BRIGHTEK OPTOELECTRONICS CO., LTD

Customer Part No:

Brightek Part No: 1SC3527W32E0WA01

Specification: TD0120A20E20000

Documents No: BT-27-1110002

Prepared By: Huan Huan Yi

Check By: hong long xiang

Time: 2011/10/15

Customer Confirmation:

SPECIFICATION FOR APPROVAL

Features

- § forward current ≦30mA
- § Wide viewing angle:120°
- § Operating Temperature -40~80℃
- § Storage temperature-40~100℃
- § ROHS and REACH-compliant
- § outline(L*W*H) of 3.5*2.7*1.0mm
- § Qualified according to JEDEC moisturevity Level 3
- § PACKAGE:4000 PCS/REEL.
- § Chip material: InGaN
- § Reverse Voltage:5V

Catalog

SPECIFICATION FOR APPROVAL

Electrical-Optical Characteristics（Ta=25℃）

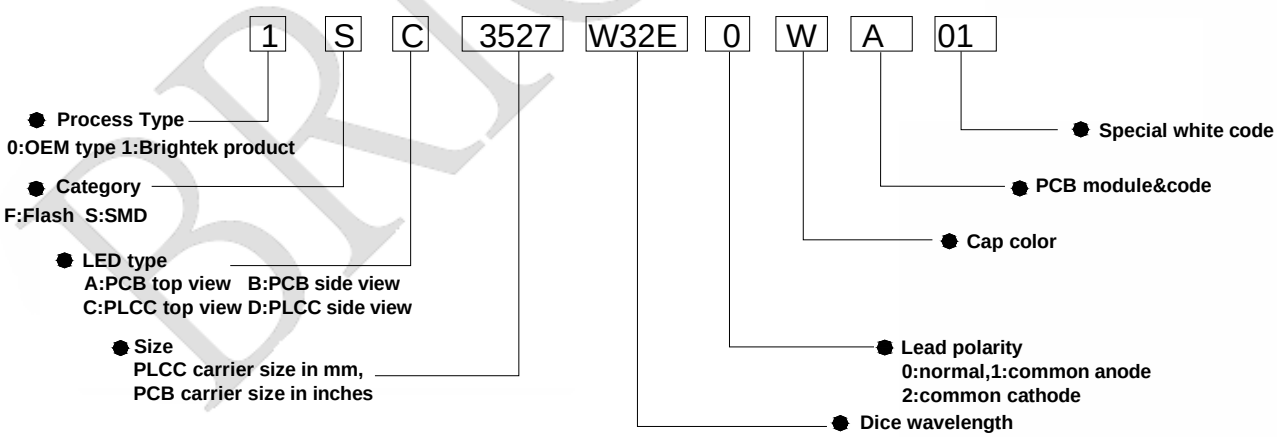
◆ Cool--white

Parameter	Symbol	Value			Unit	Test condition
		Min.	Typ.	Max.		
Forward Voltage	Vf	2.8	3.3	3.6	V	If=20mA
	IV	1650	2050	2450	Mcd	If=20mA
Lumen	Φ	5	6	7	lm	If=20mA
Wavelength	X	---	0.2809	---	---	If=20mA
	Y	---	0.2761	---	---	
Reverse Current	Ir	---	---	10	μA	Vr=5V
Viewing angle	2θ1/2	---	120	---	Deg	If=20mA
Color Rendering Index	CRI	---	70	---	%	If=20mA
Color Temperature	CCT	---	10000	---	K	If=20mA

1.Luminous intensity (IV) ±10%, Forward Voltage (VF) ±0.1V, Wavelength(X,Y) ±0.01, CRI±5.

