

SAMPLE APPROVE SHEET

Customer Name: _____

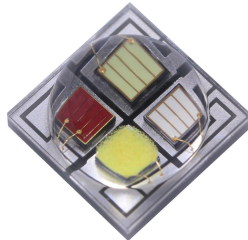
Product description : SMD 5050 4chip **RGBW 12W**

Product Name : CL-SFD5280RGBW-05(12W)

Issue Date : 2022-12-09

Lens Color Code	C Water Transparent
	T Colored Transparent
	D White Diffused
	E Colored Diffused

Customer confirmation	Checked by	Prepared by



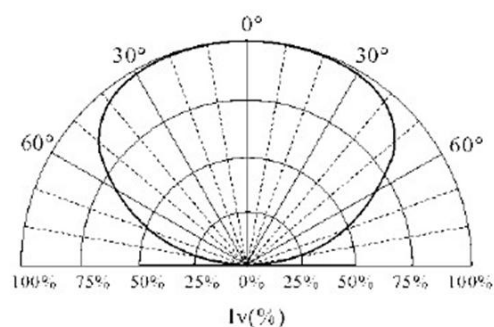
Features And Benefits

- Designed for high current operation
- Low thermal resistance
- RGBW 4in1 LED, High Power
- Pb-free reflow soldering application

Key Applications

- Indoor lighting
- Outdoor lighting
- Automotive
- Architectural lighting
- Industrial lighting
- Portable torch

Radiation Pattern



Typical Optical/ Electrical Characteristics @T_J=25℃

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage Red	V _F	IF=700mA	2.0	--	2.4	V
Forward Voltage Green	V _F	IF=700mA	3.0	--	3.4	V
Forward Voltage Blue	V _F	IF=700mA	2.8	--	3.4	V
Forward Voltage White	V _F	IF=700mA	2.9	--	3.3	V
Reverse Current	I _R	VR=5v	--	5	--	μA
50% Power Angle	2θ1/2	//	--	120	--	deg
Recommend Forward Current	I _F	--	--	700	--	mA
Luminous Intensity Red	φ _v	IF=700mA	100	--	200	Lm
Luminous Intensity Green	φ _v	IF=700mA	200	--	250	Lm
Luminous Intensity Blue	φ _v	IF=700mA	50	--	80	Lm
Luminous Intensity White	φ _v	IF=700mA	200	--	300	Lm
Junction temperature	T _J	//	--	125	--	℃
Dominant wavelength Red	T _c	IF=700mA	620	--	630	nm
Dominant wavelength Green	T _c	IF=700mA	520	--	530	nm
Dominant wavelength Blue	T _c	IF=700mA	460	--	470	nm
Dominant wavelength White	cct	IF=700mA	6000	--	7000	K
Thermal Resistance,Junction to Case	R _{JP}	//	--	8	--	℃/W

Notes: 1. Tolerance of measurement of forward voltage ±0.1V.

2. Tolerance of measurement of peak Wavelength ±2.0nm.

3. Tolerance of measurement of luminous intensity ±5%.

Absolute Maximum Rating

Item	Symbol	Absolute Maximum Rating	Unit
Forward Current	I _F	700	mA
Peak Forward Current*	I _{FP}	1000	mA
Reverse Voltage	V _R	5	V
Power Dissipation	P _D	12	W
Operation Temperature	T _{OPR}	-40~+80	℃
Storage Temperature	T _{STG}	-40~+100	℃
Lead Soldering Temperature*	T _{SOL}	Max. 260℃ for 5sec Max.	

