

DATASHEET

WR-2835T05-80N3



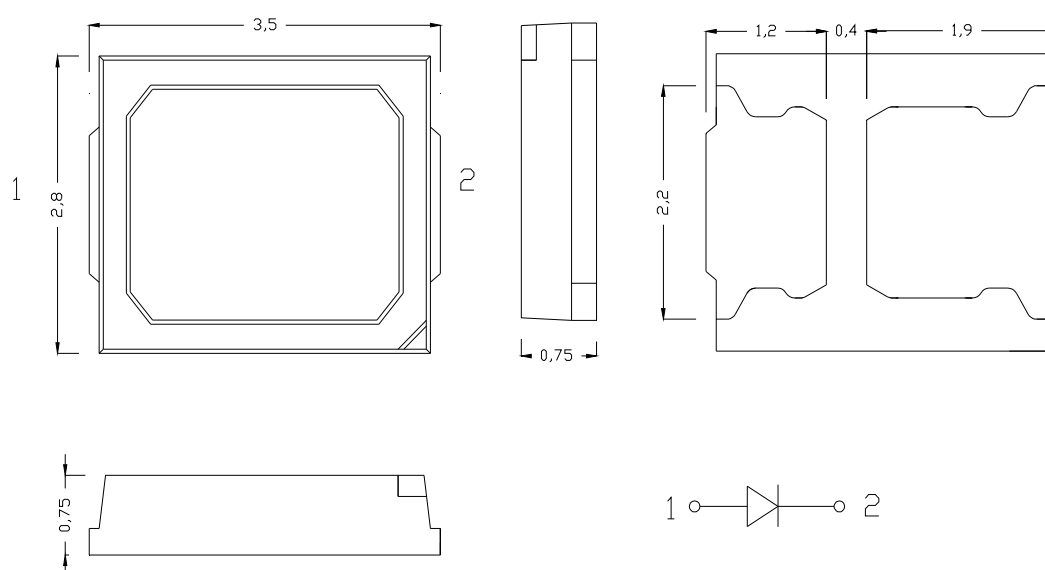
ATTENTION

OBSERVE PRECAUTIONS
ELECTROSTATIC
SENSITIVE DEVICES

OPTOELECTRONIC

- ◆ Viewing angle:120 deg.
- ◆ The materials of the LED dice is InGaN.
- ◆ 3.50mm×2.80mm×0.80mm.
- ◆ RoHS compliant lead-free soldering compatible.

Package outline



Notes:

- 1.All dimensions are in millimeters.
- 2.Tolerances are
X.X ± 0.1 ;
X.XX ± 0.05 .

Absolute maximum ratings at Ta=25°C

Parameter	Symbol	Absolute Maximum Rating	Unit
Continuous Forward current	I _f	40	mA
Power Dissipation	PD	760	mW
Pulse Forward Current	I _{fp}	60	mA
Solder Point temperature	T _{op}	85	°C
Storage temperature range	T _{stg}	-40 ~+100	°C
Junction Temperature	T _j	115	°C

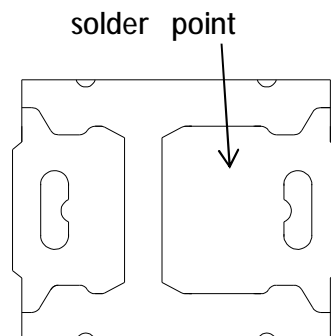
Electro-optical characteristics at Ta=25°C

Parameter	Symbol	MIN.	TYP.	MAX.	Test Condition	Unit
Forward Voltage	V _F	18	/	20	I _F = 30mA	V
Reverse Current	I _R	/	/	10		μA
Luminous Flux	Φ _v	56	60	/		lm
Color Rendering Index	R _a	80	/	85		/
View Angle	2θ _{1/2}	/	120	/		°
Chromaticity Coordinates	X	/	0.3818	/		/
	Y	/	0.3797	/		/
Correlated Color Temperature	CCT	/	3982	/		K
Thermal resistance	R _{thj,s}	/	40	45		°C/W
Electrostatic Discharge	ESD	1000 (HBM)	/	/		/

