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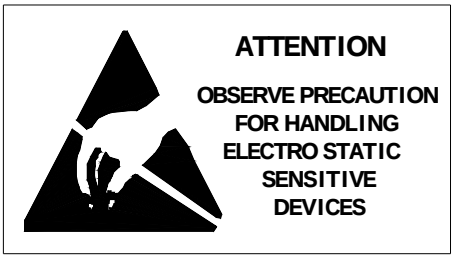
SPECIFICATION

PART NO. : WT0402-B470-0100

0402 SMD CHIP LED

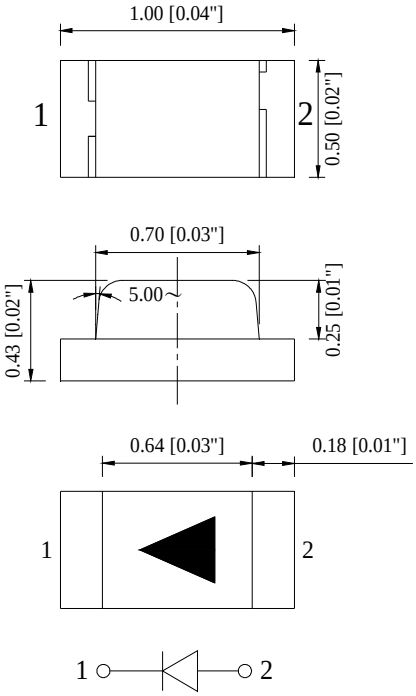


Approved by	Checked by	Prepared by
Kj	*Lian*	*Wing*

MODIFY RECORD

TAKE EFFECT DATE	MODIFY ISSUES	REMARKS

Package Dimensions



Notes:

1. All dimensions are in mm.
2. Tolerance is ±0.1mm unless otherwise noted.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
WT0402-B470-0100	InGaN/GaN	Blue	Water transparent

Absolute Maximum Ratings at Ta=25 ℃

Parameter	Symbol	Value	Unit
Power dissipation	Pd	108	mW
Forward current	If	30	mA
Reverse voltage	Vr	5	V
Operating temperature	Top	-40 ~+80	℃
Storage temperature	Tstg	-40 ~+85	℃
Peak pulsing current (1/8 duty f=1kHz)	Ifp	125	mA

Electrical and Optical Characteristics:

Parameter	Test Condition	Symbol	Value			Unit
Wavelength at peak emission	If=20mA	λp	--	464	--	nm
Spectral half bandwidth	If=20mA	△λ	--	26	--	nm
Dominant wavelength	If=20mA	λd	464	--	474	nm
Forward voltage	If=20mA	Vf	2.8	--	3.6	V
Luminous intensity	If=20mA	Iv	100	145	--	mcd
Viewing angle at 50% Iv	If=10mA	2θ1/2	--	120	--	Deg
Reverse current	Vr=5V	Ir	--	--	10	μA

Notes:1. Tolerance of Luminous Intensity is ±15%

2. Tolerance of Forward Voltage is ±0.1V

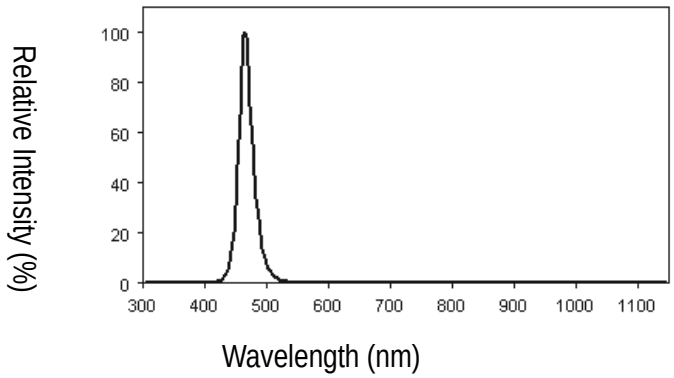
3. Tolerance of Dominant Wavelength is ±1nm