*IFP Conditions: Pulse Width ≤ 10msec duty ≤ 1/10

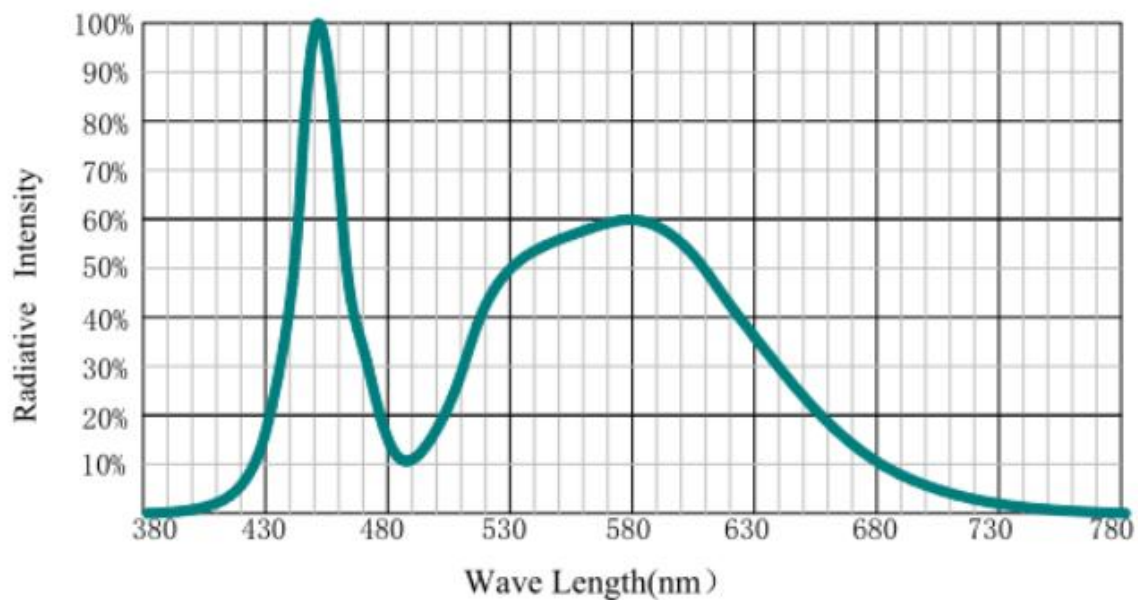
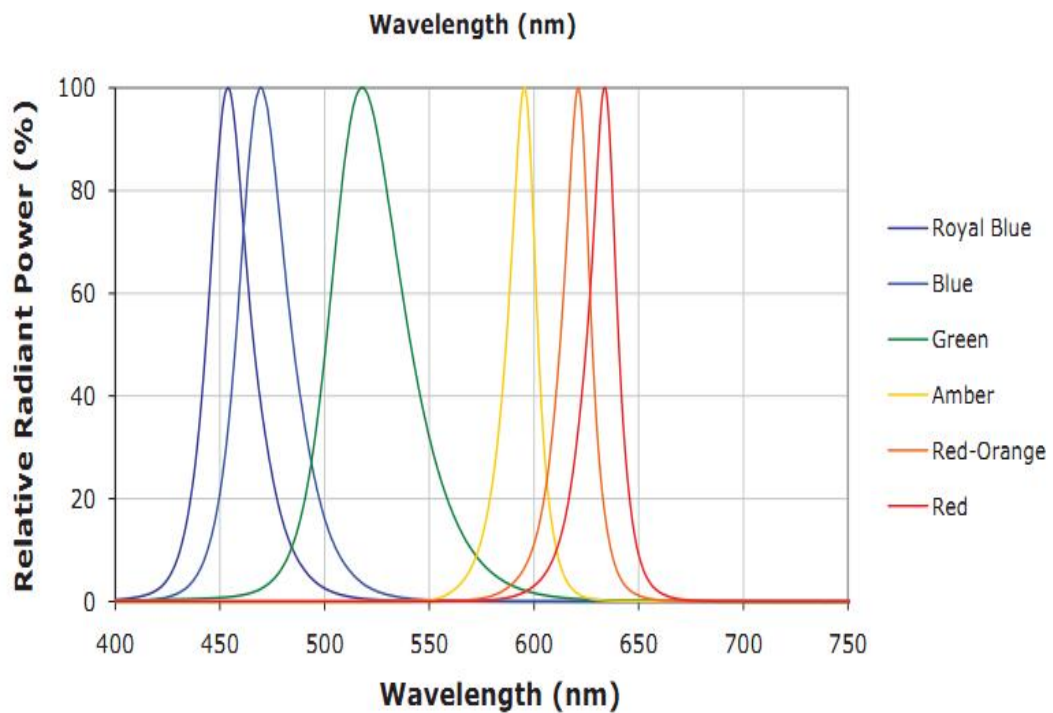
* All high power emitter LED products mounted on aluminum metal-core printed circuit board, can be lighted directly, but we do not recommend lighting the high power products for more than 5 seconds without a appropriate heat dissipation equipment.

