

# YETDA INDUSTRY LTD.

## Technical Data Sheet

**MODEL NO : S150ANW4-R**

Features :

- Package in 8mm tape on 7" diameter reel
- Compatible with automatic placement equipment
- Compatible with reflow solder process
- Reverse Mount

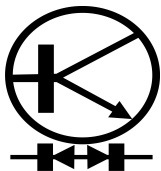
Applications :

- Indicators
- Automotive : backlighting in dashboard and switch
- Backlight for LCD

Dice material	Emitted color	Lens Color
InGaN/GaN	White	Yellow

Electrical /Optical Characteristics(Ta=25°C)

Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Spectral half bandwidth	I <sub>F</sub> =20mA	$\Delta \lambda$	X	0.2517	0.2948	nm
			Y	0.2292	0.3507	
Forward voltage	I <sub>F</sub> =20mA	V <sub>F</sub>	2.8		3.6	V
Luminous intensity	I <sub>F</sub> =20mA	I <sub>v</sub>	400	550		mcd
Viewing angle at 50% I <sub>v</sub>	I <sub>F</sub> =10mA	2θ 1/2		140		Deg
Reverse current	V <sub>R</sub> =5V	I <sub>R</sub>			10	μA

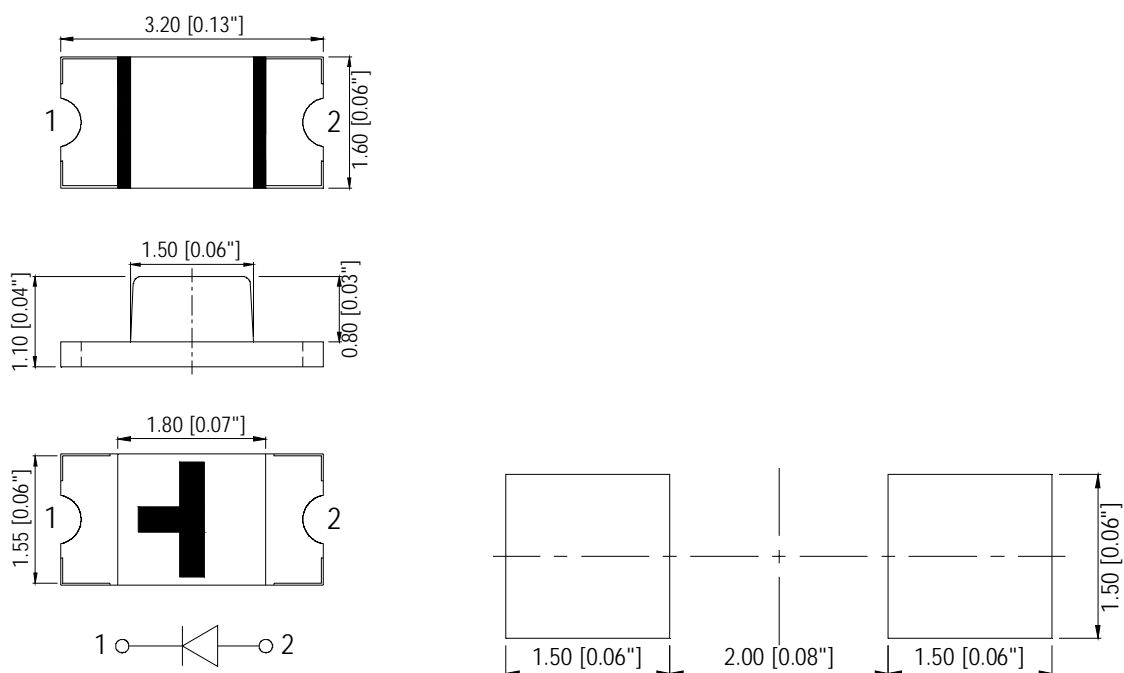


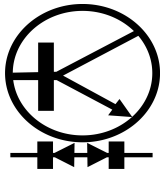
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Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Value	Unit
Power dissipation	Pd	108	mW
Forward current	I <sub>F</sub>	30	mA
Reverse voltage	V <sub>R</sub>	5	V
Operating temperature range	T <sub>op</sub>	-40 ~+80	°C
Storage temperature range	T <sub>stg</sub>	-40 ~+85	°C
Peak pulsing current (1/8 duty f=1kHz)	I <sub>FP</sub>	125	mA