4. Customer's special requirements are also welcome.

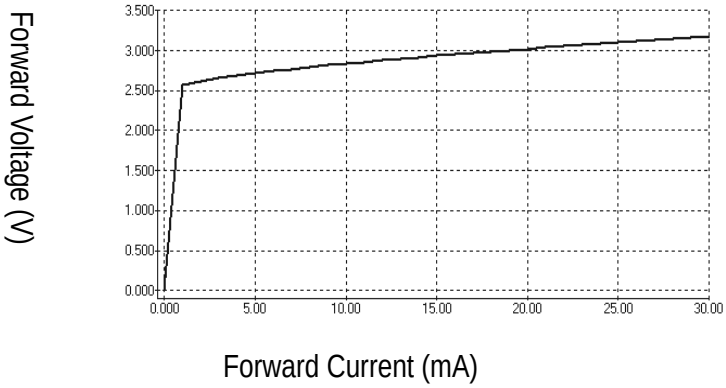
Typical Electrical/Optical Characteristic Curves

(25℃ Ambient Temperature Unless Otherwise Noted)

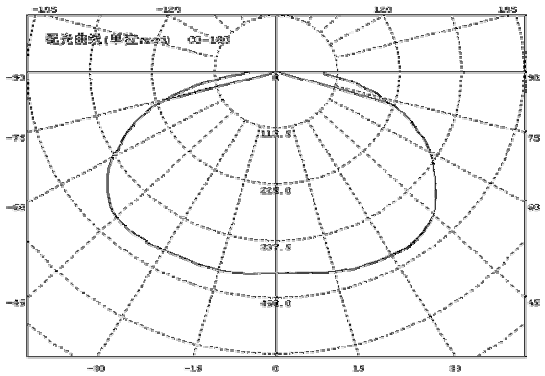
Relative Intensity vs. Wavelength



Forward Current vs. Forward



Directive Characteristics



Forward Voltage Rank Combination (IF=20mA)

Rank	Min.	Max.	Unit
H	2.8	2.9	V
I	2.9	3.0	
J	3.0	3.1	
K	3.1	3.2	
L	3.2	3.3	
M	3.3	3.4	
N	3.4	3.5	
O	3.5	3.6	

Luminous Intensity Rank Combination (IF=20mA)

Rank	Min.	Max.	Unit
J	100	125	mcd
K	125	160	
L	160	200	
M	200	250	
N	250	--	

Dominant wavelength Rank Combination (IF=20mA)

Rank	Min.	Max.	Unit
Bh	464	466	nm
Bi	466	468	
Bj	468	470	
Bk	470	472	
Bl	472	474	

Notes:

1. The tolerance of luminous intensity (Iv)is ±15% .
2. The tolerance of dominant wavelength is±1nm.
3. This specification is preliminary.
4. This specification is a standard specification of our factory, can make in accordance with customer's special requirement.

Precautions in Use:

Storage

It is recommended to store the products in the following conditions:
Humidity: 60% R.H. Max. Temperature : 5℃~30℃(41℉~86℉)
Shelf life in sealed bag: 12 month at ＜5℃~30℃ and ＜30% 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.

Soldering

Basic spec is ≤ 5sec when 320℃(±20℃). If temperature is higher, time should be shorter(+10℃ à -1sec).Power dissipation of iron should be smaller than 20W, and temperatures should be controllable .Surface temperature of the device should be under 350℃.

Cleaning

Surface condition of this device may change when organic solvents such as trichloroethylene or acetone were applied.

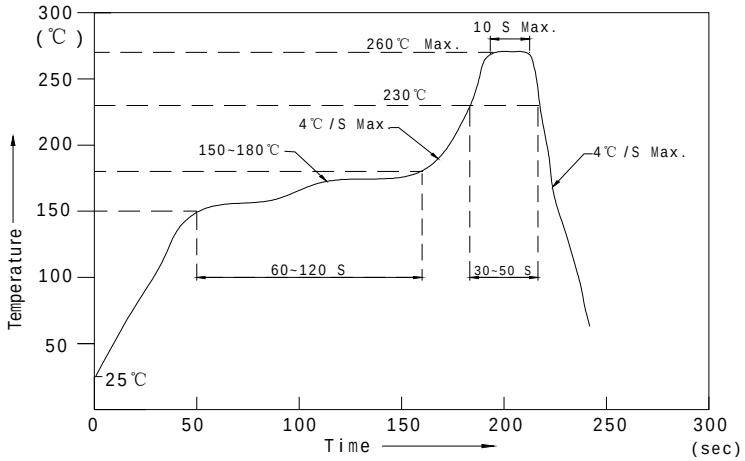
Avoid using organic solvent.