2.IS standard testing

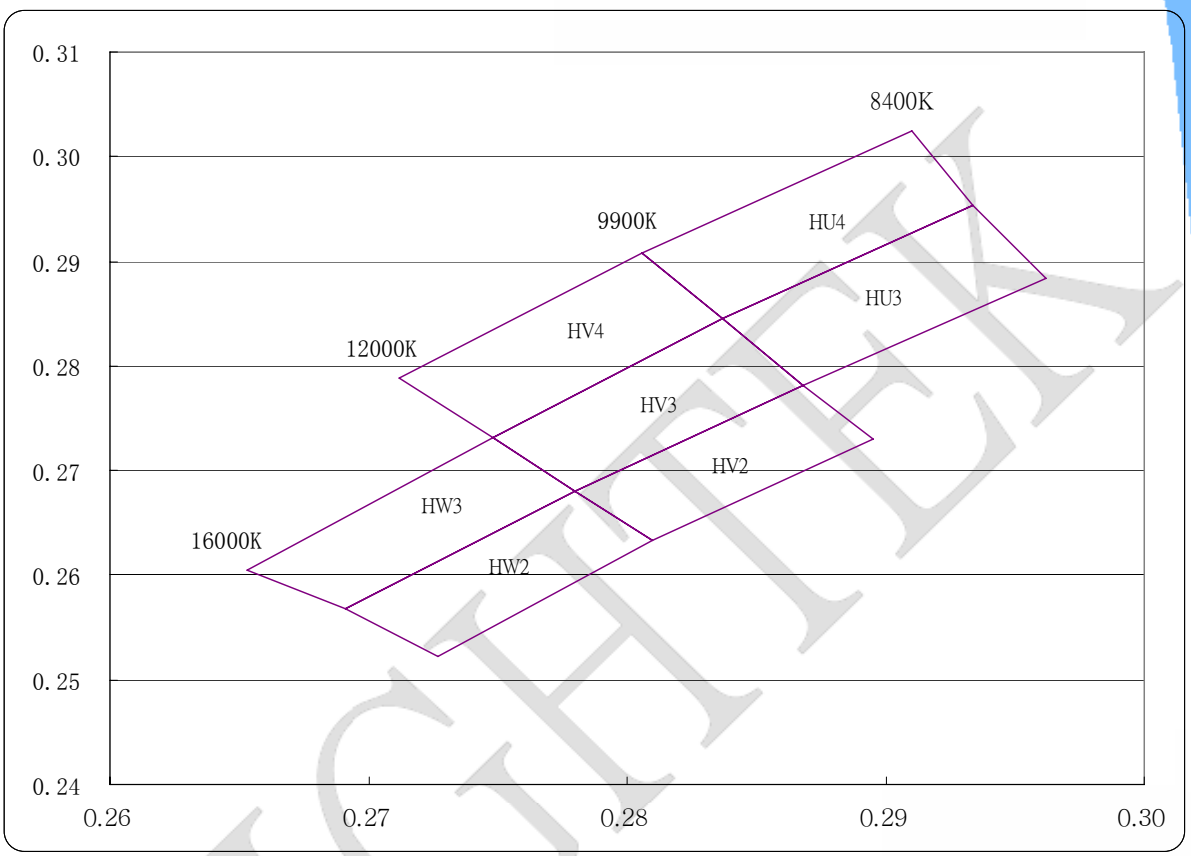
High Power Product Identification Code



Range of bins

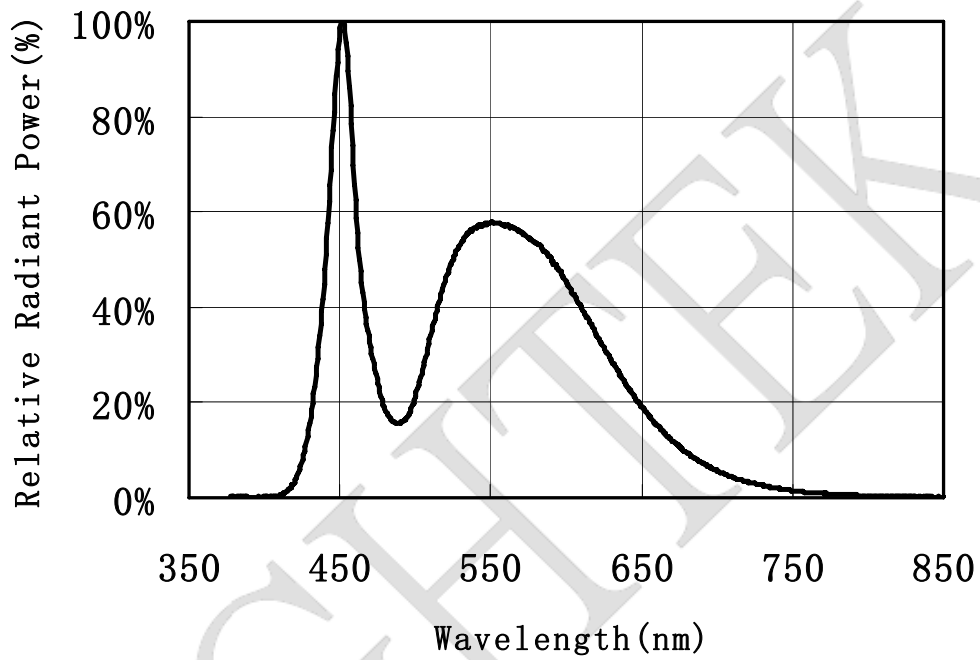
Bin	B	C	D	E	F	G	H
VF(v)	2.8-2.9	2.9-3.0	3.0-3.1	3.1-3.2	3.2-3.3	3.3-3.4	3.4-3.5
Bin	I						
VF(v)	3.5-3.6						
Bin	5	6	7	8			
IV(Mcd)	1650-1850	1850-2050	2050-2250	2250-2450			
Bin							
WL	HU3/4	HV2/3/4	HW2/3				