## PACKAGING DIMENSIONS (mm):

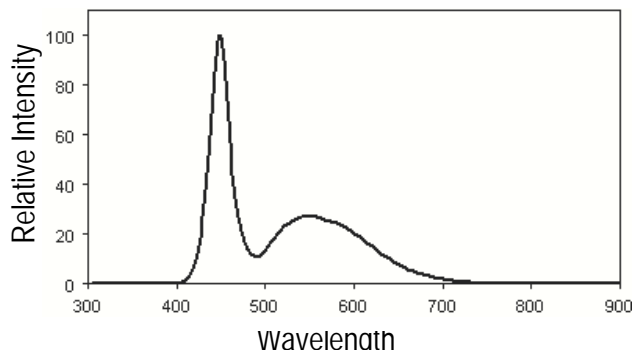




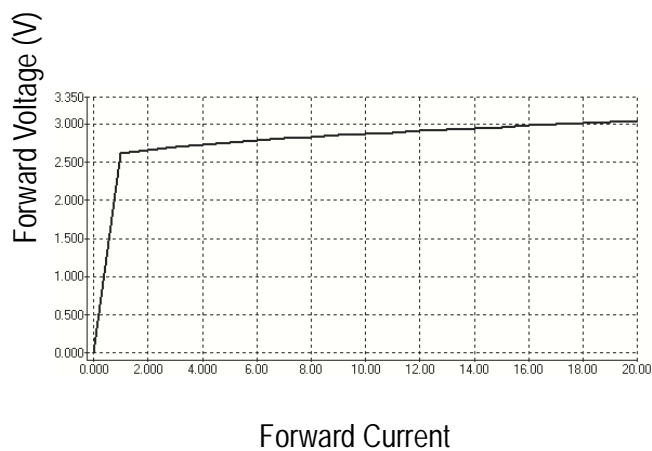
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## Optical Characteristic Curves

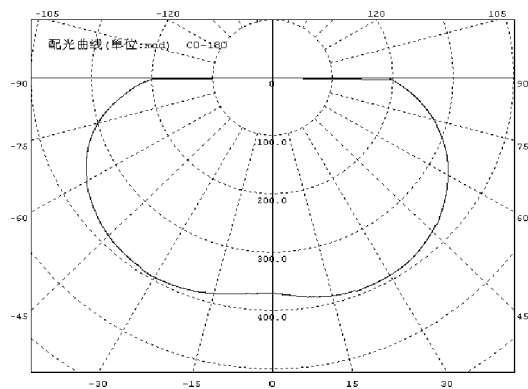
Relative Intensity vs.

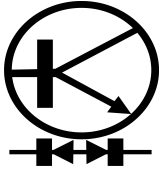


Forward Current vs. Forward



Directive Characteristics

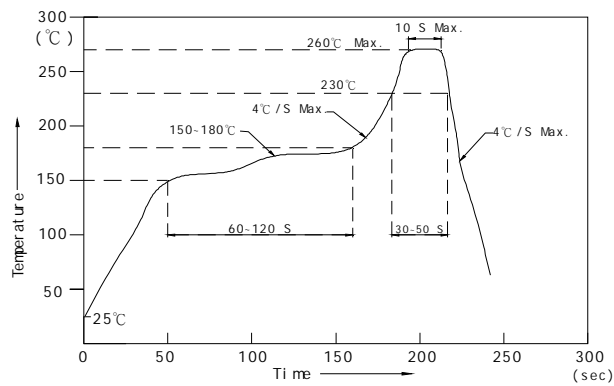




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## Reflow Profile

### ■ Reflow Temp/Time



### Notes:

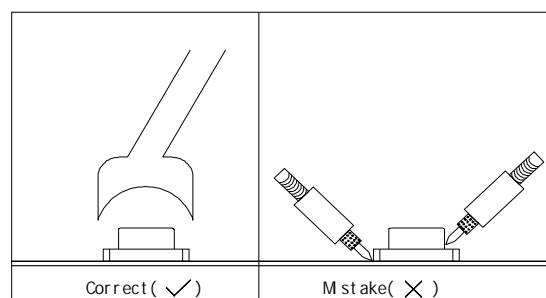
1. We recommend the reflow temperature  $245^{\circ}\text{C} (\pm 5^{\circ}\text{C})$ . the maximum soldering temperature should be limited to  $260^{\circ}\text{C}$ .
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

