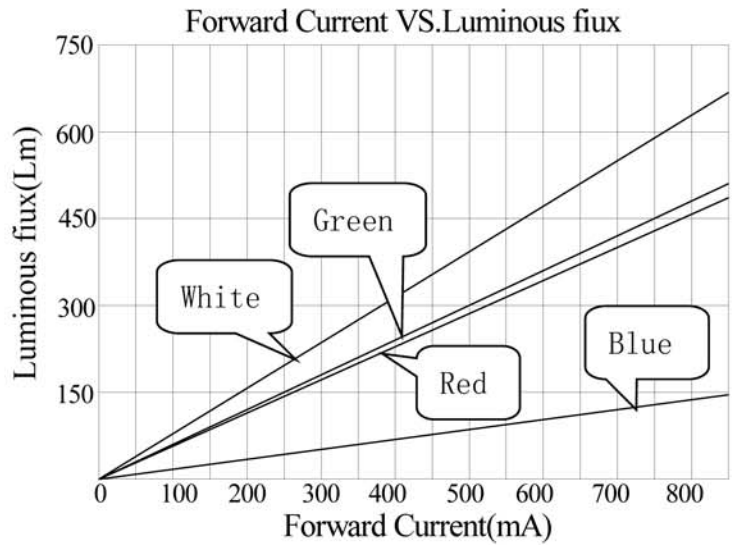
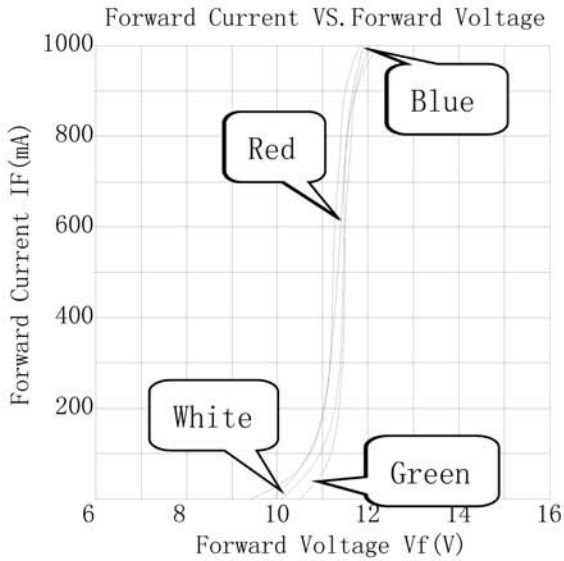
**Notes:**

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)



Spectral Radiance: Red Peak@630nm  
 Green Peak@515nm  
 Blue Peak@458nm

