



SPECIFICATION

Customer Name					
Customer No.					
Product Description			0.2W		
Product Model			OR-PL2835		
Orient Confirm			Customer Confirm		
Approved by	Checked by	Prepared by	Approved by	Quality	Engineering
Zengchen	Wuzizhen	Huanghaijun			
Judge outcome		OK	Judge outcome		

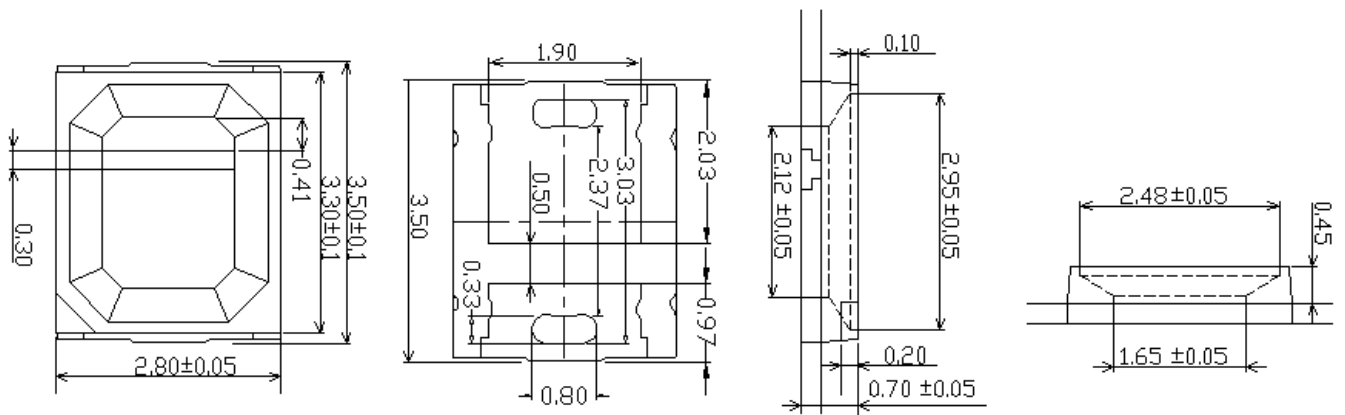


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● Features

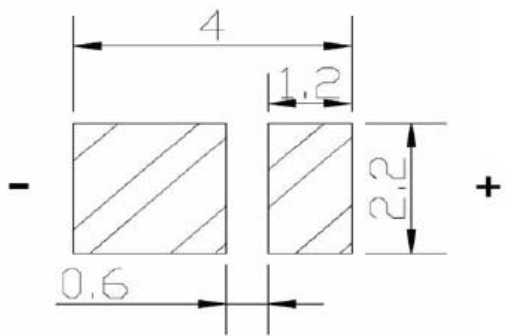
- Super high efficiency
- High reliability performance
- Viewing angle 120°
- Suitable for all SMT assembly and solder process
- Complied with RoHS directive

● Package Outline Dimensions

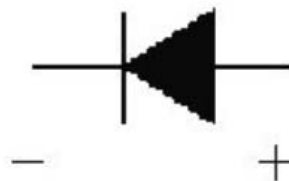


Notes:

- 1、 All dimensions are in millimeters
- 2、 Tolerance is ±0.1mm unless otherwise noted



焊盘尺寸 Recommended pad layout





● Absolute maximum ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Power Dissipation	Pd	300	mw
Forward Current	If	60	mA
Reverse Voltage	Vr	5	V
Operating temperature	Top	-40 ~+85	°C
Storage Temperature	Tstg	-40~+100	°C
Peak Forward Current	Ifp	150	mA
Junction Temperature	Tj	115	°C
Electrostatic Discharge	ESD	2000(HBM)	V