### ■ Soldering iron

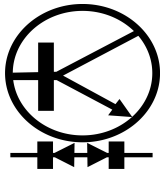
Basic spec is  $\leq 5\text{sec}$  when  $320^{\circ}\text{C} (\pm 20^{\circ}\text{C})$ . If temperature is higher, time should be shorter ( $+10^{\circ}\text{C} \rightarrow -1\text{sec}$ ). Power dissipation of iron should be smaller than 20W, and temperatures should be controllable. Surface temperature of the device should be under  $350^{\circ}\text{C}$ .

### ■ Rework

1. Customer must finish rework within 5 sec under  $340^{\circ}\text{C}$ .
2. The head of iron cannot touch copper foil
3. Twin-head type is preferred.



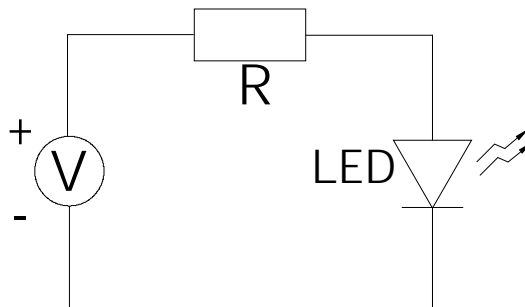
- Avoid rubbing or scraping the resin by any object, during high temperature, for example reflow solder etc.



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## Test circuit and handling precautions

### ■ 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 :  $5^{\circ}\text{C} \sim 30^{\circ}\text{C}$  ( $41^{\circ}\text{F} \sim 86^{\circ}\text{F}$ )

##### 2.2 Shelf life in sealed bag: 12 month at $< 5^{\circ}\text{C} \sim 30^{\circ}\text{C}$ 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  $\leq 20$  R.H. with zip-lock sealed.

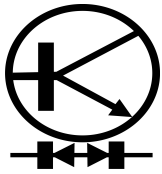
#### 3. Baking

It is recommended to baking before soldering when the pack is unsealed after 72hrs. The Conditions are as followings:

3.1  $60 \pm 3^{\circ}\text{C}$  x(12~24hrs) and  $< 5\%$ RH, taped reel type

3.2  $100 \pm 3^{\circ}\text{C}$  x(45min~1hr), bulk type

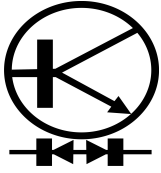
3.3  $130 \pm 3^{\circ}\text{C}$  x(15~30min), bulk type



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## Test items and results of reliability

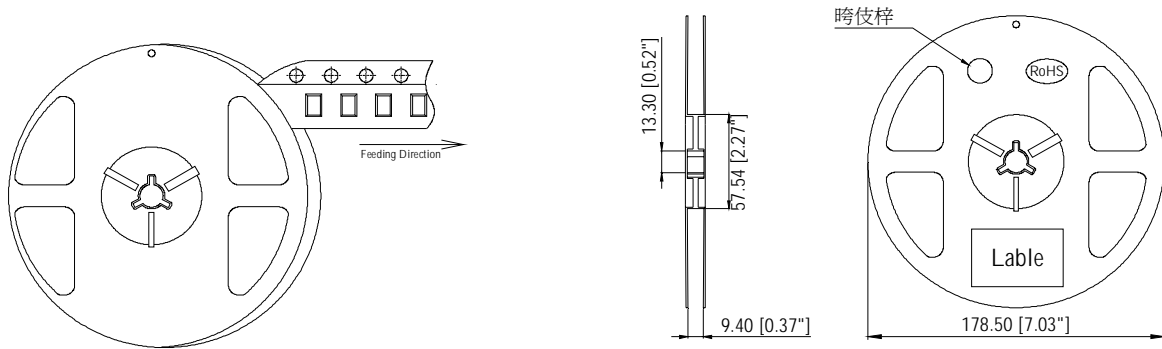
Type	Test Item	Test Conditions	Note	Number of Damaged
Environmental Sequence	Temperature Cycle	-40°C 30min ↑→(25°C/5min) ↓ 100°C 30min	100 cycle	0/22
	Thermal Shock	-40°C 15min ↑ ↓ 100°C 15min	100 cycle	0/22
	High Humidity Heat Cycle	30°C ↔ 65°C 90%RH 24hrs/1cycle	10 cycle	0/22
	High Temperature Storage	Ta=100°C	1000 hrs	0/22
	Humidity Heat Storage	Ta=60°C RH=95%	1000 hrs	0/22
	Low Temperature Storage	Ta=-40°C	1000 hrs	0/22
Operation Sequence	Life Test	Ta=25°C IF=20mA	1000 hrs	0/22
	High Humidity Heat Life Test	60°C RH=95% IF=10mA	500 hrs	0/22
	Low Temperature Life Test	Ta=-20°C IF=20mA	1000 hrs	0/22



