Data Sheet

Customer:

Part No: CL-SFD3535USO-A-01

Sample No:

Description: 3535 Orange SMD

Item No:

Customer			
Check	Inspection	Approval	Date

Features:

. Reflow Solderable

. High Luminous Intensity and Low Power Dissipation

. Good Reliability and Long Life

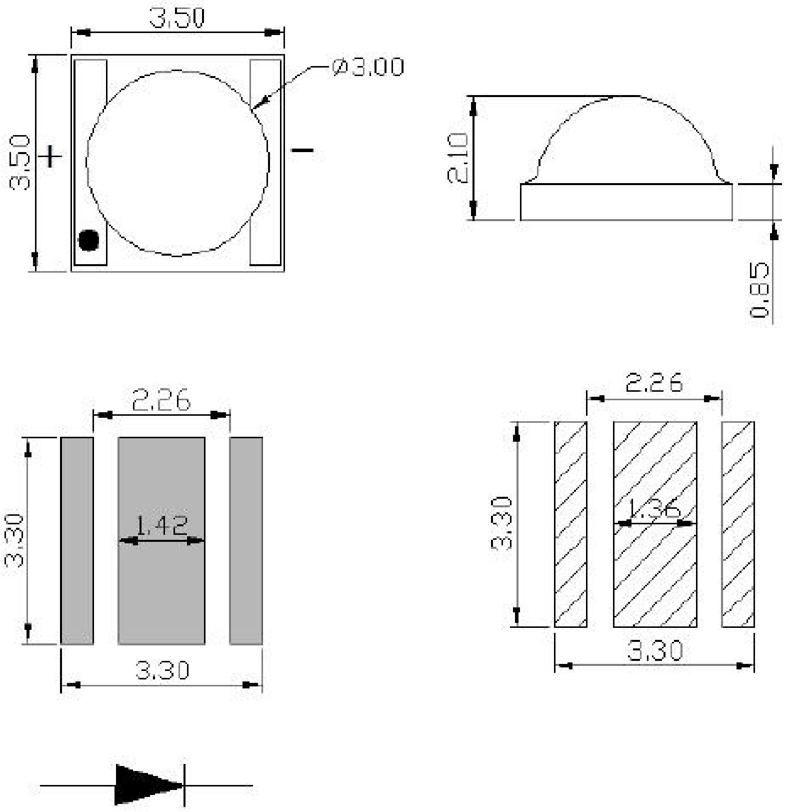
. Complied With RoHS Directive

Technical Data Sheet

This product is generally used as indicator and luminary for electronic equipment such as household appliance, communication equipment, and dashboard.

Applications

- ■ Optical indicator
- ■ Indoor display
- ■ Backlighting in dashboard and switch
- ■ Flat backlighting for LCD, symbol and display
- ■ General use



Notes:

1 . All dimension units are millimeters.

2. All dimension tolerance is ±0.2mm unless otherwise noted.

Selection Guide

Part No.	Chip Materials	Lens Type	Luminous Flux(Lm) 350mA			Viewing Angle
			Min	Typ	Max	2θ1/2
CL-SFD3535USO-A-01	Orange (AlGaInP)	Water Clear	50	- -	70	120

Note:

1.2θ1/2 is the angle from optical centerline where the luminous intensity is 2θ1/2 the optical centerline value.

2.The above luminous intensity measurement allowance tolerance ±10%

Electrical / Optical Characteristics at Ta=25°C

Parameter	Symbol	Min.	Typ.	Max	Units	test conditions
Forward Voltage	VF	1.8	- -	2.4	V	IF=350mA
Reverse Current	IR	- -	- -	10	uA	VR = 5V
Dominate Wavelength	λd	600	- -	610	nw	IF=350mA