1SC3527W32E0WA01

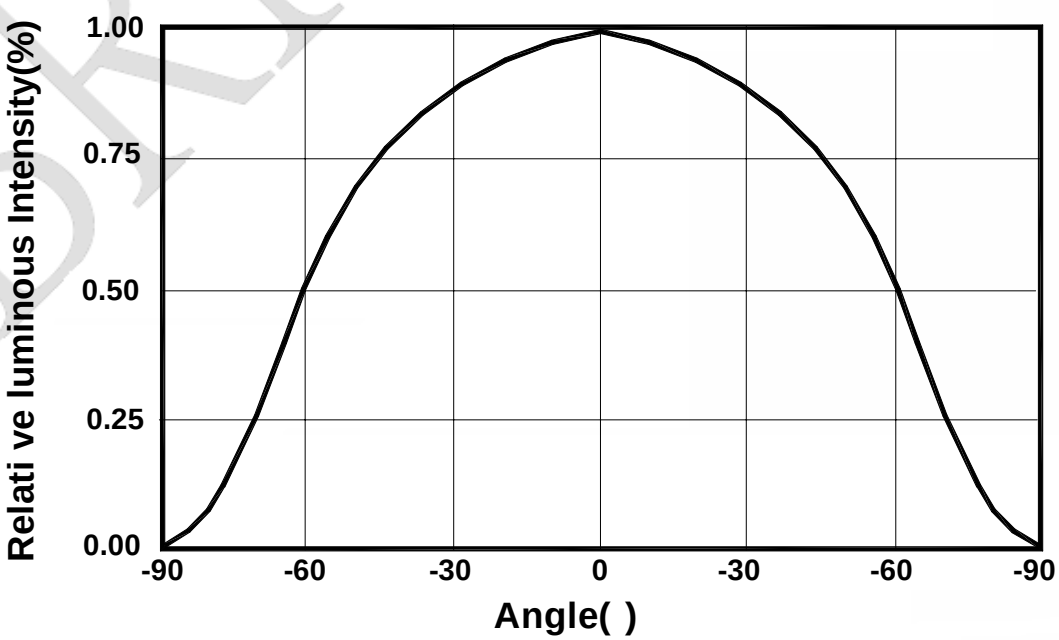


BIN 碼	X	Y	X	Y	X	Y	X	Y
HU3	0.2837	0.2845	0.2868	0.2781	0.2962	0.2884	0.2934	0.2954
HU4	0.2806	0.2908	0.2837	0.2845	0.2934	0.2954	0.2910	0.3024
HV2	0.2780	0.2680	0.2810	0.2634	0.2895	0.2730	0.2868	0.2781
HV3	0.2748	0.2732	0.2780	0.2680	0.2868	0.2781	0.2837	0.2845
HV4	0.2712	0.2788	0.2748	0.2732	0.2837	0.2845	0.2806	0.2908
HW2	0.2691	0.2568	0.2727	0.2523	0.2810	0.2634	0.2780	0.2680
HW3	0.2653	0.2605	0.2691	0.2568	0.2780	0.2680	0.2748	0.2732