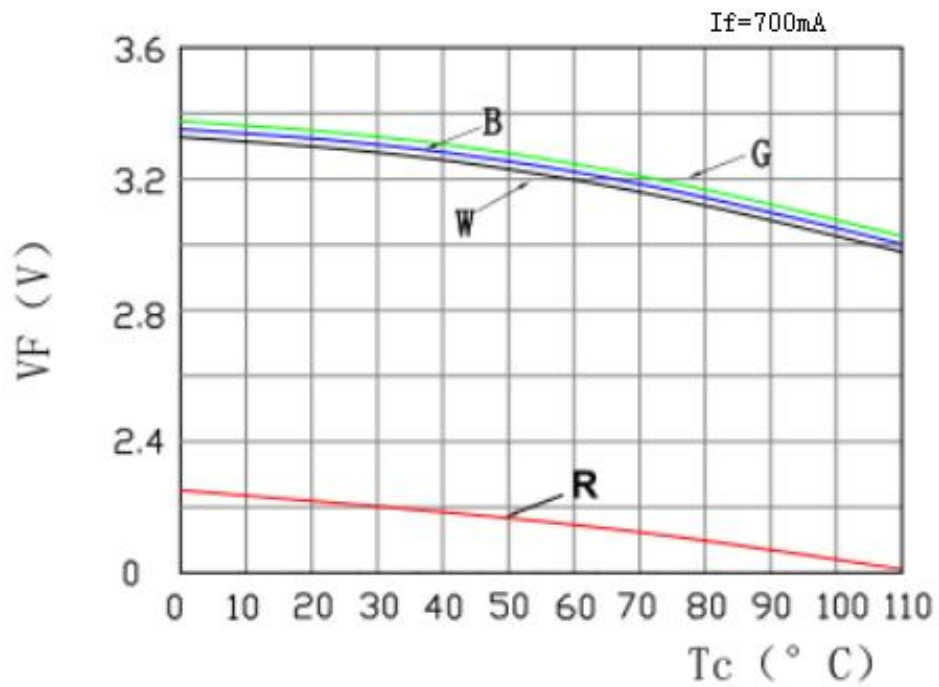
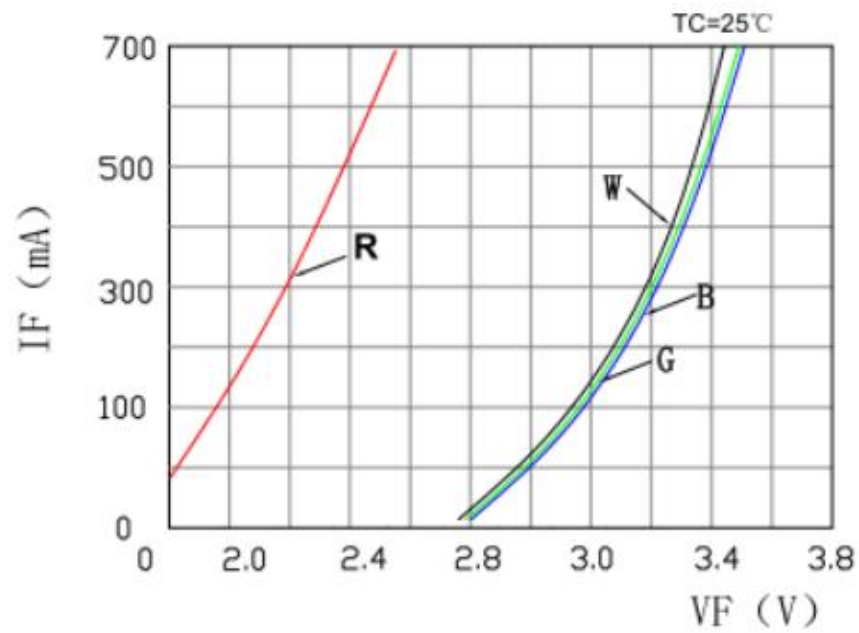
*Re-flow, wave peak and soak-stannum soldering etc. is not suitable for this products.