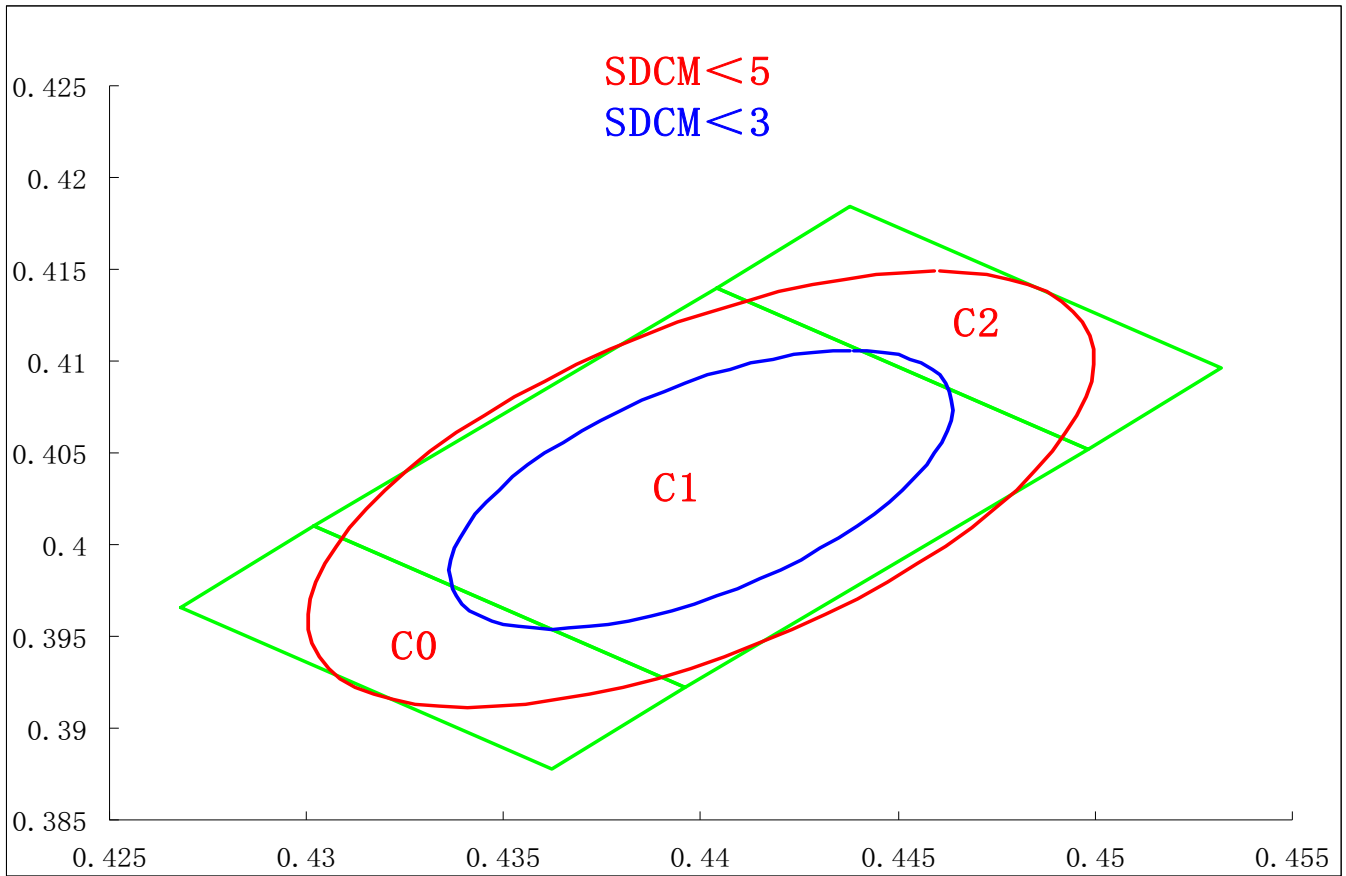
Notes: Ifp conditions with pulse width $\leq 10\text{ms}$ and duty cycle $\leq 10\%$