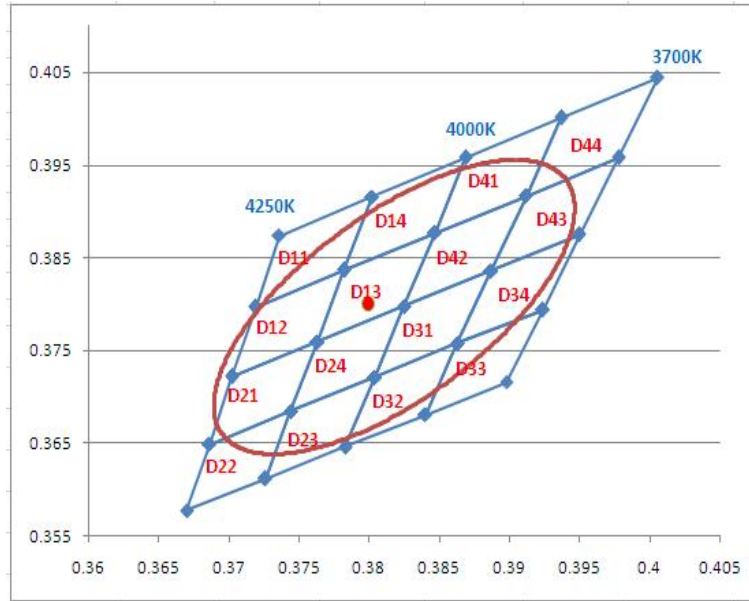
Notes:

Tolerance: I_m ±7%, V_f ±0.1V, X, Y ±0.005, R_a±2.

R_{thj,s} is the thermal resistance from junction to solder point on MCPCB with electrical power.



CIE chromaticity



Bin data

- 1、可按照 SDCM \leq 6 大区块分光。

SDCM \leq 6 中心点					
能源之星	x	0.3818	节能灯	x	0.380
	y	0.3797		y	0.380

- 2、可按照能源之星小区块分光。

Hue Bin	Color bin limits at $I_f = 30\text{mA}$				
	CIE 1931 Chromaticity coordinates				
D11	x	0.3719	0.3736	0.3802	0.3782
	y	0.3797	0.3874	0.3916	0.3837
D12	x	0.3702	0.3719	0.3782	0.3763
	y	0.3722	0.3797	0.3837	0.376
D13	x	0.3763	0.3782	0.3847	0.3825
	y	0.376	0.3837	0.3877	0.3798
D14	x	0.3782	0.3802	0.3869	0.3847
	y	0.3837	0.3916	0.3958	0.3877
D21	x	0.3686	0.3702	0.3763	0.3744
	y	0.3649	0.3722	0.376	0.3685
D22	x	0.367	0.3686	0.3744	0.3726
	y	0.3578	0.3649	0.3685	0.3612
D23	x	0.3726	0.3744	0.3804	0.3783
	y	0.3612	0.3685	0.3721	0.3646
D24	x	0.3744	0.3763	0.3825	0.3804
	y	0.3685	0.376	0.3798	0.3721

D31	x	0.3804	0.3825	0.3887	0.3863
	y	0.3721	0.3798	0.3836	0.3758
D32	x	0.3783	0.3804	0.3863	0.384
	y	0.3646	0.3721	0.3758	0.3681
D33	x	0.384	0.3863	0.3924	0.3898
	y	0.3681	0.3758	0.3794	0.3716
D34	x	0.3863	0.3887	0.395	0.3924
	y	0.3758	0.3836	0.3875	0.3794
D11	x	0.3719	0.3736	0.3802	0.3782
	y	0.3797	0.3874	0.3916	0.3837
D12	x	0.3702	0.3719	0.3782	0.3763
	y	0.3722	0.3797	0.3837	0.376
D13	x	0.3763	0.3782	0.3847	0.3825
	y	0.376	0.3837	0.3877	0.3798
D14	x	0.3782	0.3802	0.3869	0.3847
	y	0.3837	0.3916	0.3958	0.3877

VF Spec. Table		
V _F Bin	Forward Voltage (volts) at I _f = 30mA	
	Min.	Max.
BH1	18	18.5
BH2	18.5	19
BJ1	19	19.5
BJ2	19.5	20

Tolerance on each Forward Voltage bin is +/- 0.1V.