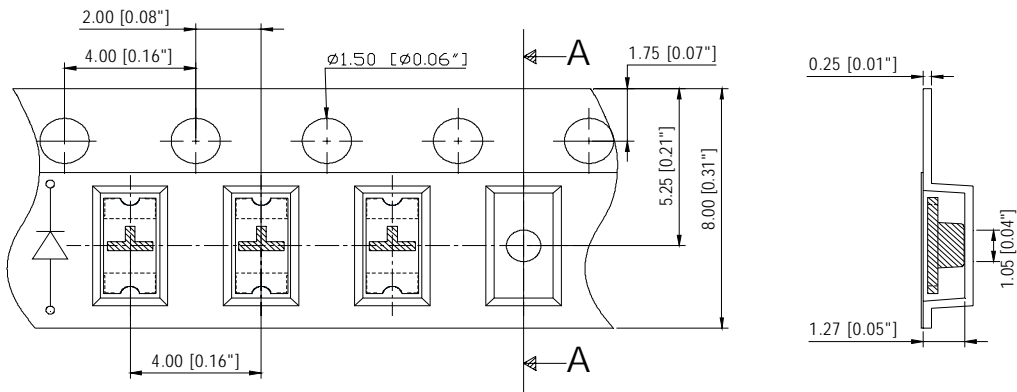
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## 150 Series SMD Chip LED Lamps Packaging Specifications

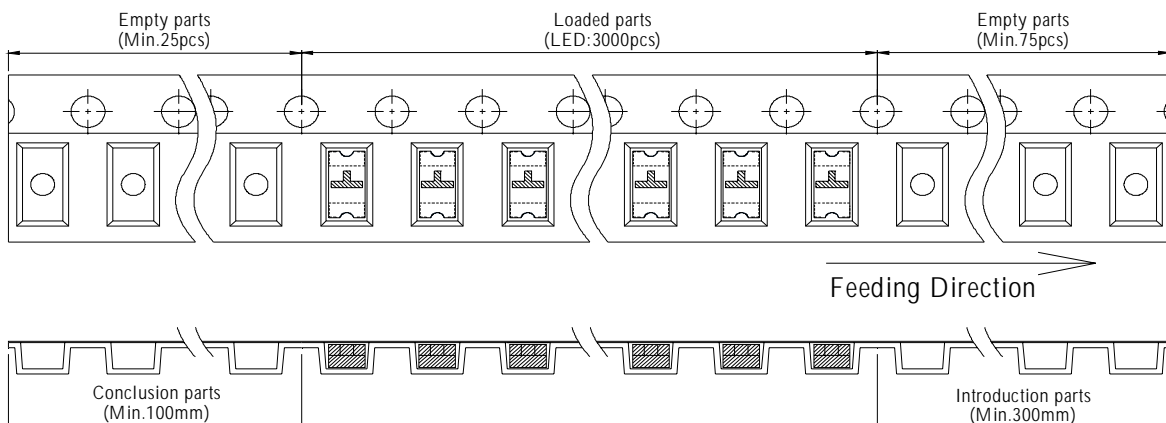
- Dimensions of Reel (Unit: mm)

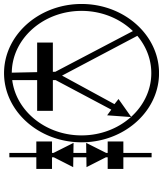


- Dimensions of Tape (Unit: mm)