● Electrical-optical characteristics at Ta=25°C

Parameter	Test Condition	Symbol	Value			Unit
			Min.	Typ.	Max.	
Forward Voltage	If=60mA	Vf	2.7	--	3.3	V
Luminous Flux	If=60mA	Φ	18	--	--	LM
Color Temperature	If=60mA	CCT	1900	--	--	K
Color Rendering Index	If=60mA	CRI	--	70/80	--	--
Viewing Angle	If=60mA	2 θ 1/2	--	120	--	Deg
Reverse Current	VR=5V	IR	--	--	10	\neq A

Notes: 1、Luminous flux (LM) $\pm 5\%$
2、Forward Voltage (VF) $\pm 0.1\text{V}$

● CIE Chromaticity Diagrams



Notes: 1、 The white light graded shooting map is based on iec color tolerance standard coordinates, with a drop color tolerance within the red ellipse less than 5 and a drop color tolerance within the blue ellipse less than 3.

● Color Ranks(IF=60mA,Ta=25°C)

BIN Code	X	Y	BIN Code	X	Y	BIN Code	X	Y
	0.4268	0.3966		0.4302	0.401		0.4404	0.414
C0	0.4302	0.401	C1	0.4404	0.414	C2	0.4438	0.4184
2940±			2940±			2940±		
85K	0.4396	0.3922	85K	0.4498	0.4052	85K	0.4532	0.4096
	0.4362	0.3878		0.4396	0.3922		0.4498	0.4052

Notes: 1、 Measurement uncertainty of the color coordinates:±0.005.
 2、 The new white bin refer to IEC standard for lighting application.



● Luminous flux rank and bin code (IF=60mA, Ta=25°C)

60mA test					
CODE	Min.(LM)	Max.(LM)	CODE	Min.(LM)	Max.(LM)
I18	18	20	I22	22	24
I20	20	22	I24	24	26

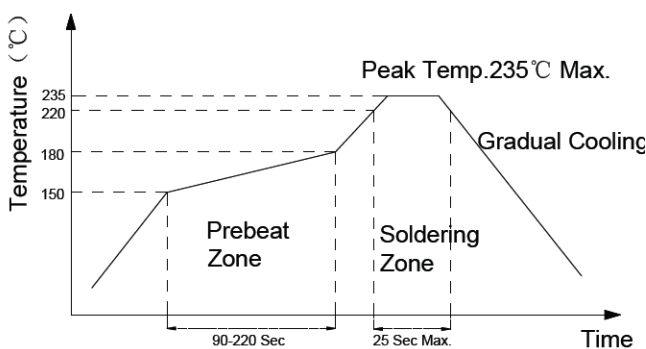
Notes: 1、Tolerance of luminous flux is $\pm 10\%$.

● Forward voltage rank and bin code (IF=60mA, Ta=25°C)

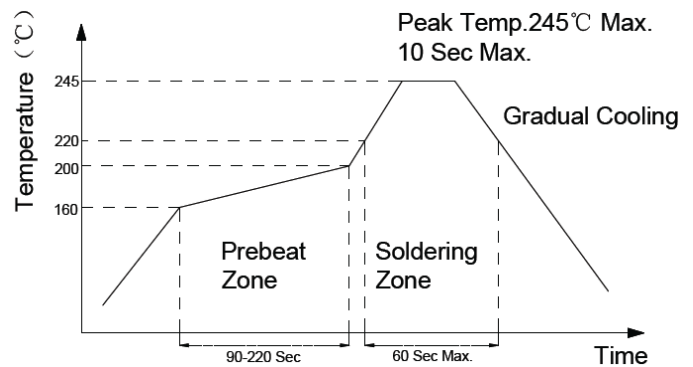
60mA test					
CODE	Min.(V)	Max.(V)	CODE	Min.(V)	Max.(V)
V7	2.7	2.8	V0	3.0	3.1
V8	2.8	2.9	V1	3.1	3.2
V9	2.9	3.0	V2	3.2	3.3

Notes: 1、Tolerance of forward voltage is $\pm 0.1V$.