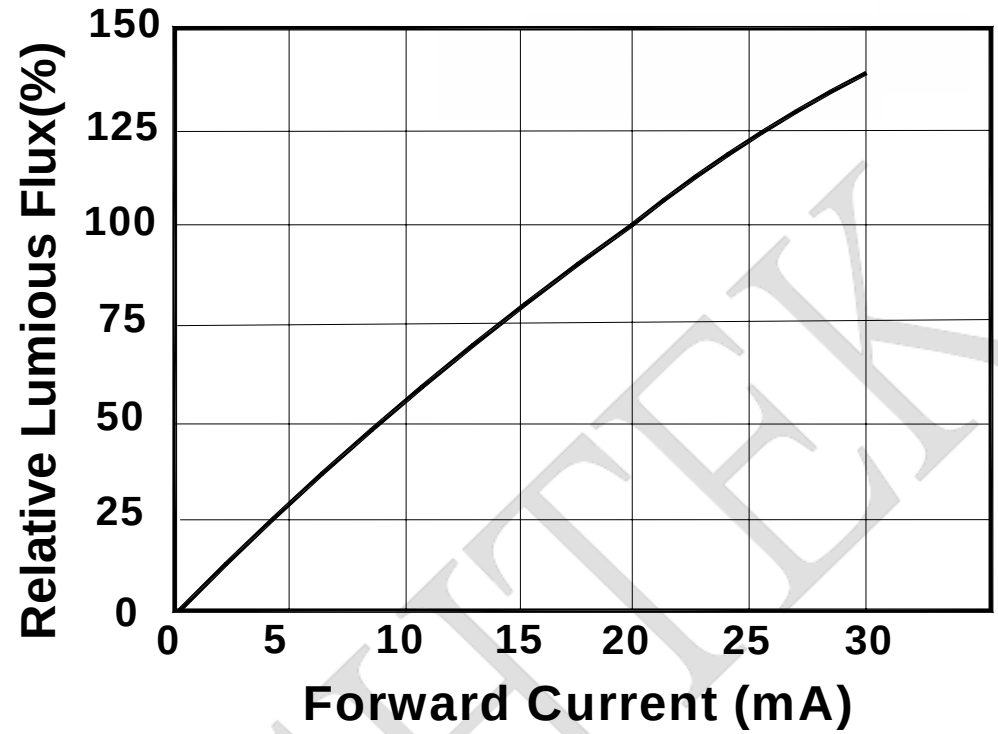
Relative Spectral Power Distribution



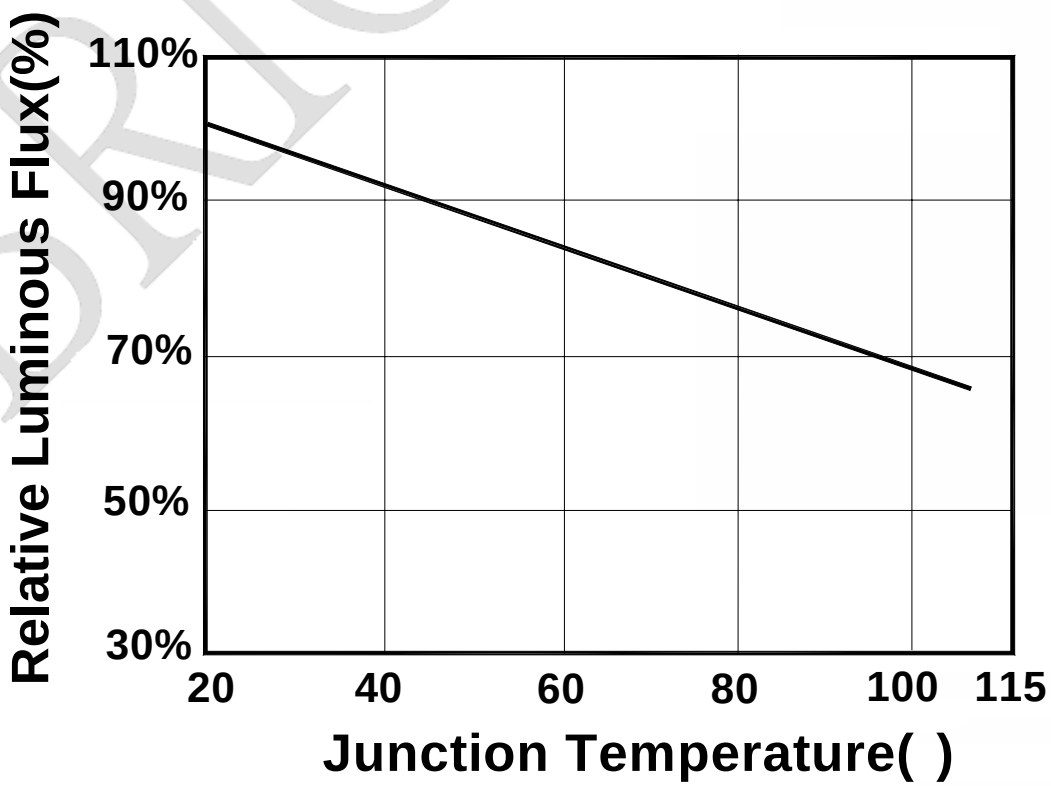
Typical Spatial Distribution