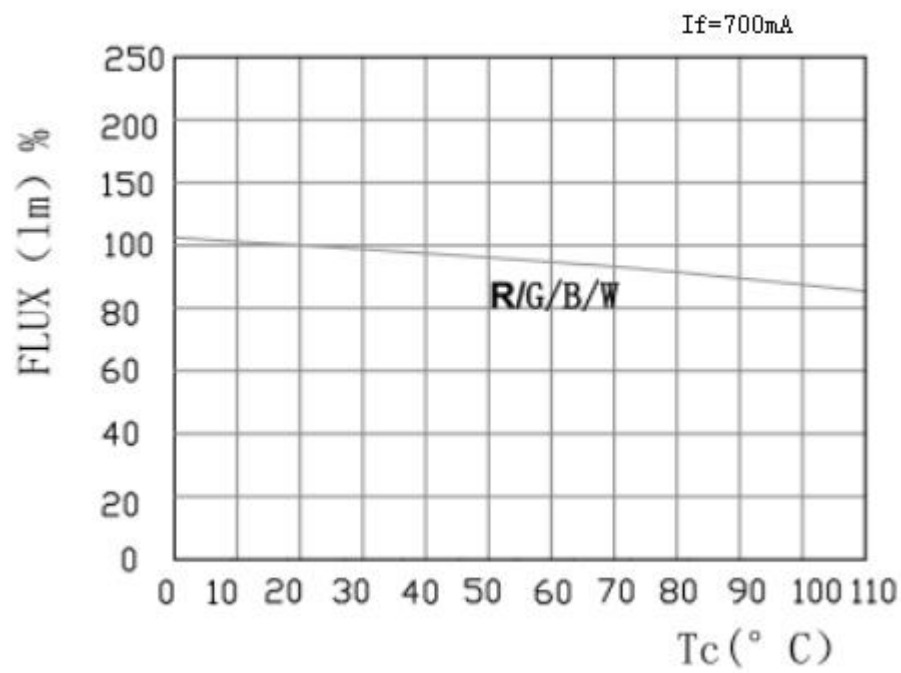
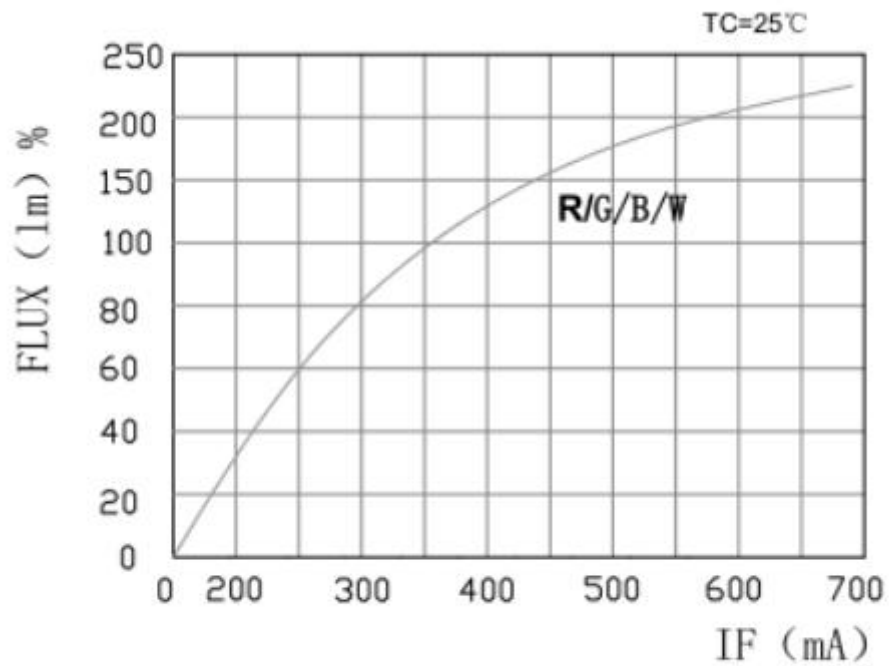
*Suggest to solder it by professional high power LED soldering machine.