Absolute Maximum Ratings at Ta=25°C

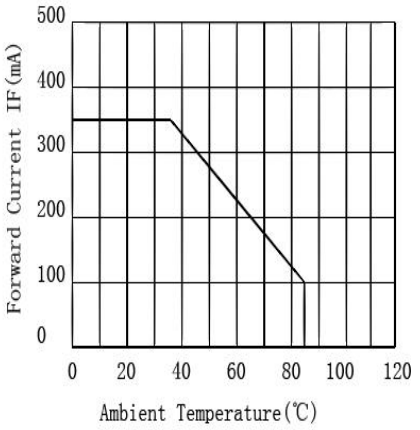
Parameter	Symbol	Rating	Units
Power Dissipation	Pd	1	W
DC Forward Current	IF	350	mA
Peak Forward Current [1]	IFP	700	mA
Reverse Voltage	VR	5	V
Electrostatic Discharge (HBM)	ESD	2000	V
Operating Temperature	Topr	-30~+75	°C
Storage Temperature	Tstg	-40~+85	°C

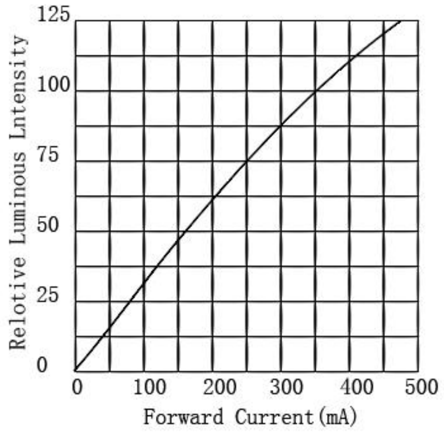
Note:

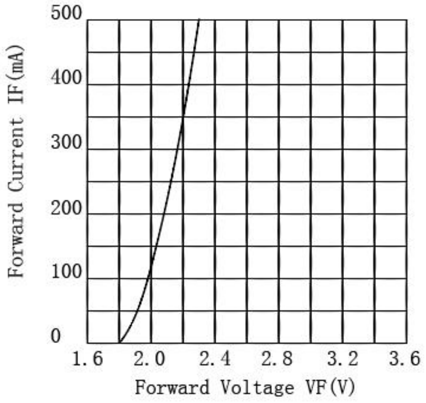
1. 1/10 Dut cycle,0.1ms pulse width.
2. The above forward voltagemeasurement allowance tolerance ±0.1V.