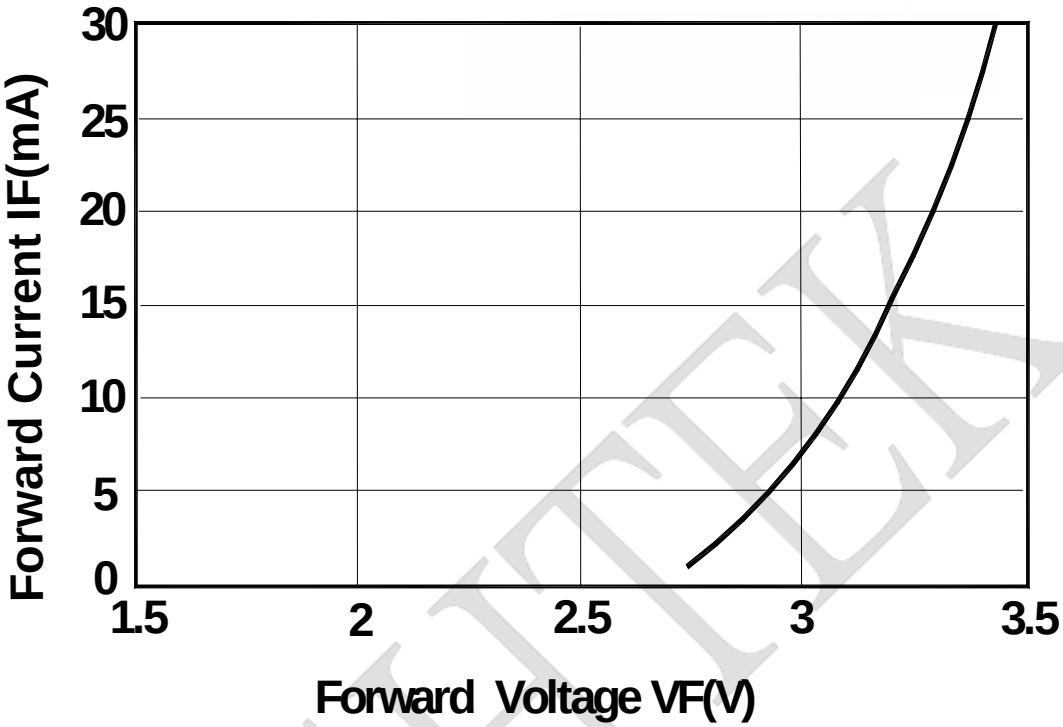
Relative Luminous Flux .Current



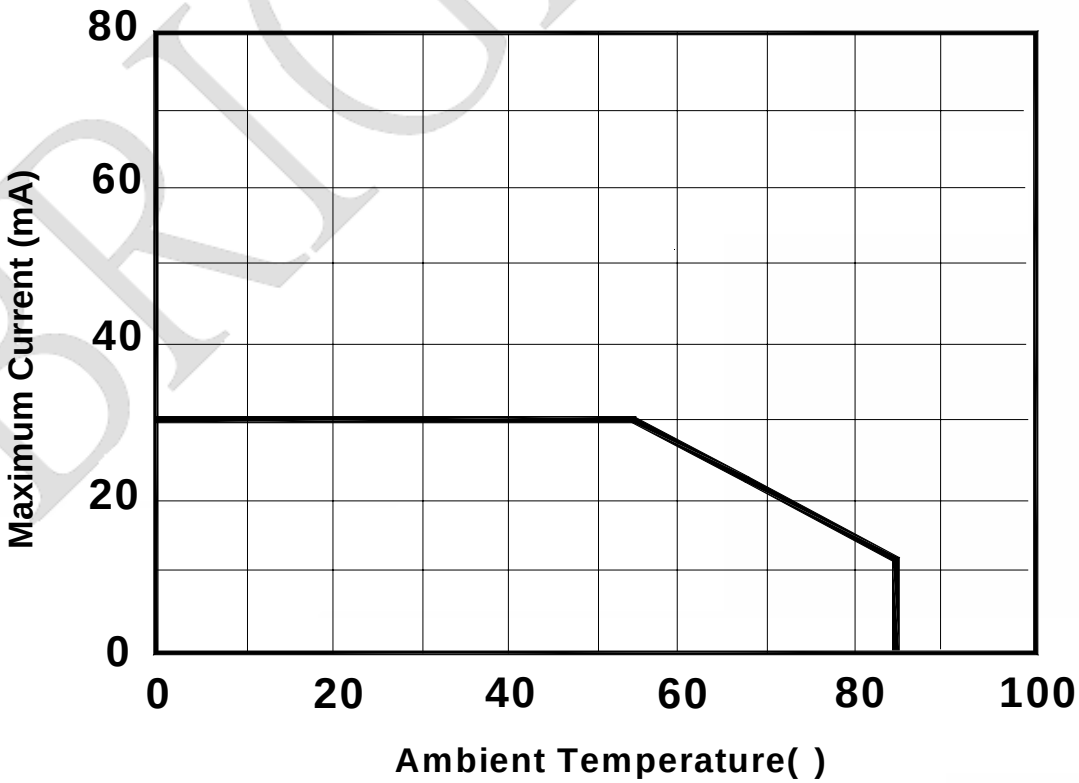
Relative Luminous Flux .Ambient Temperature