*Can use invariable-temperature searing-iron with soldering condition : ≤ 260 degree less than 3 seconds.

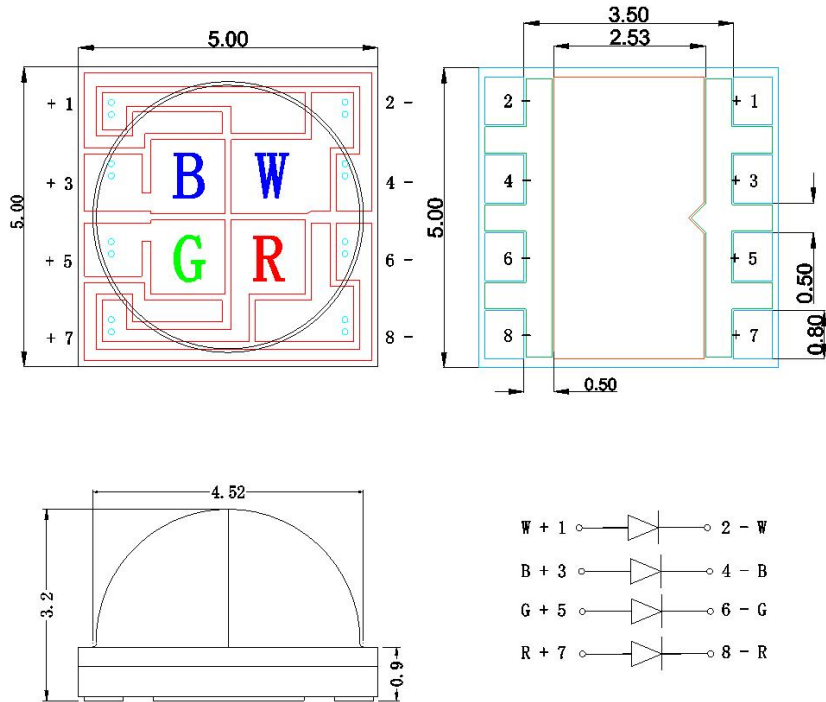
Wavelength Characteristics







Package Dimensions



Notes:

1. All dimensions are in millimeters(inches). 所有单位为毫米(英寸)。
2. Tolerance is $\pm 0.05\text{mm}$ (.10") unless otherwise noted. 允许误差为正负0.05, 除另行通知。

- Notes: 1. All dimension units are millimeters.
2. All dimension tolerance is $\pm 0.2\text{mm}$ unless otherwise noted.
3. The brass column of heat sink of the high power LED is Anode。Please pay more attention to the necessary installation, when installing The heat dissipate on equipments and connecting the electric circuit in avoid of short circuit and destroying

Recommended Soldering Patter:

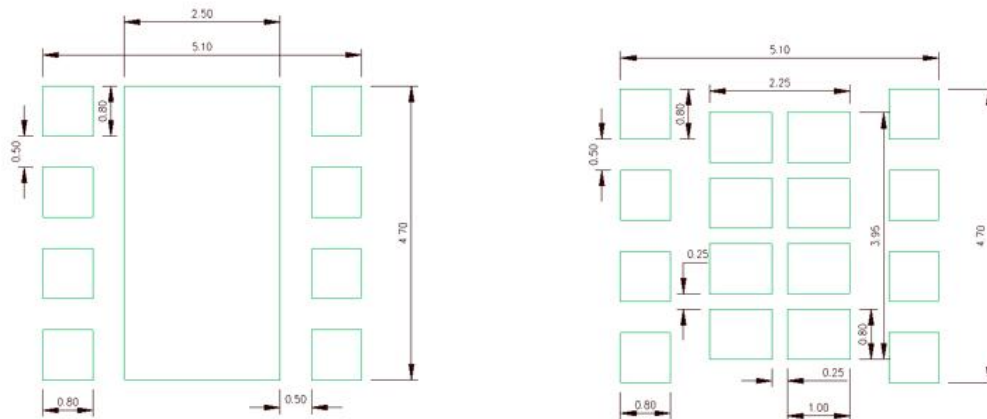
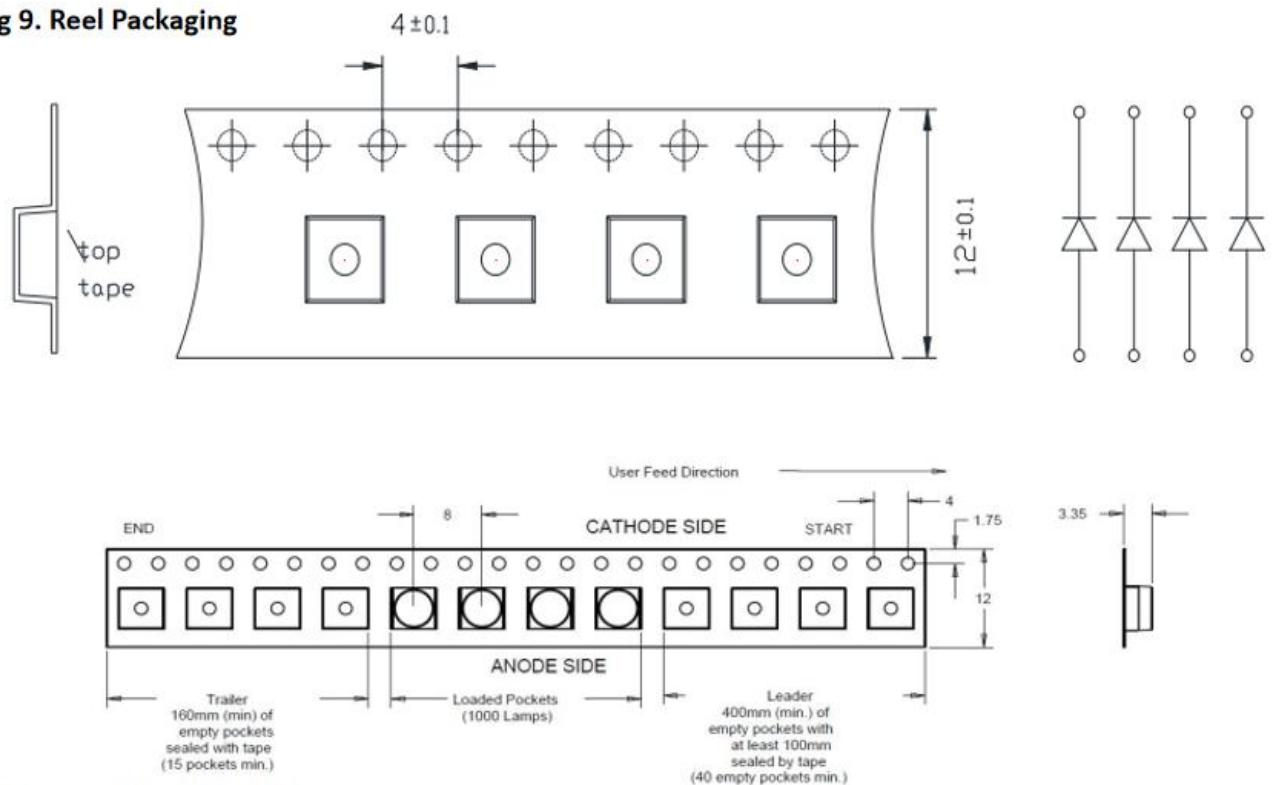
