Date Sheet

Customer:

Part No: CL-SP117RGY-02(H)

Sample No:

Description:

Item No:

Customer			
Check	Inspection	Approval	Date

Features

3.2mmx1.0mm SMT LED,1.5 mm THICKNESS.

_LOW POWER CONSUMPTION.

_WIDE VIEWING ANGLE.

_IDEAL FOR BACKLIGHT AND INDICATOR.

_VARIOUS COLORS AND LENS TYPES AVAILABLE.

_PACKAGE : 3000PCS / REEL.

_RoHS COMPLIANT.

Description

The Blue source color devices are made with GaN on Sapphire Light Emitting Diode.

The Green source color devices are made with InGaN on SiC Light Emitting Diode.

The Hyper Orange source color devices are made with DH InGaAlP on GaAs substrate Light Emitting Diode.

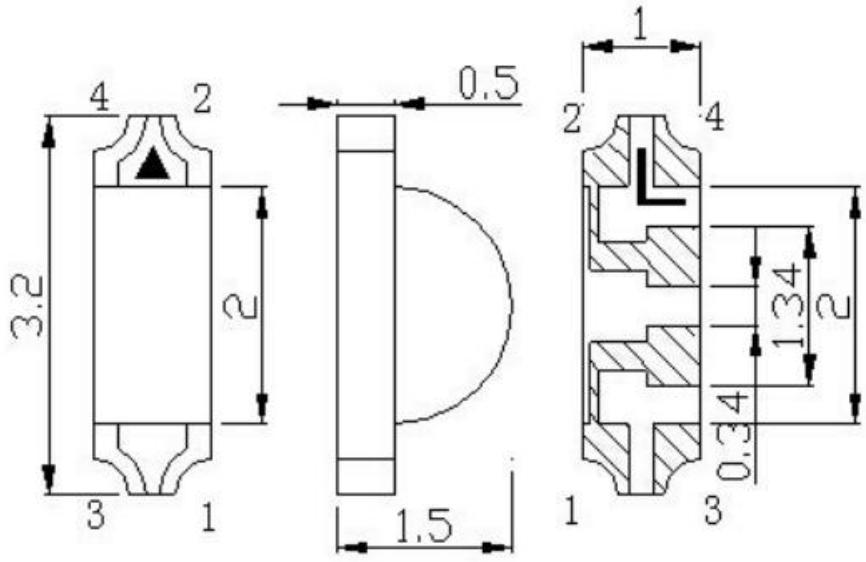
Static electricity and surge damage the LEDS.

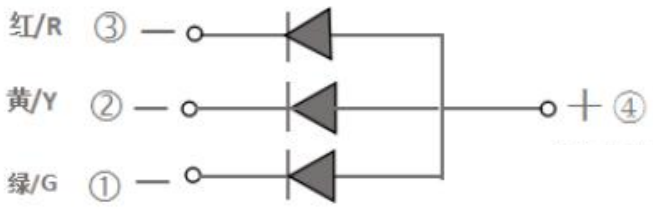
It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

Emitting Diode.

Package Dimensions





Notes:

1. All dimensions are in millimeters (inches).

2. Tolerance is ±0.1(0.004") unless otherwise noted.

3.Specifications are subject to change without notice.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 20mA		Viewing Angle
			Min.	Typ.	2 θ 1/2
CL-SP117RGY-02(H)	Yellow	Diffused	300	500	120
	GREEN (InGaN)		400	800	
	RED (InGaAlP)		150	300	

Note:

1. θ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

Electrical / Optical Characteristics at T_A=25°C

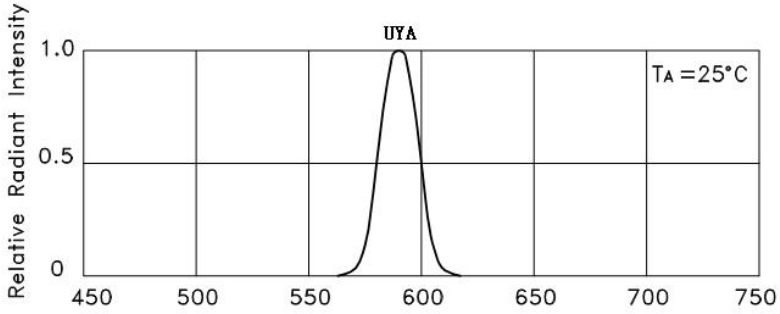
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Yellow Green Red			nm	IF=20mA
λD	Dominant Wavelength	Yellow Green Red	586 515 620	594 528 625	nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Yellow Green Red	25 38 20		nm	IF=20mA
C	Capacitance	Yellow Green Red	45 45 25		pF	VF=0V;f=1MHz
VF	Forward Voltage	Yellow Green Red	1.8 2.7 1.8	2.2 3.2 2.2	V	IF=20mA
IR	Reverse Curren	Yellow Green Red		5 5 5	uA	VR = 5V

