

## CHIP LED 0603 Series Data Sheet

### SOL-0603X006-XX



**SOL-0603R006-02**

**Red**

**SOL-0603Y006-02**

**Yellow**

**SOL-0603G006-03**

**Green**

**SOL-0603B006-03**

**Blue**

## ➤ Features:

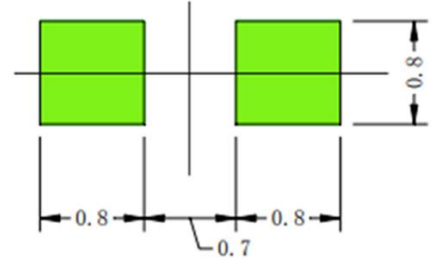
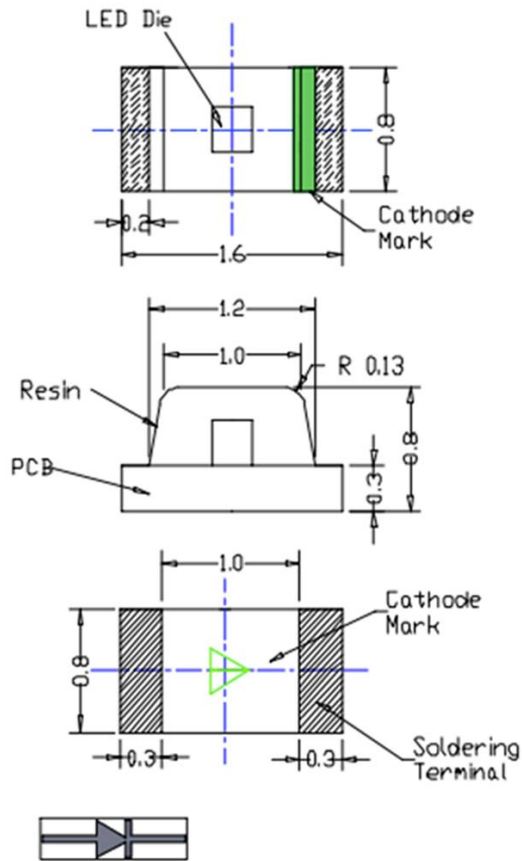
- Emitting Color: Red, Yellow, Green, Blue
- High reliability performance
- Viewing angle 120°
- Suitable for all SMT assembly and solder process
- Complied with RoHS directive

## ➤ Application:

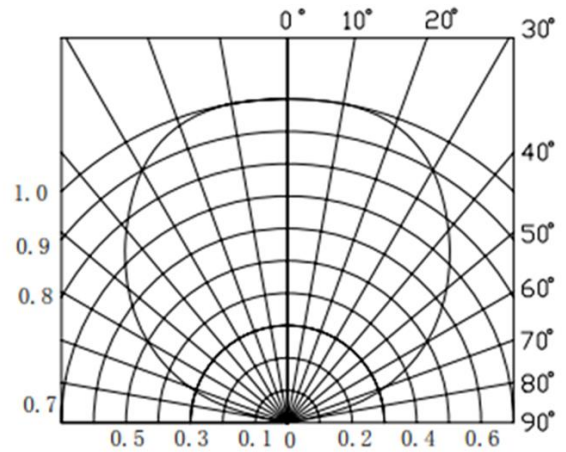
- Backlight of Mobile LCD Display
- Backlight of Machine Vision
- Backlight in Dashboard
- Backlight in Switch



## ➤ Outline Dimensions:



SPATIAL DISTRIBUTION



### Note:

- Tolerance is 0.1mm

## ➤ Flux Characteristics, T<sub>j</sub>=25°C:

Part Number	CCT (K)or Wavelength(nm)		LuminousFlux@20mA (Lm )(MCD)		Viewing Angle (degrees) 2 θ <sub>1/2</sub>
	Min.	Max.	Min.	Max.	
SOL-0603R006-02	620nm	630nm	50MCD	100MCD	120
SOL-0603Y006-02	585nm	595nm	50MCD	100MCD	120
SOL-0603G006-03	515nm	530nm	80MCD	200MCD	120
SOL-0603B006-03	455nm	475nm	20MCD	50MCD	120

### Note:

- SOL maintains a tolerance of ±1nm for dominant wavelength measurements.
- SOL maintains a tolerance of ±5% for CCT measurements.
- SOL maintains a tolerance of ± 5% on flux and power measurements.