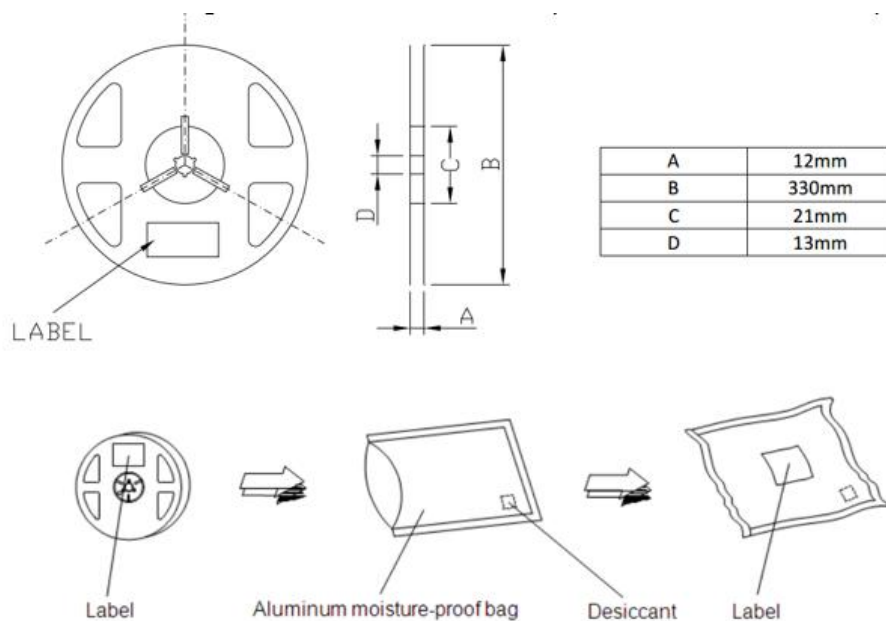