F _v Luminous Flux Spec. Table		
F _v Bin	Luminous Flux(F _v) at I _f = 30mA	
	Min.	Max.
GIC	56	58
GJC	58	60
HAC	60	62

Tolerance on each Luminous Flux bin is +/- 7%.

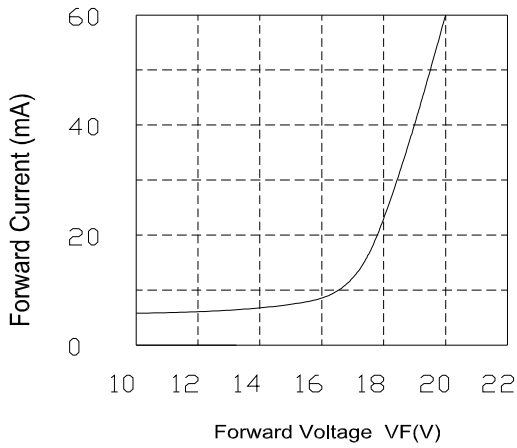
Notes:

1.Ranking at Ta=25°C.

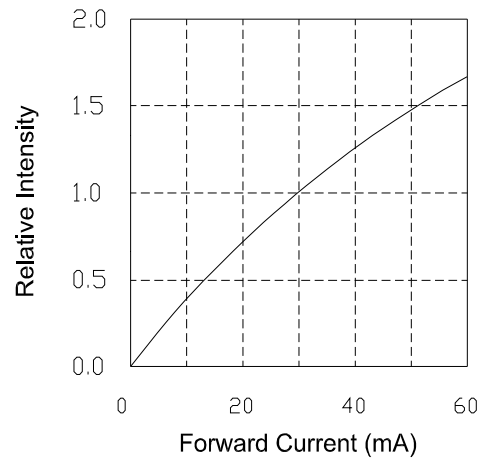
2.A shipment shall consists of LEDs in the combination of the above ranks.

Typical optical characteristics curves (Ta=25°C unless specified)

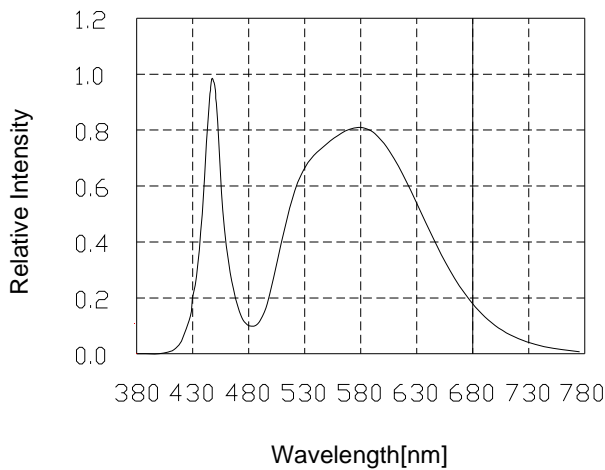
Forward Current vs. Forward Voltage(Ta=25°C)



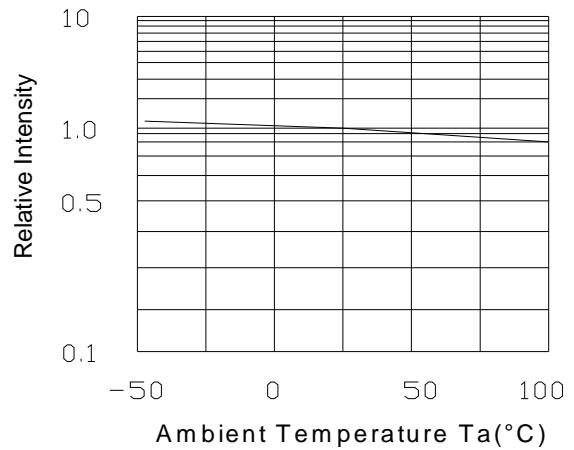
Relative Intensity vs. Forward Current (Ta=25°C)



Spectral Distribution
Relative Intensity vs. Wavelength (Ta=25°C)



Relative Intensity vs. Ambient Temperature



Forward Current vs. Chromaticity (Ta=25°C)