## ➤ Electrical Characteristics, T<sub>j</sub>=25°C:

Part Number	Forward Voltage V <sub>F</sub> (V) @20mA		
	Min.	Typ.	Max.
SOL-0603R006-02	1.8	2.0	2.4
SOL-0603Y006-02	1.8	2.0	2.4
SOL-0603G006-03	2.8	3.0	3.5
SOL-0603B006-03	2.8	3.0	3.5

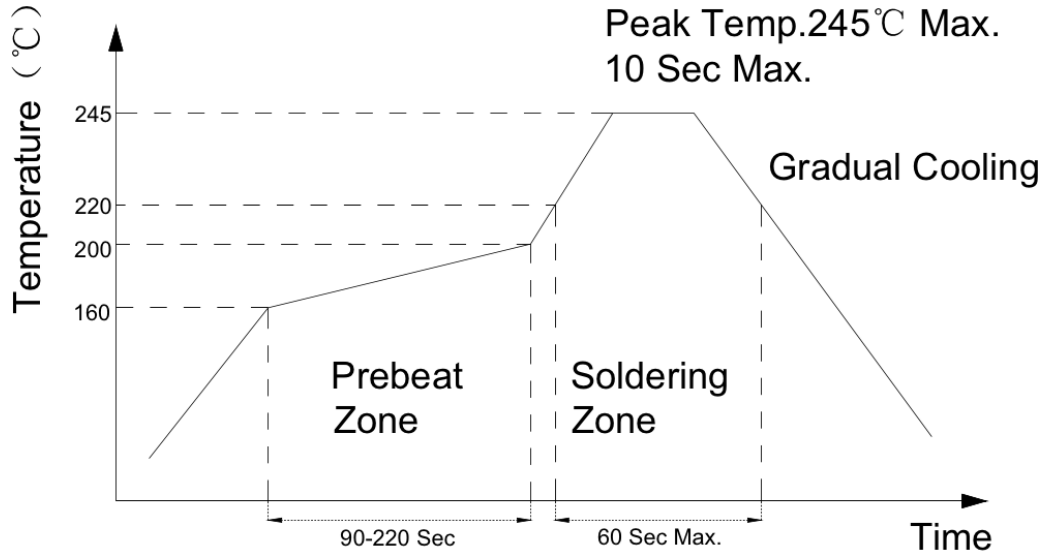
Note:

- SOL maintains a tolerance of ±0.1v for Voltage measurements.

## ➤ Absolute Maximum Ratings:

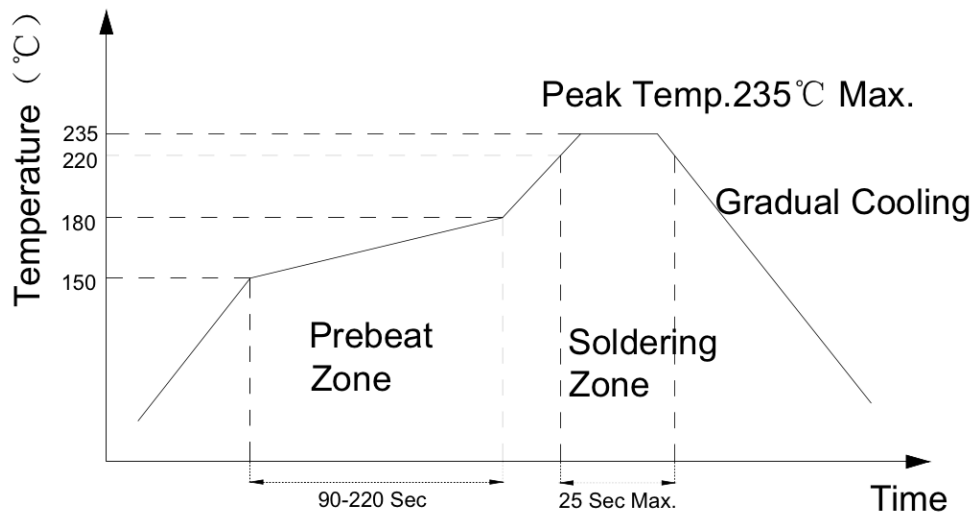
Parameter	Symbol	Test Condition	Value		Unit
			Min.	Max.	
Power Dissipation	Pd			60	mW
Reverse Voltage	VR	IR = 30μA	5		V
Pulse Current	IFp	Duty=0.1,1kHz		30	mA
Forward Current	IFm			20	mA
Operating Temperature	Topr		-40	+85	°C
Storage Temperature	Tstr		-40	+100	°C