● IR reflow soldering Profile



Lead welding



Lead - free soldering

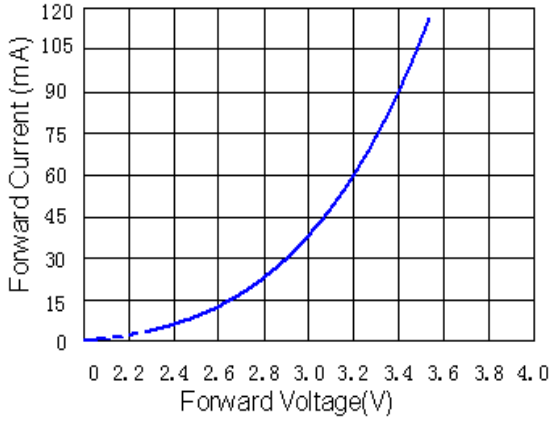
Notes:

- 1、 We recommend the reflow temperature $240^{\circ}\text{C} \pm 5^{\circ}\text{C}$.
- 2、 Number of reflow process shall be 1 time.

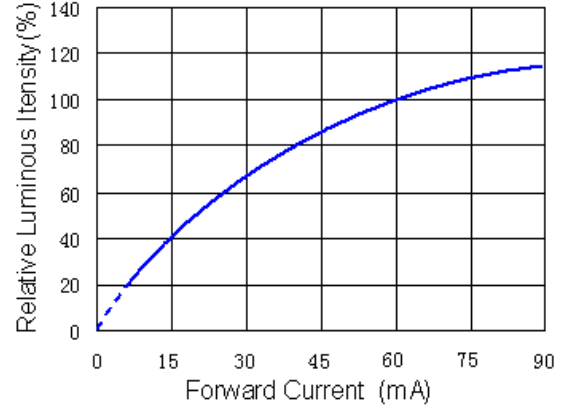
● Typical optical characteristics curves