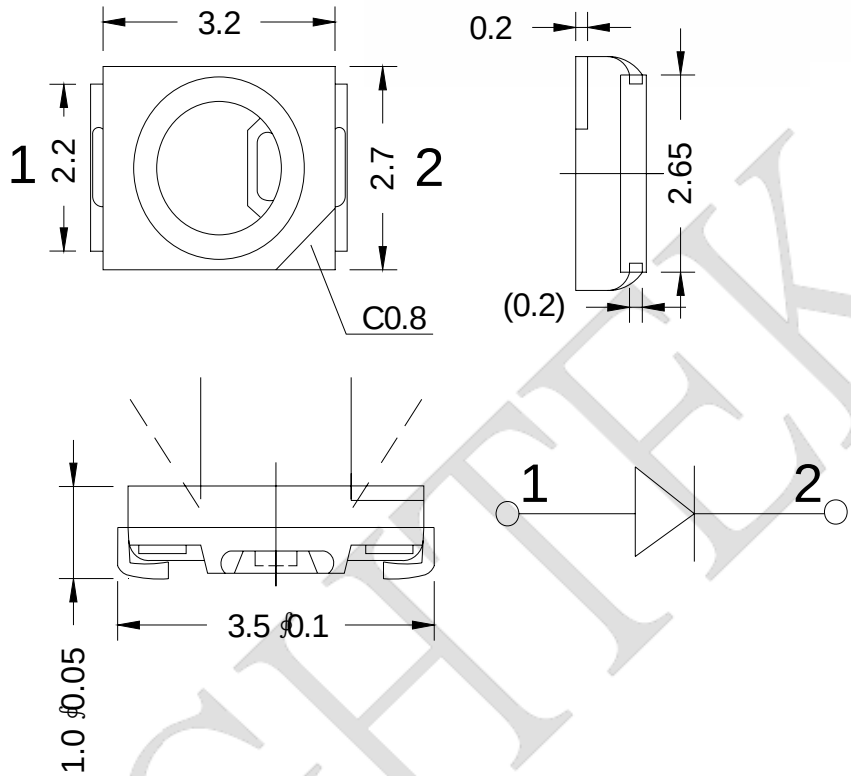
Electrical Characteristics



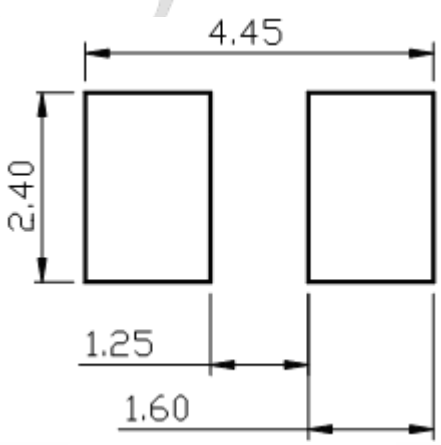
Thermal Design



Outline Dimensions



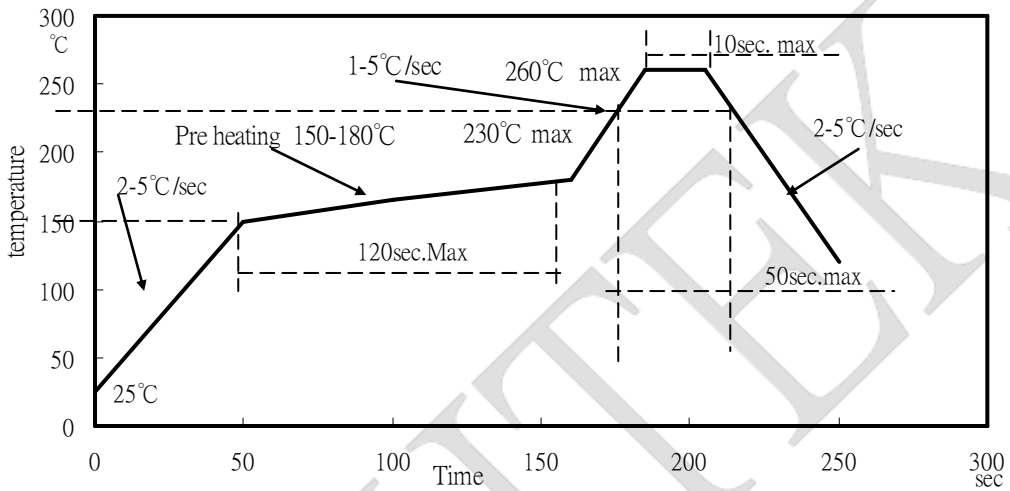
RECOMMEND PADLAYOUT



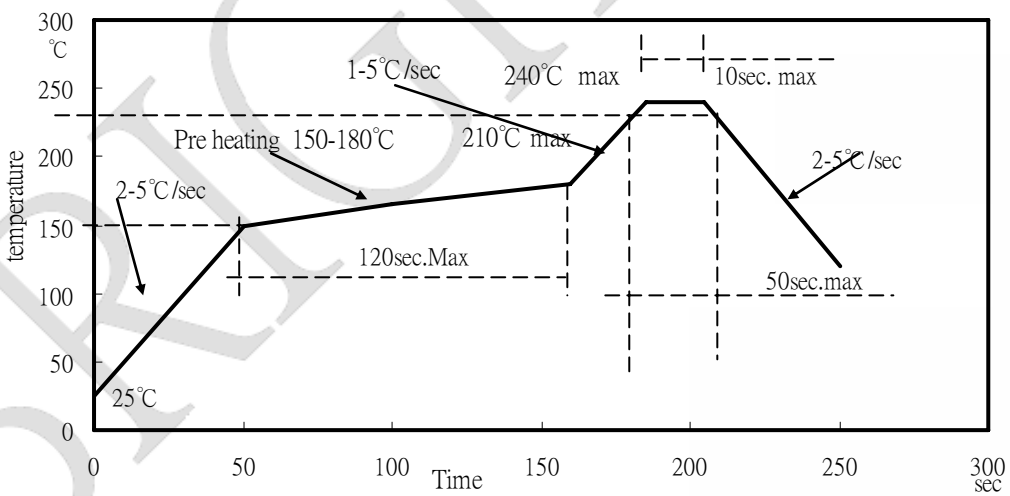
- All dimensions are in millimeters.
- Tolerance is ±0.1 ㎜ unless other specified
- Specifications are subject to change without notice.

Reflow Profile

IR reflow soldering Profile
Lead Free solder



IR reflow soldering Profile
Lead solder

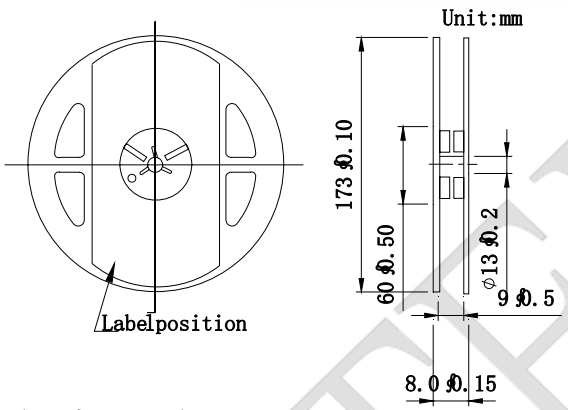


NOTES:

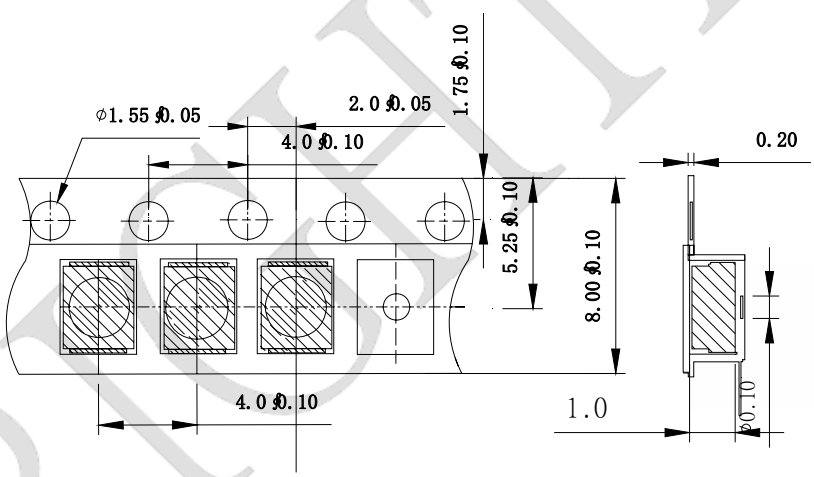
1. We recommend the reflow temperature 240℃(±5℃).the maximum soldering temperature should be limited to 260℃.
2. Don't cause stress to the silicone resin while it is exposed to high temperature.
3. Number of reflow process shall be 1 time.