Recommend ultrasonic method 300W Max.

Packaging

EIA-481A standard package.
In 8mm tape on 3000 pcs diameter reels sealed in vapor/ESD barrier bags.

Reflow Temp/Time:



Notes:

1.We recommend the reflow temperature 245℃(±5℃).the maximum soldering temperature should be limited to 260℃.
2.Don't cause stress to the epoxy resin while it is exposed to high temperature.
3.Number of reflow process shall be 2 times or less.

Sulfur-sensitive

- **There is silver-plated metal part on the inner/outer side of the outer package. If exposed to the condition with corrosive gas, the silver plating surface may go bad, which will affect soldering strength and optical properties. Therefore, after opening it must be kept in a sealed container, etc.**
- **Materials contain sulfur component (gasket, adhesive, etc.) may have bad effects on the surface of the coating, so please do not use such materials in the product.**
- **In cardboard boxes and rubber, even in the atmosphere may contain minute amount of corrosive gases; In addition, the resin material may also contain halogen which has a bad effect on the surface of the coating.**
- **Even if the soldering installation and product assembly finished, by the effect of corrosive gas generated by relative materials of LED and external injected, the coating surface may go bad, so it is necessary to design the product taking into account the above factors.**
- **If requires, it is best to use a silicone washer, but be aware that low molecular silicone may cause the product poor contact.**
- **Keep the product in location where has less temperature change, because moisture condensation would be generated under a condition of strong temperature change.**

DISCLAIMER

1. Our department reserves the right(s) on the adjustment of product material mix for the specification.

2.The product meets our department published specification for a period of twelve (12) months from date of shipment.

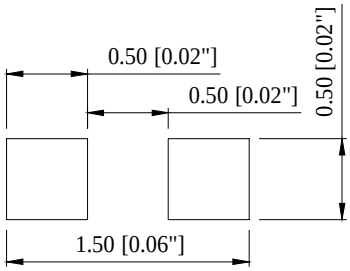
3.The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.

4.When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. Our department assumes no responsibility for any damage resulting from the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.

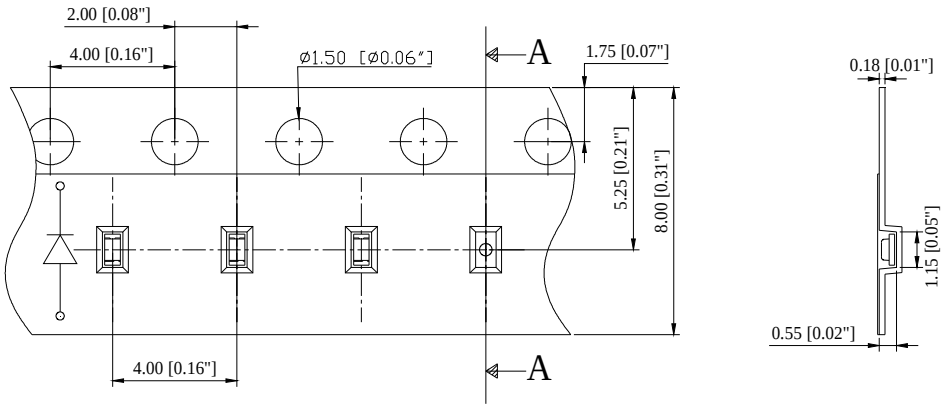
5.These specification sheets include materials protected under copyright of our department. Reproduction in any form is prohibited without obtaining our department's prior consent.

6.This product is not intended to be used for military, aircraft, automotive, medical, life sustaining or life saving applications or any other application which can result in human injury or death.