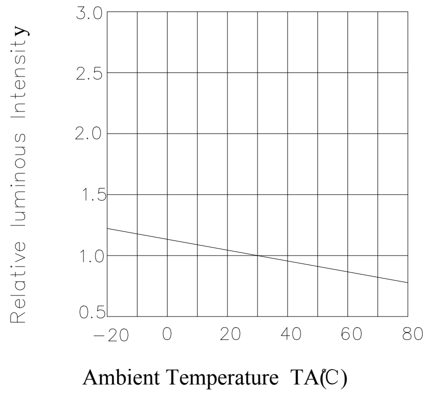
Typical optical characteristics curves

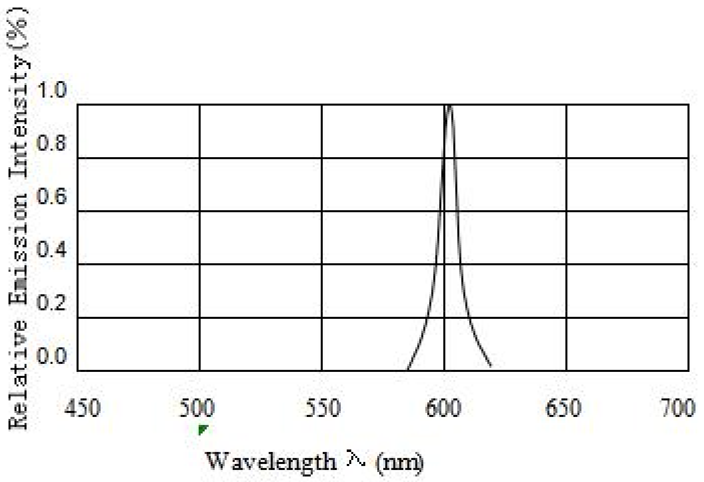
Ambient Temperature VS. Forward Current

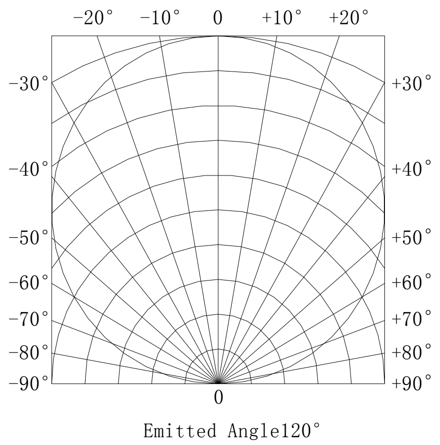












Reliability Test Items And Conditions

Test Items	Ref.Standard	Test conditions	Time	Quantity	Ac/Re
Reflow	JESD22-B106	Temp:260℃max T=10 sec	3 times.	22Pcs.	0/1
Temperature Cycle	JESD22-A104	-40°→30min 5 Cycles↑↓shift(5)min 100℃ →30 min. 25℃~55℃	100 Cycles	22Pcs.	0/1
High Temperature Storage	JESD22-A103	Temp:100℃±5℃	1000Hrs	22Pcs.	0/1
Low Temperature Storage	JESD22-A119	Temp:-40℃±5℃	1000Hrs	22Pcs.	0/1
Life Test	JESD22-A108	Ta=25℃±5℃ IF=350mA	1000Hrs	22Pcs.	0/1
High Temperature High Humidity Life Test	JESD22-A101	85℃±5℃/ 85%RH	1000Hrs	22Pcs.	0/1

Criteria For Judging Damage

Test Items	Symbol	Test conditions	Criteria For Judgement	
			Min.	Max.
Forward Voltage	VF	IF=350mA		U.S.L*)x1.1
Reverse Current	IR	VR = 5V		U.S.L*)x2.0
Luminous intensity	IV	IF=350mA	L.S.L*)x0.7	

U.S.L: Upper standard level L.S.L: Lower standard level

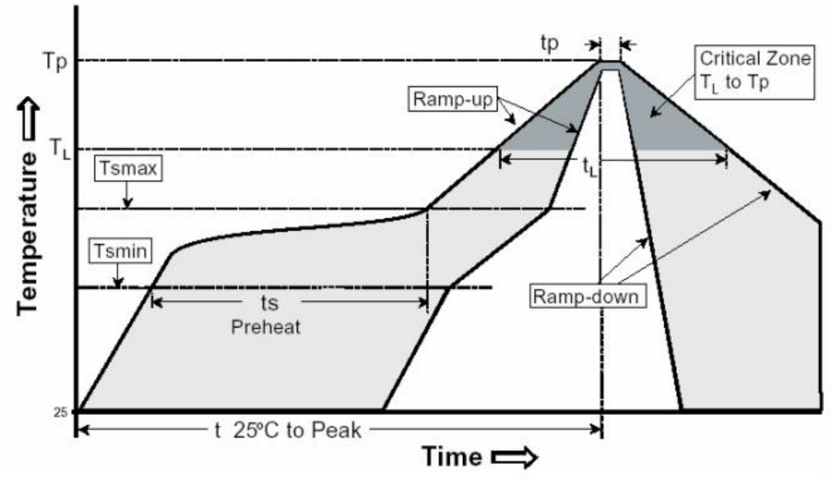
The technical information shown in the data sheets are limited to the typical characteristics and circuit examples of the referenced products.It does not constitute the warranting of industrial property nor the granting of any license.

SMT Reflow Soldering Instructions

1. The number of reflow soldering shall not exceed two times,and the time from the second processing to the first completion shall not exceed 24H

2. When soldering , do not put stress on the LEDs during heating .
3. Reflow temperature distribution (Acc.to J-STD-020D)

Profile Feature	**Sn-Pb Eutectic Assembly**		**Pb-Free Assembly**	
	Large Body	**Small Body**	**Large Body**	**Small Body**
Average ramp-up rate (TL to Tp)	3℃/second max.		3℃/second max.	
Preheat -Temperature Min(TSmin) -Temperature Max(TSmax) -Time(min to max)(ts)	 100℃ 150℃ 60-120 seconds		 150℃ 200℃ 60-180 seconds	
Tsmax to TL -Ramp-up Rate			3℃/second max.	
Time maintained above: -Temperature(TL) -Time(tL)	 183℃ 60-150 seconds		 217℃ 60-150 seconds	
Peak Temperature(Tp)	225+0/-5℃	240+0/-5℃	245+0/-5℃	260+0/-5℃
Time within 5℃ of actual Peak Temperature(tp)	10-30 seconds	10-30 seconds	10-30 seconds	20-40 seconds
Ramp-down Rate	6℃/second max.		6℃/second max.	
Time 25℃ to Peak Temperatur	6 minutes max.		8 minutes max.	