3527 Single-Color High Performance SMD Top LEDs Packaging Specifications

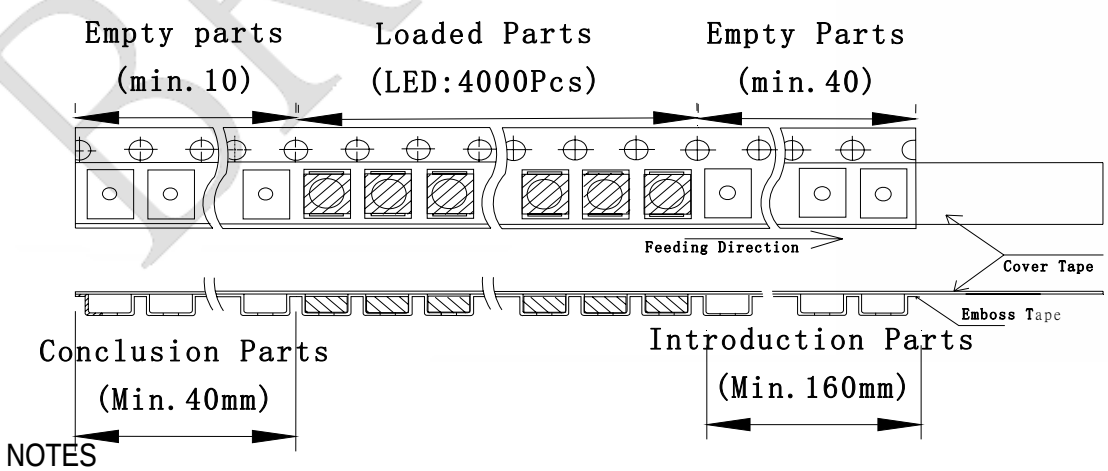
- **Dimensions of Reel (Unit: mm)**



- **Dimensions of Tape (Unit: mm)**



- **Arrangement of Tape**

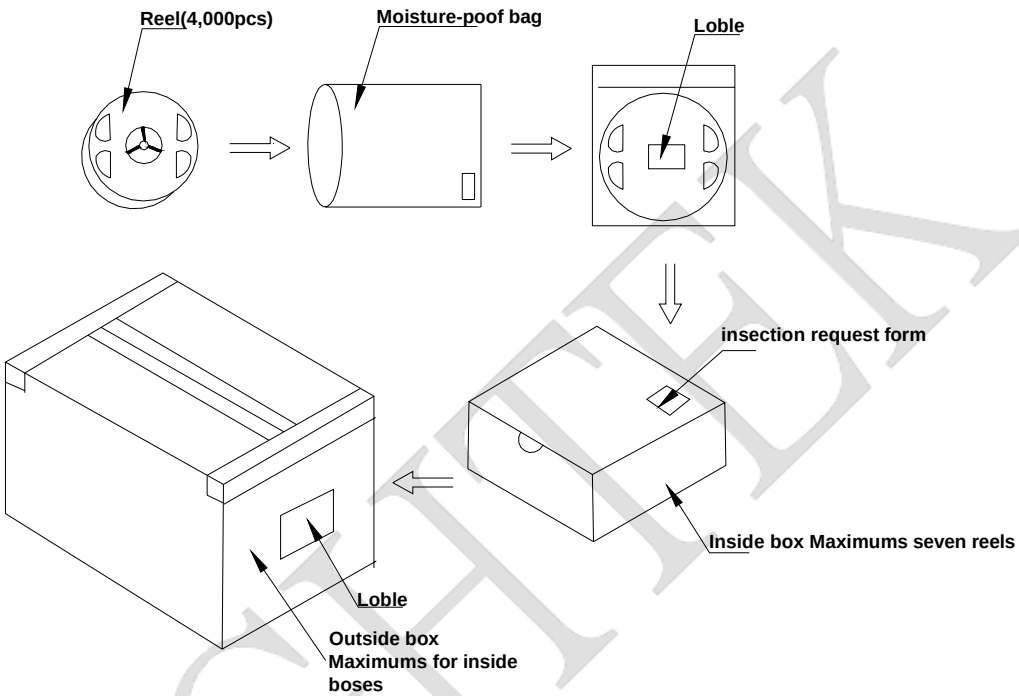


NOTES

1. Empty component pockets are sealed with top cover tape;
2. The maximum number of missing smd is two;
3. The cathode is oriented towards the tape sprocket hole in accordance with ANSI/EIA RS-481 specifications;
4. 4,000pcs/Reel

3527 Single-Color High Performance SMD Top LEDs Packaging Specifications

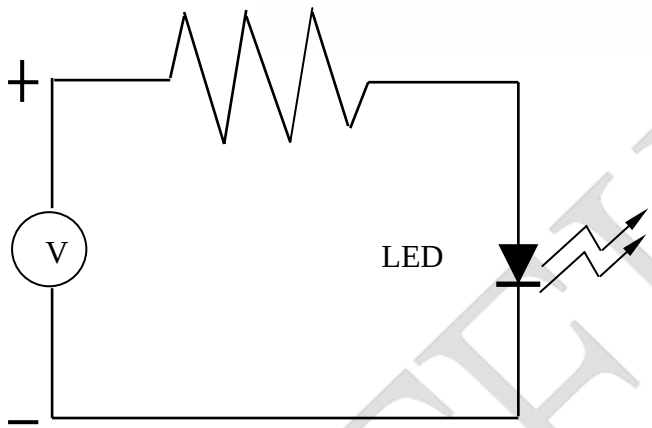
- Packaging specifications



NOTES:

Reeled products (The most numbers of products are4,000pcs) packed in a seal off moisture-proof bag along with a desiccant one by one, Seven moisture-proof bag of maximums (total maximum number of products are 28,000pcs) packed in an inside box (size: about 238mm x about 194mm x about 102mm) and four inside boxes of maximums are put in the outside box (size: about 410mm x about 254mm x about 229mm) Together with buffer material, and it is packed. (Part No., Lot No., quantity should appear on the label on the moisture-proof bag, part No. And quantity should appear on the insertion request form on the cardboard box.) .

■ Test circuit



■ Handling precautions

1. Over-current-proof

Customer must apply resistors for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).

2.Storage

2.1 It is recommended to store the products in the following conditions:

Humidity: 60% R.H. Max.

Temperature : 5℃~30℃(41℉~86℉)

2.2 Shelf life in sealed bag: 12 month at ＜5℃~30℃ and ＜60% R.H. after the package is Opened, the products should be used within a week or they should be keeping to stored at ≦20%R.H. with zip-lock sealed.

3.Baking

It is recommended to baking before soldering when the pack is unsealed after 24hrs. The Conditions are as followings:

3.1 70±3℃ x 24hrs and ＜5%RH, taped reel type

3.2 100±3℃ x 2hrs , bulk type

3.3 130±3℃ x(15~30min), bulk type

* It shall be normal to see slight color fading of carrier(light yellow) after baking in process

Collet

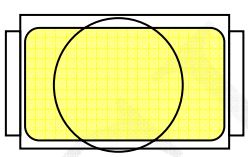
1、Abnormal situation caused by improper setting of collet

To choose the right collet is the key issue in improving the product's quality. LED is different from other electronic components, which is not only about electrical output but also for optical output. This characteristic made LED more fragile in the process of SMT. If the collet's lowering down height is not well set, it will bring damage to the gold wire at the time of collet's picking up and loading which will cause the LED fail to light up, light up now and then or other quality problems

2、How to choose the collet

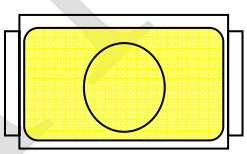
During SMT, please choose the collet that has larger outer diameter than the lighting area of lens, in case that improper position of collet will damage the gold wire inside the LED. Different collets fit for different products, please refer to the following pictures cross out:.

Outer diameter of collet should be larger than the lighting area



Picture 1（√）

Outer diameter of collet

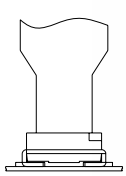


Picture 2（×）

3、How to set the height of collet

The reason why for top view SMD, the height of collet before it presses downward will directly affect the quality of products during SMT is that if the collect go down too much, it will press lens and cause the distortion or breaking of gold wire. The setting of collet position should follow the pictures belowed.

Picture 3（√）



Picture 4（×）

No.3、Other points for attention

A、No pressure should be exerted to the epoxy shell of the SMD under high temperature.

B、Do not scratch or wipe the lens since the lens and gold wire inside are rather fragile and cross out easy to break.

C、LED should be used as soon as possible when being taken out of the original package, and should be stored in anti-moisture and anti-ESD package.

No.4、This usage and handling instruction is only for your reference.