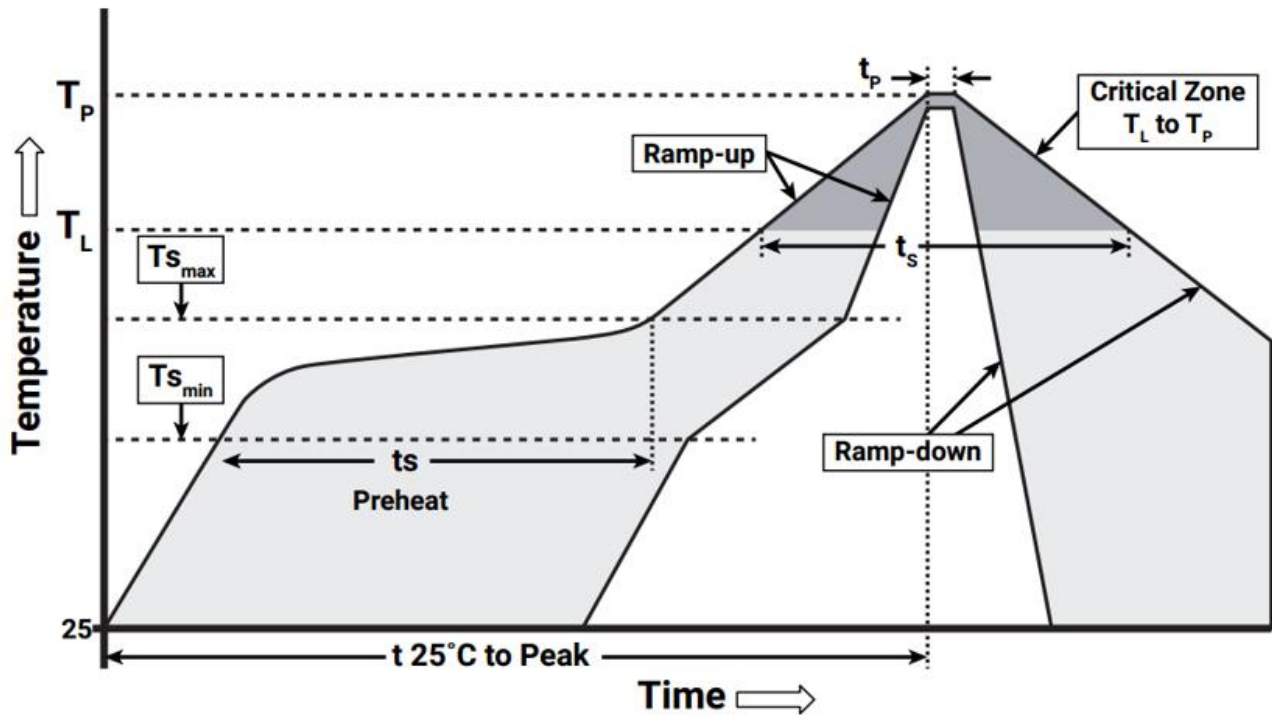
Fig 9. Reel Packaging



- Quantity : Max 500pcs/Reel
- Cumulative Tolerance : Cumulative Tolerance/10 pitches to be ± 0.25 mm
- Adhesion Strength of Cover Tape Adhesion strength to be 0.1-0.7N when the cover tape is turned off from the carrier tape at the angle of 10° to the carrier tape.
- Package : P/N, Manufacturing data Code No. and Quantity to be indicated on a damp proof Package.



Recommended Mid-Temperature Solder Paste



Profile Feature	Lead-Free Solder
Average Ramp-Up Rate ($T_{s_{\text{max}}}$ to T_P)	1.2°C/second
Preheat:Temperature Min($T_{s_{\text{min}}}$)	120°C
Preheat:Temperature Max($T_{s_{\text{max}}}$)	170°C
Preheat:Time($t_{s_{\text{min}}}$ to $t_{s_{\text{max}}}$)	65-150 seconds
Time Maintained Above:Temperature(T_L)	217°C
Time Maintained Above:Time(t_s)	45-90 seconds
Peak/Classification Temperature(T_P)	235-245°C
Time Within 5°C of Actual Peak Temperature(t_P)	20-40 seconds
Ramp-Down Rate	1-6°C seconds
Time 25°C to Peak Temperature	4 minutes max

Note:

- 1 LED bracket forming method: The pin of LED can be bent where is at least 2mm out of LED colloid; Finishing the forming of LED bracket must be before soldering; Guarantee the gap between two pin of LED tallys with LED pads in PCB when forming;
- 2 Manual soldering: The tip temperature of soldering iron don't exceed 300°C; soldering time don't exceed 3s and soldering position must be 3mm out of led colloid;
- 3 Static electricity and high volt can damage LED, The production whose Die material is InGaN must strictly required ESD, Must put on static glove and static fillet, soldering tool and the cover of device must connect the ground, soldering condition follows the related stating of production specification manual.
- 4 Protecting countermeasure when over current: Need add the protecting resistor in circuit in order to avoid damaging led due to big current and voltage fluctuation
- 5 LED installation method: LED can be stored for a year under the condition, the temperature of 5°C~35°C and humidity of RH60%, These production must be re-inspected and tested before use if their storage time exceed a year.
- 6 If LED is exposed in air for a week under the condition, the temperature of 5 °C ~35°C, humidity of RH60%, must place the LED in the ambience of 65°C ±5°C for 24 hours .