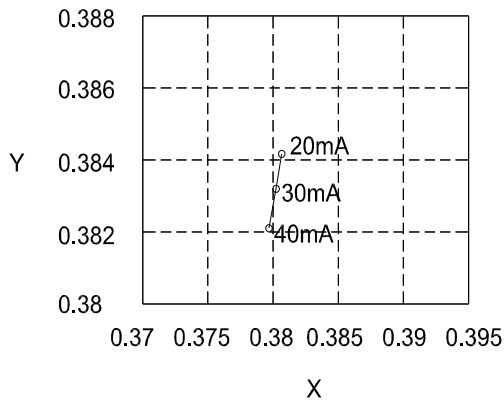
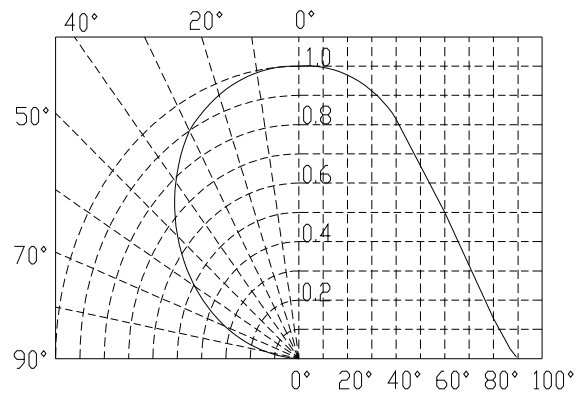


Diagram characteristics of radiation



Reflow profile

n Soldering condition(JEDEC-020D)

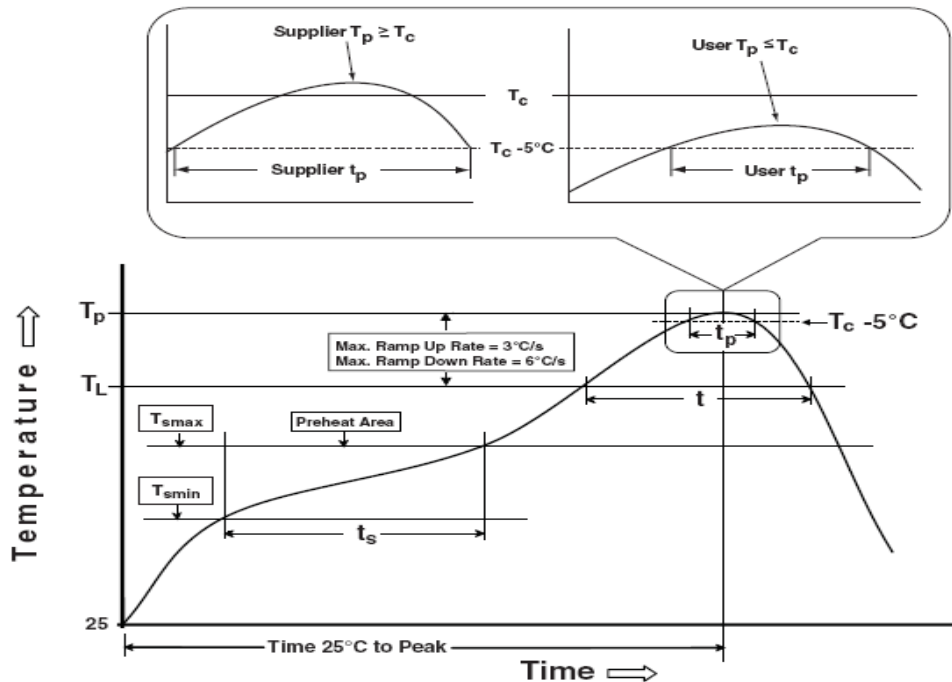
Suggestion IR Reflow Profile For Pb Free Process

Profile Feature	Pb-Free Assembly
Preheat & Soak Temperature min (Ts min) Temperature max(Ts max) Time (Ts min to Ts max)(ts)	150°C 200°C 60-120seconds
Average ramp –up rate (Ts max to Tp)	3°C/second max
Liquidous temperature (TL) Time at liquidous (TL)	217°C 60-150 seconds
Peak package body temperature (Tp)*	See classification temp in the table below
Time (tp)**within 5°C of thespecified Classification temperature (Tc)	30** seconds
Average ramp-down rate (Tp to Ts max)	6°C/second max
Time 25°C to peak temperature	8 minutes max

*Tolerance for peak profile temperature (Tp) is defined as a supplier minimum and a user maximum .
**Tolerance for time at peak profile temperature (tp) is defined as a supplier minimum and a user maximum .