Absolute Maximum Ratings at T_A=25°C

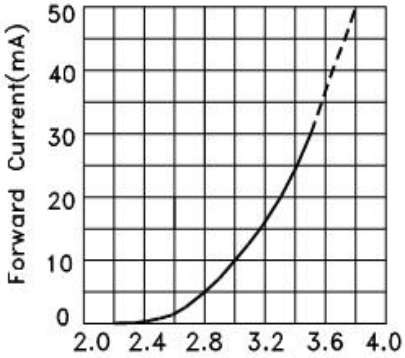
Parameter	Yellow	Green	Red	Units
Power dissipation	75	135	75	mW
DC Forward Current	30	30	30	mA
Peak Forward Current [1]	80	135	80	mA
Reverse Voltage	5	5	5	V
Operating/Storage Temperature	-40°C To +85°C			

Note:

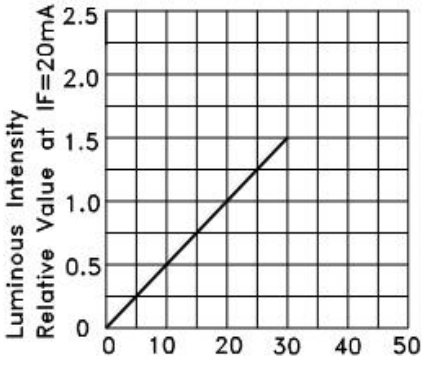
1. 1/10 Duty Cycle, 0.1ms Pulse Width.



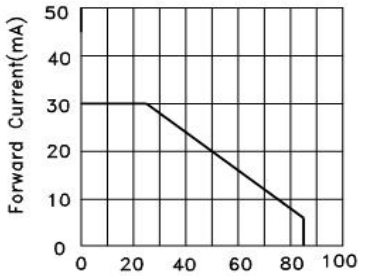
RELATIVE INTENSITY Vs. WAVELENGTH



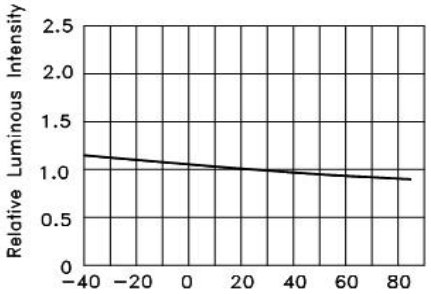
FORWARD CURRENT Vs.
FORWARD VOLTAGE



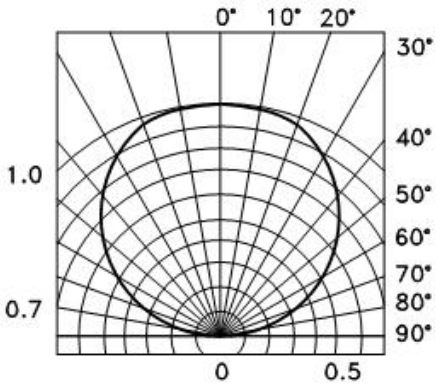
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE

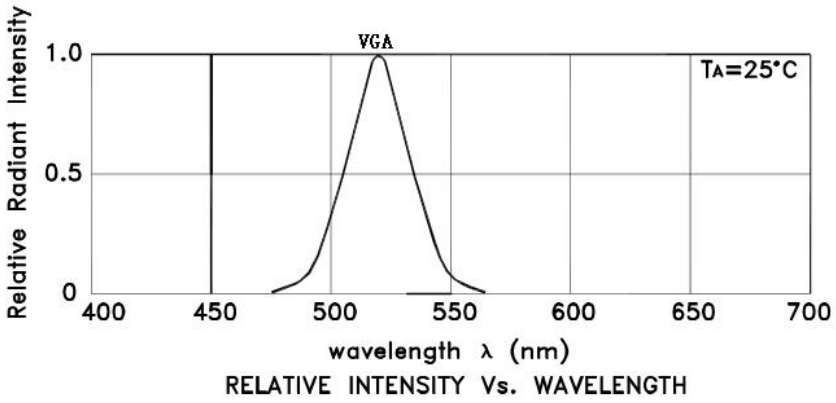


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

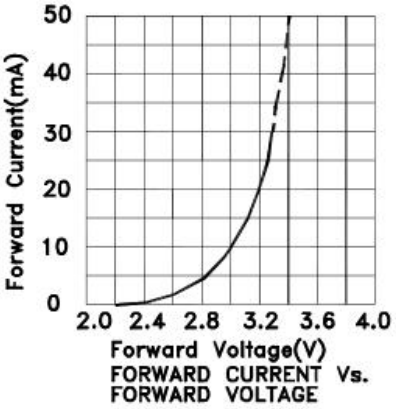


SPATIAL DISTRIBUTION

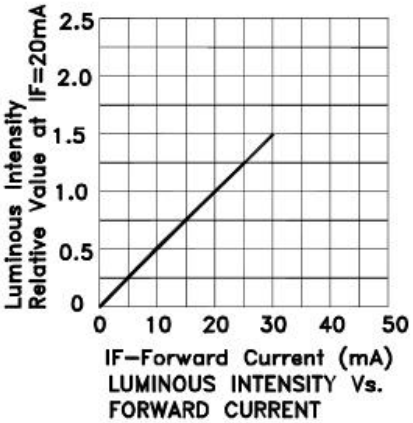
Green



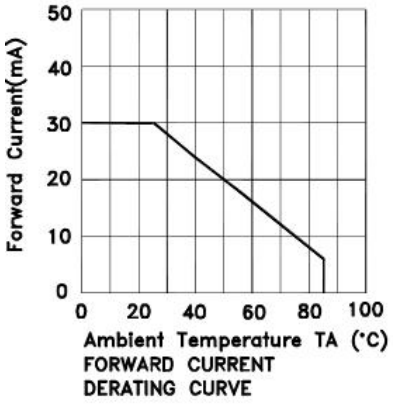
RELATIVE INTENSITY Vs. WAVELENGTH



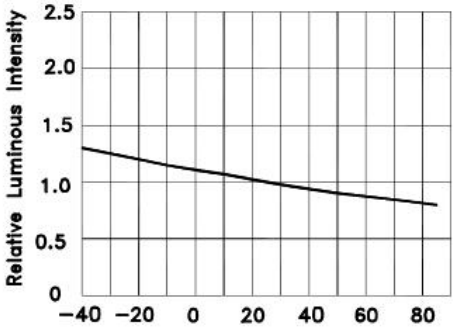
FORWARD CURRENT Vs.
FORWARD VOLTAGE



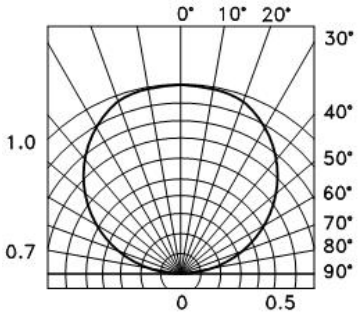
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE

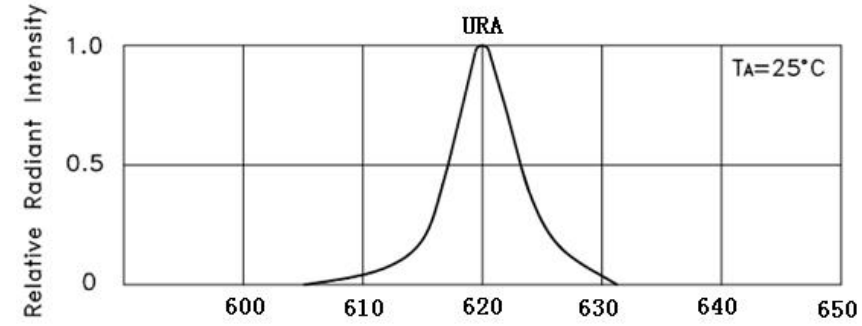


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

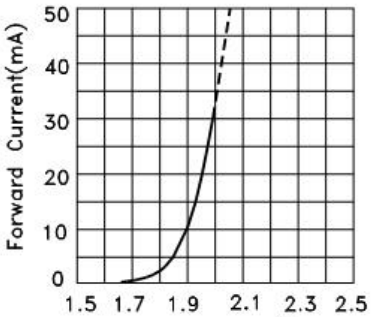


SPATIAL DISTRIBUTION

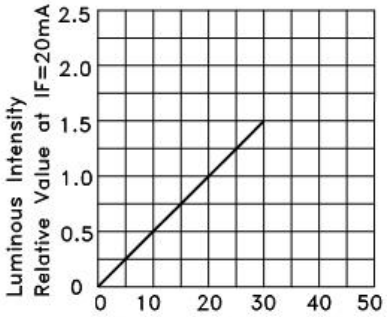
Red红色



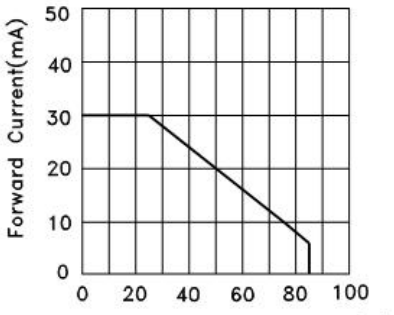
RELATIVE INTENSITY Vs. WAVELENGTH



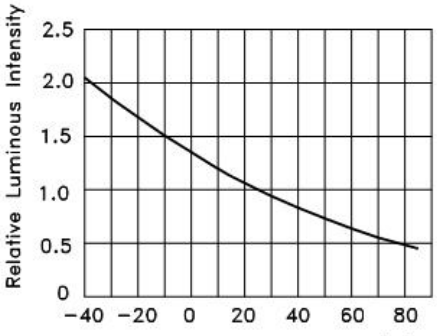
FORWARD CURRENT Vs.
FORWARD VOLTAGE



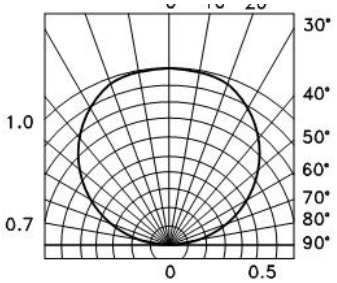
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE



LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

RELIABILITY

(1) Test Items and Results

NO.	Test Item	Reference Standard	Test Conditions	(Hours/ Cycles)	Sample	Number of Damaged
1	Temperature Cycle	JEITA ED-4701	-40 °C - 25 °C - 100 °C - 25 °C 30min 5min 30min 5min	100 Cycles	20	0/20
2	Thermal shock	MIL-STD-202G	-40℃～100℃ 15min 15min	500 Cycles	20	0/20
3	High Temperature Storage	JEITA ED-4701 200 201	Ta=100℃	1000 Hours	20	0/20
4	Low Temperature Storage	JEITA ED-4701 200 201	Ta=-40℃	1000 Hours	20	0/20
5	Room Temperature Life Test		Ta=25±5℃ IF=20mA	1000 Hours	20	0/20
6	High Temperature High Humidity Life Test		Ta=60℃ RH=85% IF=20mA	1000 Hours	20	0/20
7	Solderability (Reflow Soldering)	JEITA ED-4701 300 303	Tsol=235℃±5℃, 5sec (Using Flux, Lead Solder)	1 time, 5sec	10	0/10
8	Resistance to Soldering Heat (Reflow Soldering)	JEITA ED-4701 300 301	Tsol=250℃, 10 sec Pre Treatment: 35 °C 95% RH96 Hrs	2 time, 10sec	10	0/10

The above test items such as differences or special customer specific requirements according to the actual situation in accordance with the requirements of customers to try the requirements with the customer, the customer is not required by our test standard test. Different products using different current test

5. Cautions

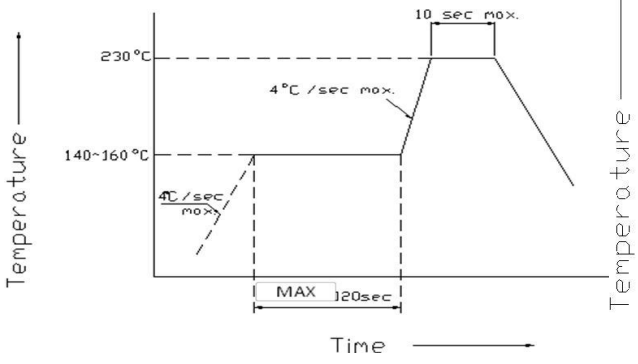
(1) Soldering Conditions

Number of reflow process shall be less than 2 times and cooling process to normal temperature is required between first and Second soldering process.