Environment Parameter: Temperature=25°C, Humidity=45%

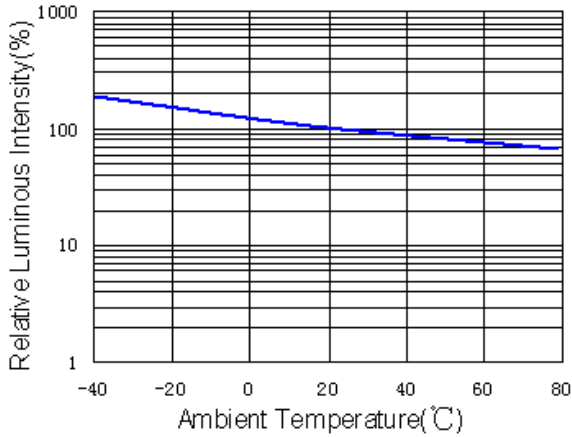
Forward Current VS Forward Voltage



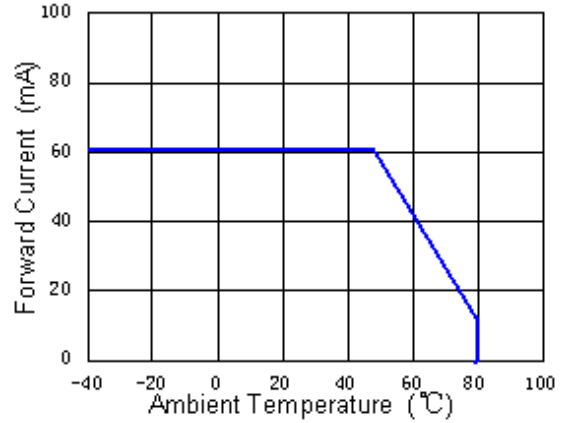
Relative Flux VS Forward Current



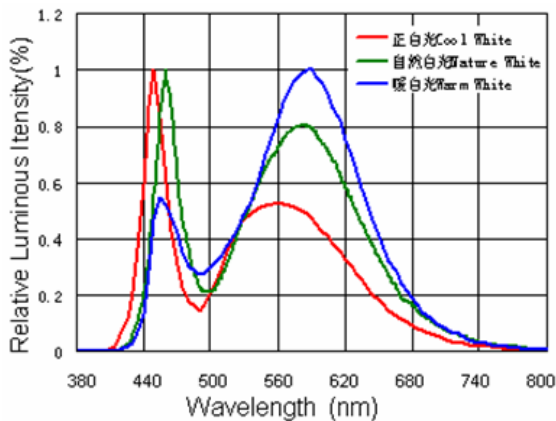
Relative Flux VS Ambient Temperature



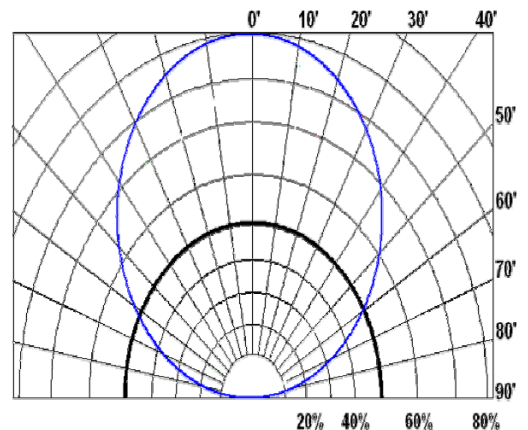
Forward Current VS Ambient Temperature



Relative Spectral Distribution

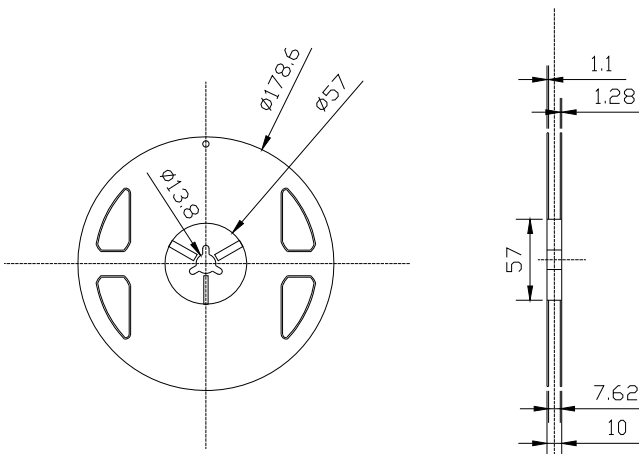


Typical Spectral Distribution

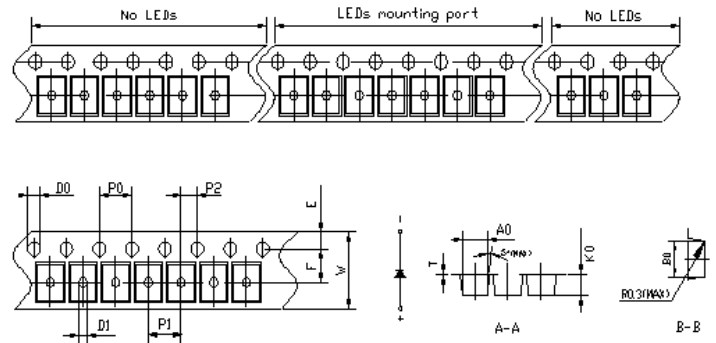


●Packaging Specification

● Dimensions for Reel (Unit: mm)