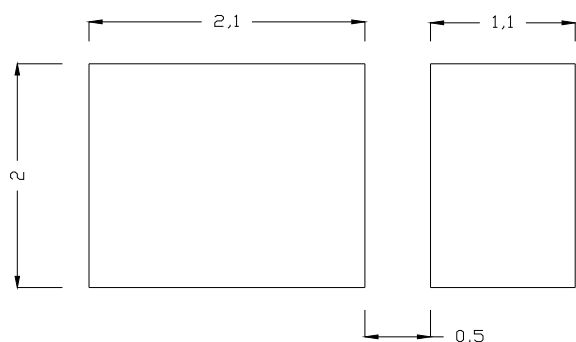
Pb-Free Process-Classflcatlon Temperatures (Tc)

Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
<1.6mm	260°C	260°C	260°C
1.6mm-2.5mm	260°C	250°C	245°C
>2.5mm	250°C	245°C	245°C



- 1.Reflow soldering should not be done more than two times.
- 2.When soldering ,do not put stress on the LEDs during heating.

Recommend Printed Circuit Board Attachment Pad

**n Cautions**

The encapsulated material of the LEDs is silicone. Therefore the LEDs have a soft surface on the top of package. The pressure to the top surface will be influence to the reliability of the LEDs. Precautions should be taken to avoid the strong pressure on the encapsulated part. So when using the picking up nozzle, the pressure on the silicone resin should be proper.

Reliability

Test items and results

Type	Test Item	Ref. Standard	Test Conditions	Note	Number of Damaged
Environmental Sequence	Resistance to Soldering Heat(Reflow Soldering)	JESD22-B106	Tsld=260°C,10sec	3 times	0/22
	Temperature Cycle	JESD22-A104	-40°C 30min ↑↓5min 100°C 30min	300 cycle	0/22
	Thermal Shock	JESD22-A106	-40°C 15min ↑↓ 100°C 15min	300 cycle	0/22
	High Temperature Storage	JESD22-A103	T _a =100°C	1000 hrs	0/22
	Low Temperature Storage	JESD22-A119	T _a =-40°C	1000 hrs	0/22
Operation Sequence	Life Test	JESD22-A108	T _a =25°C I _F =30mA	1000 hrs	0/22
	High Humidity Heat Life Test	JESD22-A101	60°C RH=90% I _F =30mA	1000 hrs	0/22

Criteria for judging the damage

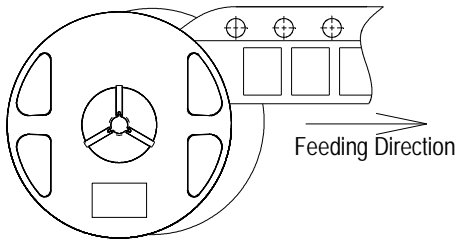
Item	Symbol	Test Conditions	Criteria for Judgement	
			Min.	Max.
Forward Voltage	VF	IF=30mA	-	U.S.L*)×1.1
Luminous Intensity	IV	IF=30mA	L.S.L**)×0.7	-