- Arrangement of Tape





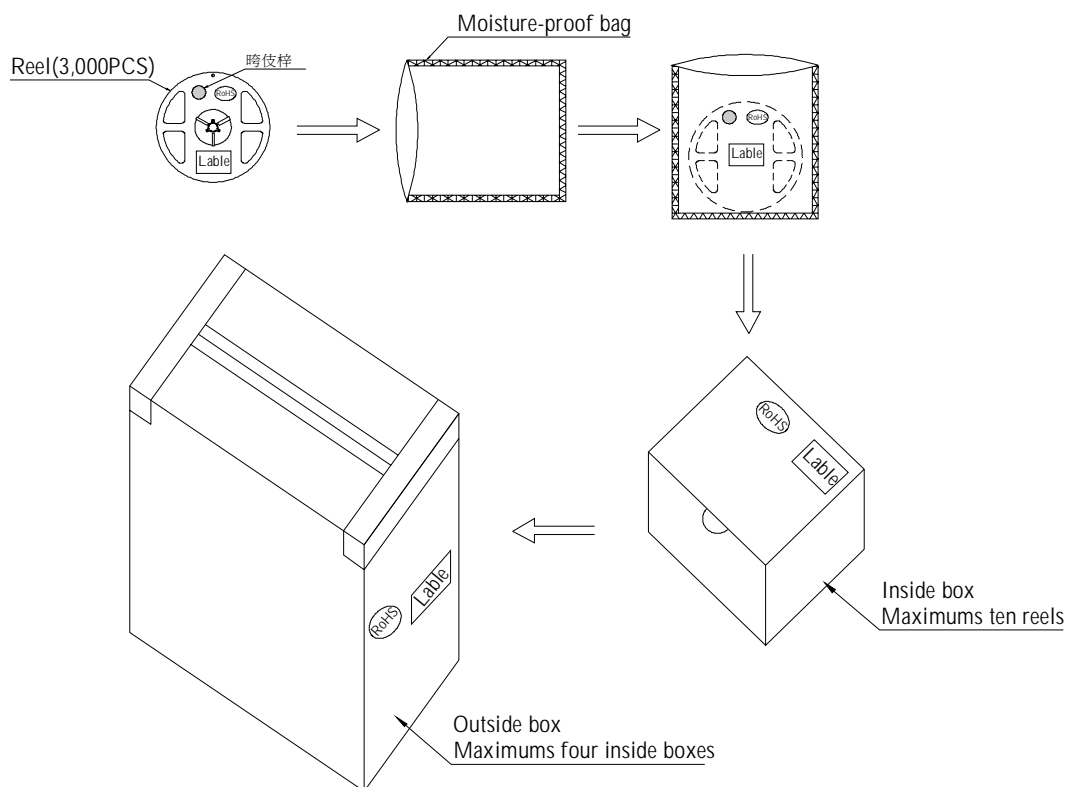
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## Notes:

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. 3,000 pcs/Reel.

## 150 Series SMD Chip LED Lamps Packaging Specifications

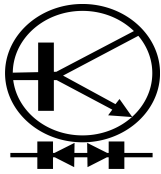
- Packaging specifications



## Notes:

Reeled products (numbers of products are 3,000pcs) 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 30,000pcs) 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





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## 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
P	400	500	mcd
Q	500	630	
R	630	800	
S	800	--	

## Dominant wavelength Rank Combination (IF=20mA)

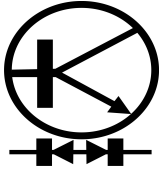
Rank	Chromaticity coordinates				
	A8	X	0.2612	0.2517	0.2611
	Y	0.2292	0.2338	0.2524	0.2463
B2	X	0.2697	0.2611	0.2701	0.2777
	Y	0.2463	0.2524	0.2704	0.2621
B5	X	0.2777	0.2701	0.2794	0.2855
	Y	0.2621	0.2704	0.2871	0.2769
B8	X	0.2855	0.2794	0.2898	0.2948
	Y	0.2769	0.2871	0.3057	0.2943

## Group Name on Label ( Example DATA: JQB2 20 )

DATA: JQB2 20	Vf(V)	Iv (mcd)	CIE(X,Y)	Test Condition
J→Q→B2→20	3.0~3.1	500~630	X(0.2611~0.2777),Y(0.2463~0.2704)	IF=20mA

## Notes:

- 1.The tolerance of luminous intensity (Iv )is  $\pm 15\%$  .
2. The tolerance of CIE Coordinates(X,Y)  $\pm 0.01$ .
- 3.This specification is preliminary.
- 4.This specification is a standard specification of our factory,  
can make in accordance with customer's special requirement.



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XY chromaticity coordinate