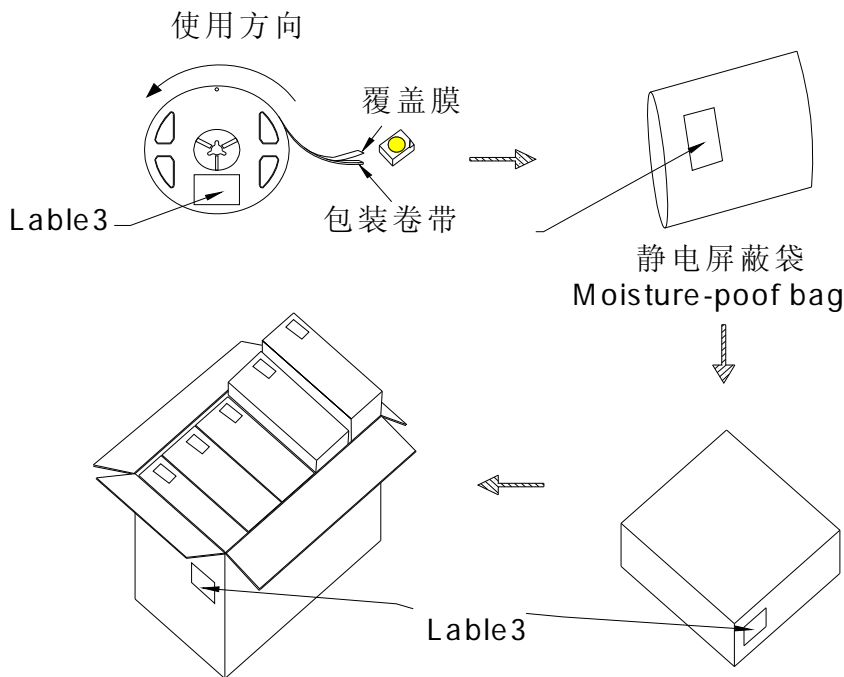


● Dimensions of Tape (Unit: mm)



symbol	A0	B0	K0	P0	P1	P2	model	unit
spec	315±0.10	380±0.10	2.10±0.10	4.00±0.10	4.00±0.10	2.00±0.10		
symbol	w	T	E	F	D0	D1	2B35	mm
spec	8.00±0.10	0.235±0.05	1.75±0.10	3.50±0.10	1.50+0.00 -0.00	1.00+0.00 -0.00		

●Package Dimension (Unit:mm)



每个外箱装5个内箱
外箱尺寸=425*245*273mm
Outside box
Maximums for inside
boxes

每盒5袋
内箱尺寸：247*230*75
Inside box Maximums seven

**●Reliability Test Items and Conditions**

Test Item	Test Conditions	Time	Quantity	Ac/Re	Reference
Reflow Soldering	260°C (Max.), within 10seconds. (Max.)	3 times	0/22	0/1	JESD22-B106
Temperature cycle	-40°C/30min ↑↓25°C (5min) 100°C/30min	100 cycles	0/22	0/1	JESD22-A104
Thermal Shock	-40°C/30min ↑↓ 5sec 100°C/30min	100 cycles	0/22	0/1	Tested with ORIENT standard
Humidity Heat Storage	Ta=85°C RH=85%	1000 hours	0/22	0/1	JESD22-A101
High Temperature Storage	Ta=100°C	1000 hours	0/22	0/1	JESD22-A103
Low Temperature Storage	Ta=-40°C	1000 hours	0/22	0/1	JESD22-A119
Room Temperature Test	Ta=25°C IF=60mA	1000 hours	0/22	0/1	Tested with ORIENT standard

Notes:

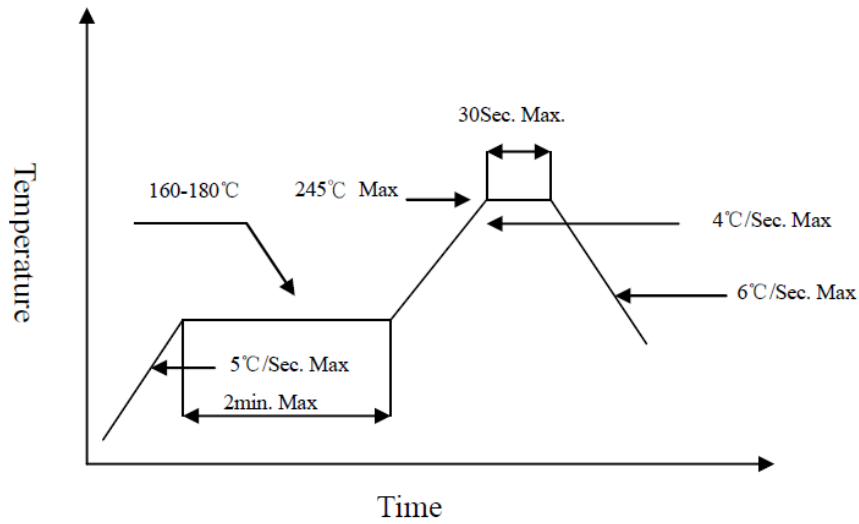
- 1、 Measurement shall be taken within 2 hours.
- 2、 The tested LED have been returned to normal ambient conditions before testing.

● Precautions for use

1、 SMT Reflow Soldering Instructions SMT

1.1 Reflow soldering should not be done more than two times.

1.2 When soldering , do not put stress on the LEDs during heating



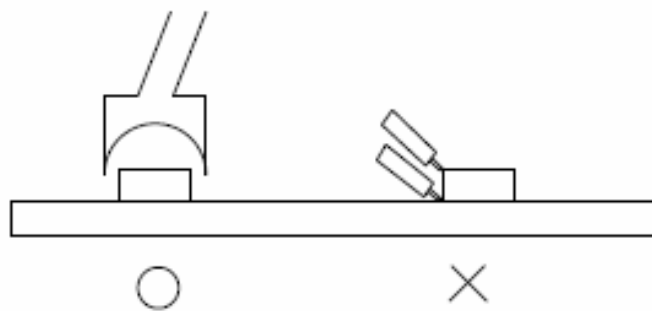
2、 Soldering iron

2.1. When hand soldering, keep the temperature of iron below less 300°C less than 3 seconds

2.2. The hand solder should be done only one times

3、 Repairing

3.1.Repair should not be done after the LEDs have been soldered. When repairing is unavoidable,a double-head soldering iron should be used (as below figure). It should be confirmed in advance whether the characteristics of LEDs will or will not be damaged by repairing.





4、 Package and Storage

4.1、

To avoid the moisture penetration, we recommend storing SMD LEDs in a dry box(or desiccator) with a desiccant . The recommended storage conditions are Temperature 5 to 30degrees Centigrade. Humidity 50% maximum.You have to rehumidify all leds .if stored for more than 3 months by condition of 70°C/24 hours more

4.2、 Precaution after opening packaging

However LED is correspond SMD, when LED be soldered dip, interfacial separation may affect the light transmission efficiency,causing the light intensity to drop.

Attention in followed

- a、 Soldering should be done right after opening the package(within 12 hours)
- b、 Keeping of a fraction- Sealing Temperature : 5 ~ 40°C Humidity : less than 30%
- c、 You have to dehumidify all leds at 70 for more than 24 hours if unsealed package and exposed to the air for 24 hours or desicant changes color from blue to pink

4.3、 The pad of chip and lead frame are composed of copper alloy with Ag-plated.And the surface silver layer can be damaged easily by corosive gas. So You have to keep all LEDs away from corosive substance and environment to avoid color fade or bad welding which may result in failure of LED.Especially you have to keep all leds away from high temperature and high humiduty environment.

5、 Cautions

5.1 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 use the picking up nozzle, the pressure on the silicone resin should be proper.