U.S.L.: Upper Standard Level

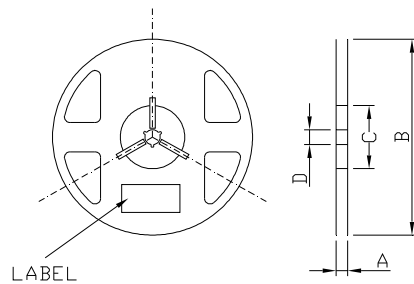
L.S.L.: Lower Standard Level

Packaging specifications

● Feeding direction

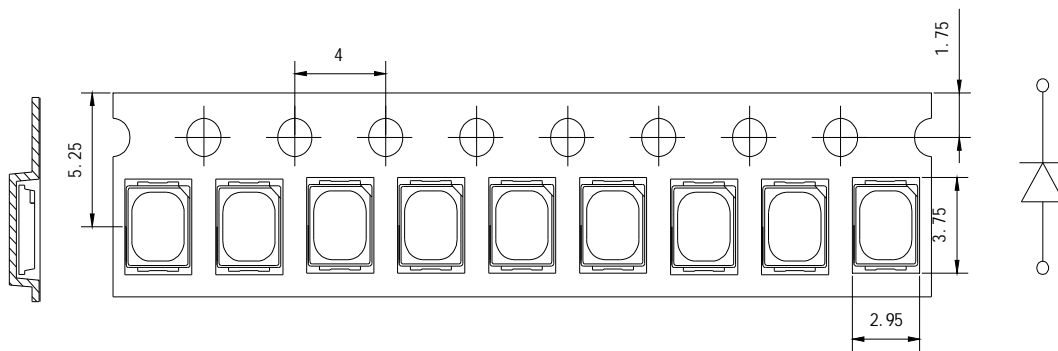


● Dimensions of reel (unit: mm)

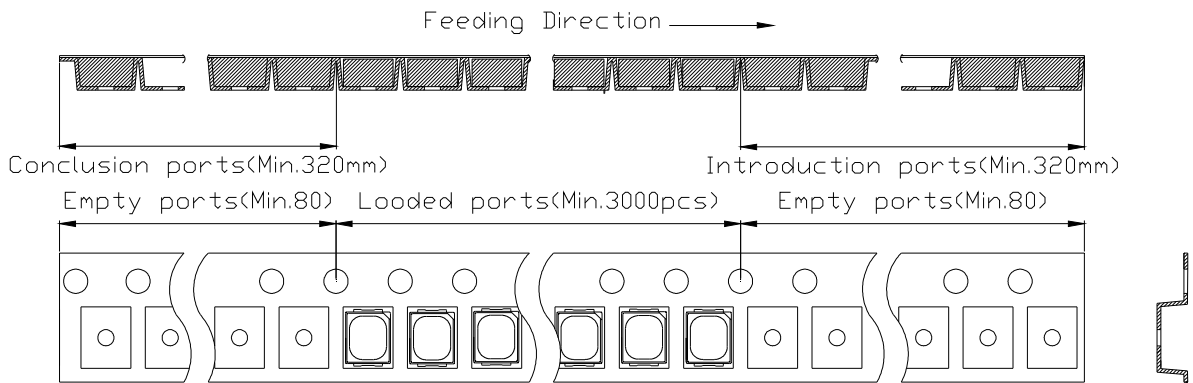


A	8.0±0.1mm
B	178±1mm
C	60±1mm
D	13.0±0.5mm

● Dimensions of tape (unit: mm)