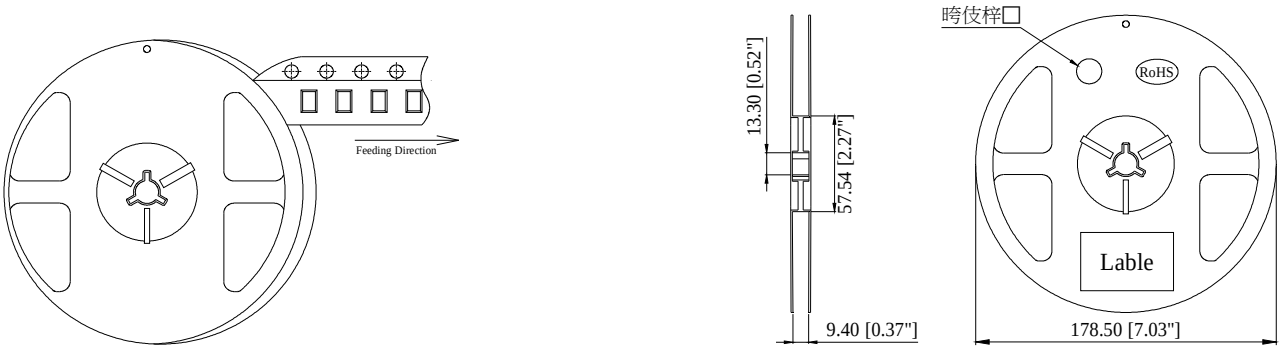
Reflow Soldering Pad Dimensions



Dimensions for Tape



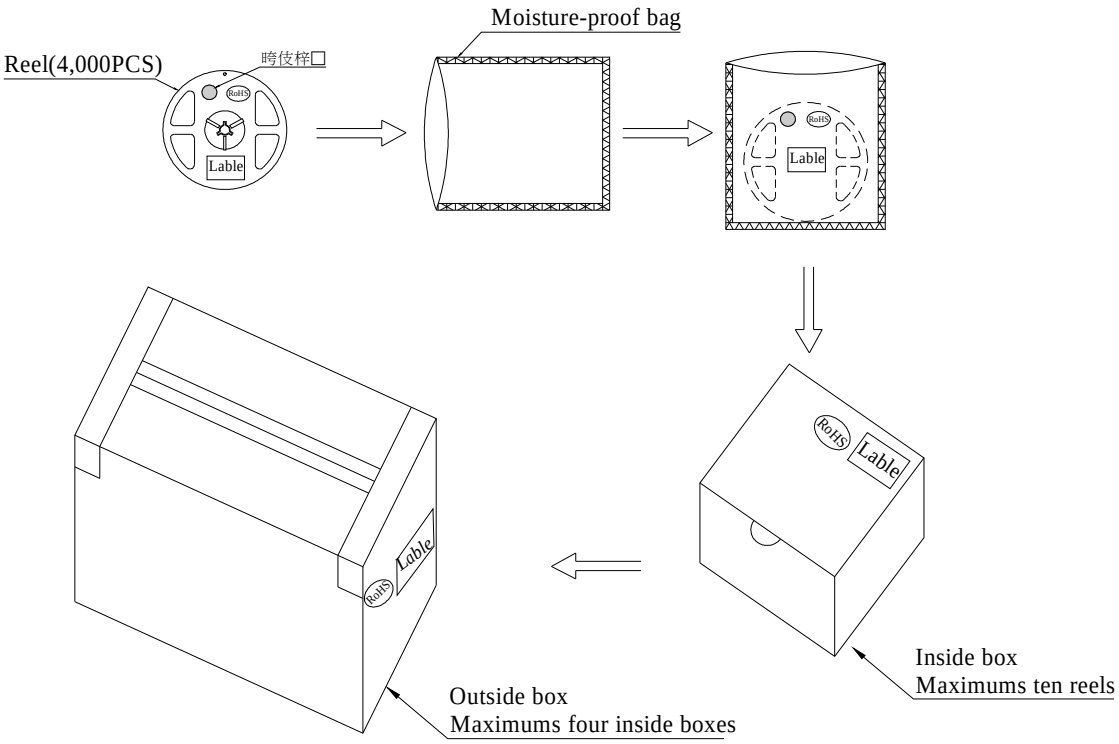
Dimensions for Reel



Notes:

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

Dimensions for Tape



Notes:

Reeled products (numbers of products are 4,000pcs) packed in a seal off moisture-proof bag along with a desiccant one by one, ten moisture-proof bag of maximums (total maximum number of products are 40,000pcs) packed in an inside box (about size: 240x 220x 120mm) and four inside boxes of maximums are put in the outside box (about size: 460mm x 246mm x 250mm) 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 label on the cardboard box.) The number of the loading steps of outside box (cardboard box) has it to three steps.