## ➤ IR reflow soldering Profile:



**Lead Free solder**

**Lead solder**



### NOTES:

1. We recommend the reflow temperature  $240^{\circ}\text{C} \pm 5^{\circ}\text{C}$ .
2. Don't cause stress to the silicone resin while it is exposed to high temperature.
3. Number of reflow process shall be 1 time.

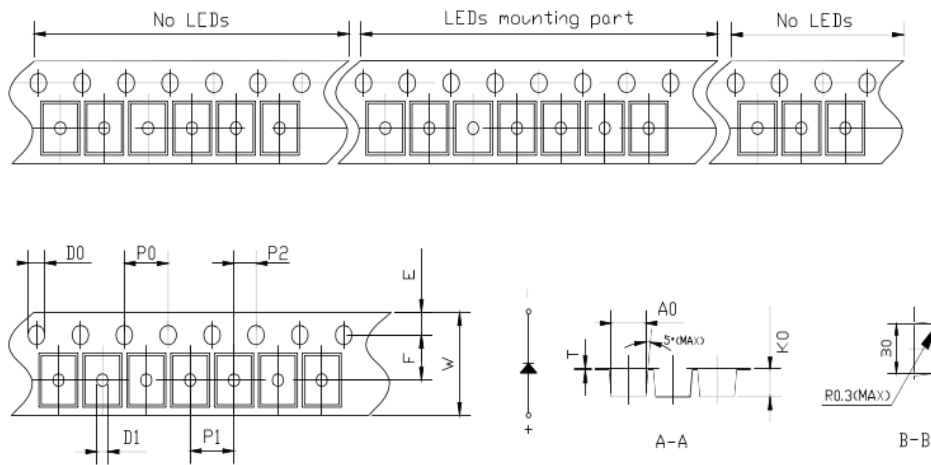
➤ **Test items and results of reliability:**

Test Item	Test Conditions	Duration/ Cycle	Number of damage	Reference
Temperature	-40° C 30min ↑↓25° C(2min) 100° C 30min	100 times	0/100	JEITA ED-4701300 303
Thermal Shock	40° C 30min ↑↓ 5sec 100° C 30min	100 times	0/100	JEITA ED-4701200 303
High Temperature Storage	Ta=100° C	1000 hours	0/100	EIAJED-4701200 201
Humidity Heat Storage	Ta=85° C RH=85%	1000 hours	0/100	EIAJED-4701100 103
Low Temperature Storage	Ta=-40° C	1000 hours	0/100	EIAJED-4701200 202
Room Temperature Test	Ta=25° C IF=20mA	1000 hours	0/100	Tested with SOL standard
High Humidity Heat Test	60° C RH=90% IF=20mA	1000 hours	0/100	Tested with SOL standard
Low Temperature Test	Ta=-40° C IF=20mA	1000 hours	0/100	Tested with SOL standard