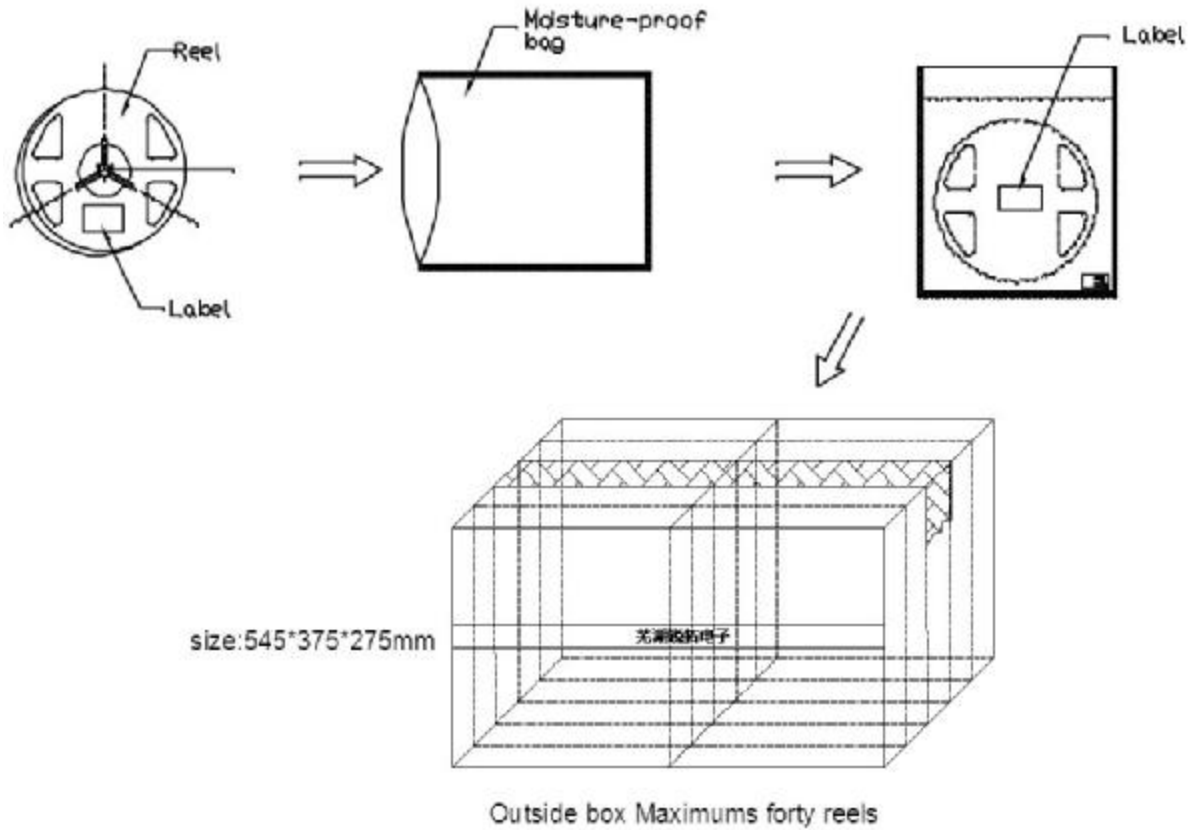
● Arrangement of tape



Notes:

1. Empty component pockets are sealed with top cover tape.
2. The maximum number of missing lamps is two.
3. The cathode is oriented towards the tape sprocket hole in accordance with ANSI/EIA RS-481 specifications.
4. MAX: 3,000 pcs/ Reel, MIN: 300+100n (n=0, 1, 2.....27) pcs/Reel.

Packaging specifications



Label

芜湖锐拓电子有限公司

规格型号: WR-3528XXX-XXXX

物料编码: 13528XXXXXXXXXX

RoHS



VF:	IF:
φ v:	BIN:
CCT:	QTY:
CIE:	DATE:

Cautions

Package specifications

Reeled products (numbers of products are 3,000pcs) packed in a seal off moisture-proof bag along with a desiccant one by one, Eighty moisture-proof bag of maximums are put the outside box (size: about 545mm x about 375mm x about 275mm) Together with buffer material, and it is packed. (Pare 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 two steps.

Storage conditions

Before opening the package:

The LEDs should be kept at 30°C or less and 70%RH or less. The LEDs should be used within a year. When storing the LEDs, moisture proof packaging with absorbent material (silica gel) is recommended.

After opening the package:

The LEDs should be kept at 30°C or less and 50%RH or less. If unused LEDs remain, they should be stored in moisture proof packages, such as sealed containers with packages of moisture absorbent material (silica gel). It is also recommended to return the LEDs to the original moisture proof bag and to reseal the moisture proof bag again.

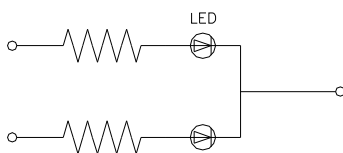
Cleaning

Use alcohol-based cleaning solvents such as isopropyl alcohol to clean the LED if necessary.

Drive method

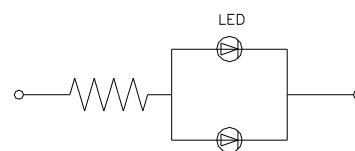
An LED is a current-operated device. In order to ensure intensity uniformity on multiple LEDs connected in parallel in an application, it is recommended that a current limiting resistor be incorporated in the drive circuit, in series with each LED as shown in Circuit A below.

Circuit model A



(A) Recommended circuit.

Circuit model B



(B) The brightness of each LED might appear different due to the differences in the I-V characteristics of those LEDs.