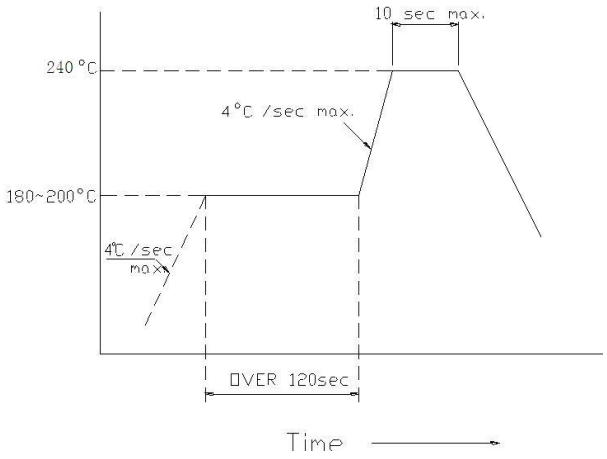
(Recommended soldering conditions)

Reflow Soldering			Manual Soldering	
	Lead Solder	Lead-free Solder	Temperature	350° C Max.
Pre-heat	140 ~ 160° C	180 ~ 200° C	Soldering time	3 sec. Max. (one time only)
Pre-heat time	120 sec. Max.	120 sec. Max.		
Peak temperature	230° C Max.	240° C Max.		
Soldering time	10 sec. Max.	10 sec. Max.		
Condition				

(Lead Solder)

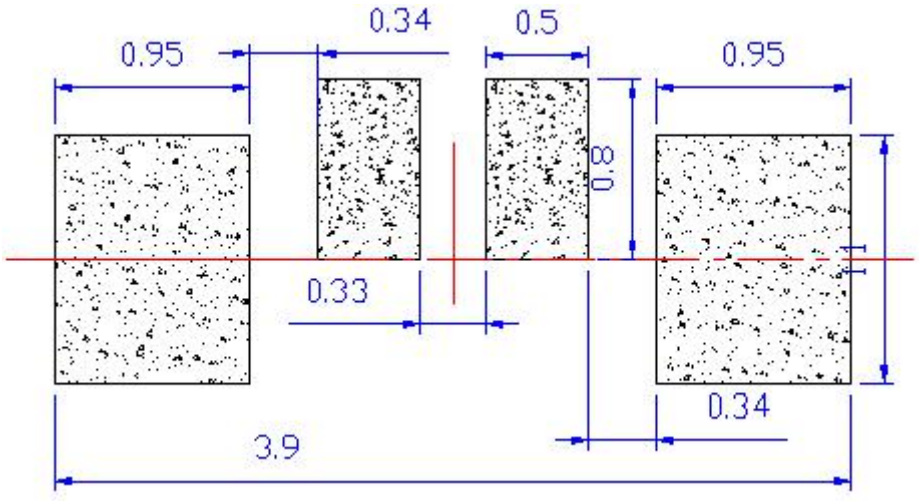


(Lead-Free Solder)



Recommended Soldering Pattern

(Units : mm)



(2) Static Electricity

It is recommended that a wrist band or an anti-electrostatic glove be used when handling the LEDs.

All devices, equipment and machinery must be properly grounded.

Damaged LEDs will show some unusual characteristics such as the forward voltage becomes lower, or the LEDs do not light at the low current. Criteria : (VF > 2.0V at IF=0.5mA)

(3) Moisture Proof Package

It is recommended that moisture proof package be used .

(4)Cautions:

4.1.Please check if there is air leak before opening the package, if so, please return the goods back to take drying process for later using.