<b>ESD(HBM)</b>	<b>-4KV at 1.5KΩ; 100pF</b>	<b>3 times</b>	<b>0/100</b>	<b>MIL-STD-883D</b>
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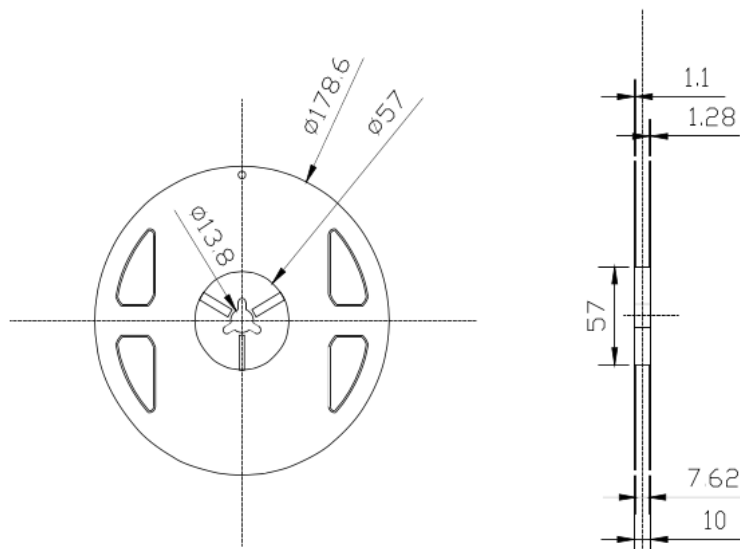
## ➤ Packaging:

### 1. Dimension of Tape (Unit: mm)



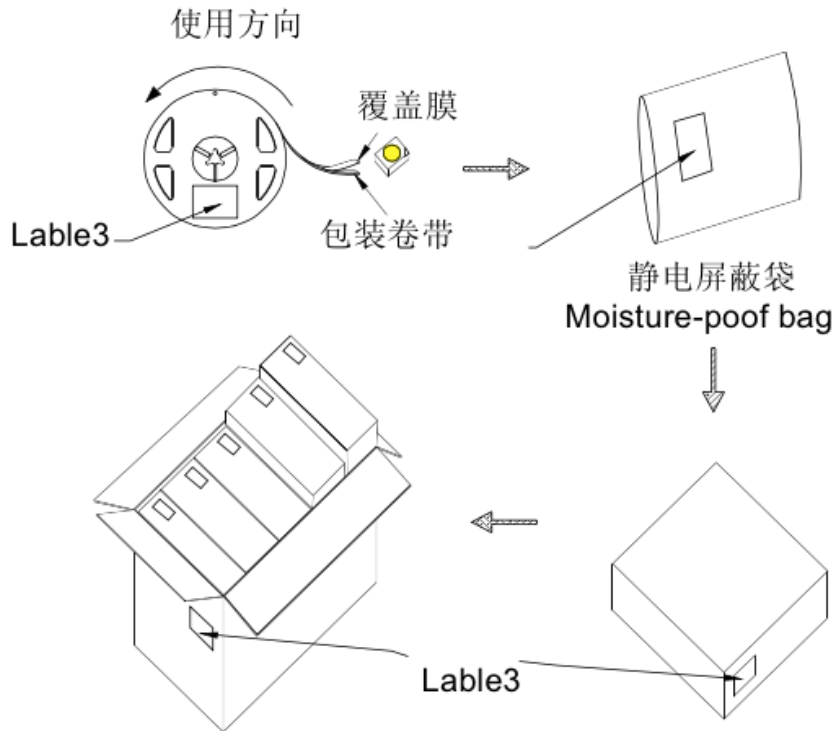
symbol	A0	B0	K0	P0	P1	P2	model	unit
spec	3.15±0.10	3.80±0.10	2.10±0.10	4.00±0.10	4.00±0.10	2.00±0.10		
symbol	W	T	E	F	D0	D1	2835	mm
spec	8.00±0.10	0.235±0.05	1.75±0.10	3.50±0.10	1.50 <sup>+0.10</sup> <sub>-0.00</sub>	1.00 <sup>+0.10</sup> <sub>0.00</sub>		

### 2. Dimension of Reel (Unit: mm)





### 3. Dimension of Package (Unit: mm)



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

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

## Thank You!