4.2 Products can be used within 15days after packaging, after that, they must be:

4.2.1 Soldered within 24 hrs

4.2.2 Used in the condition: 30℃ within and 60%RH below

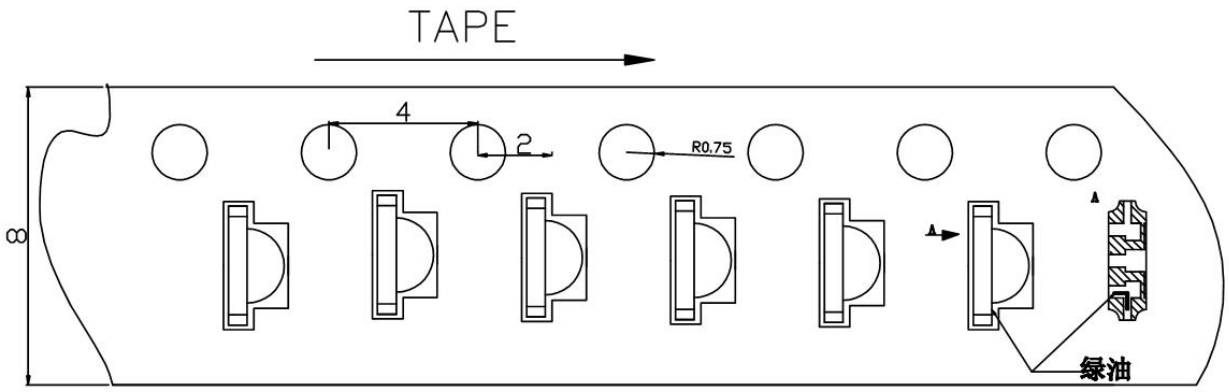
4.2.3 Stored in 30%RH for moisture below.

4.3.Products cannot be used for and over 15days after being packaged unless opening the package and take drying our process in 85℃/6H.

4.4.Products not be used for or over 60days after being packaged please return back to take drying out and packaging process for forward using.

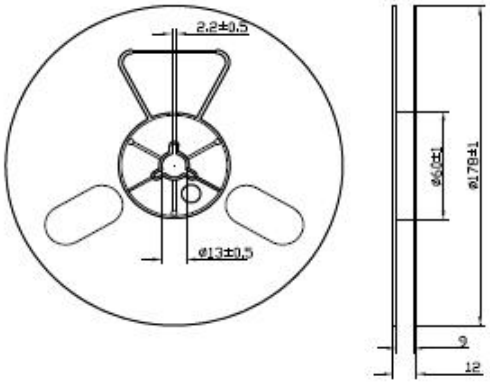
PACKAGING

The LEDs are packed in cardboard boxes after taping.

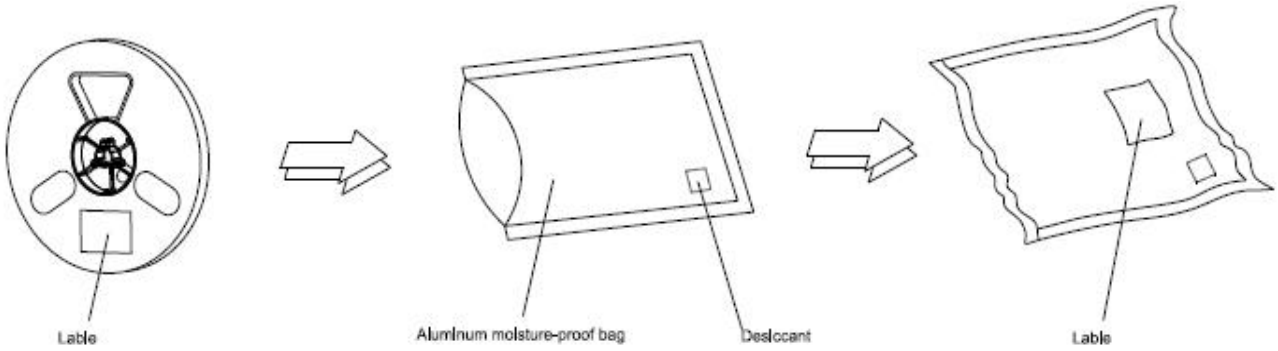


Package:3000PCS/reel

Reel Dimensions



Moisture Resistant Packaging



Note:The tolerances unless mentioned is ±0.1mm,Unit:mm