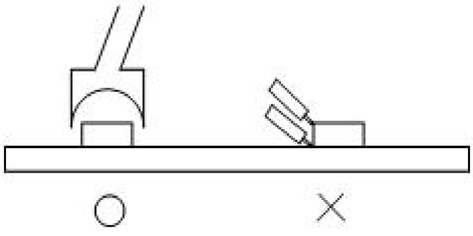
Soldering iron

1.When hand soldering, the temperature of the iron must less than 350℃ for 3 seconds

2.The hand solder should be done only one times

Repairing

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.



Storage

The package is sealed:

1.Recommended storage condition :At 5℃~30℃ and relative humidity 90% RH max.

2.It is recommended that SMD out of their original packaging are used within one year.

The package is opened:

1.Completed within 24 hours.

2.Stored at5℃~30℃ and 60% RH or less.

3.LEDs stored more than 24 hours should be baked at about 65℃±5℃ for at least 24 hours before solder assembly.

ESD

Static Electrisity will damage the LED.

The following procedures may decrease the possibility of ESD damage.

1.All productive machinery and test instruments must be electrically grounded.

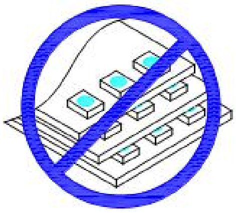
2.Use a condustive wrist band or anti-electostatic glove when handling these LEDs.

3.Manintain a humidity level of 50%RHor higher in production areas.

4.Use anti-static packaging for transport and storage.

Handling Precautions

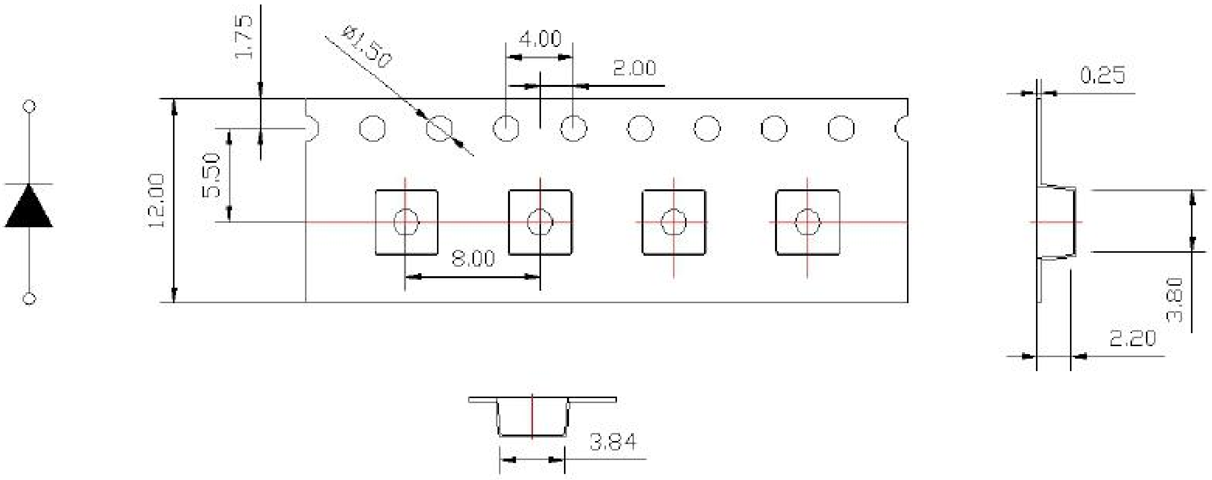
1.Do not stack together assembled PCBs containing LEDs. Impact may scratch the silicone lens or damage.



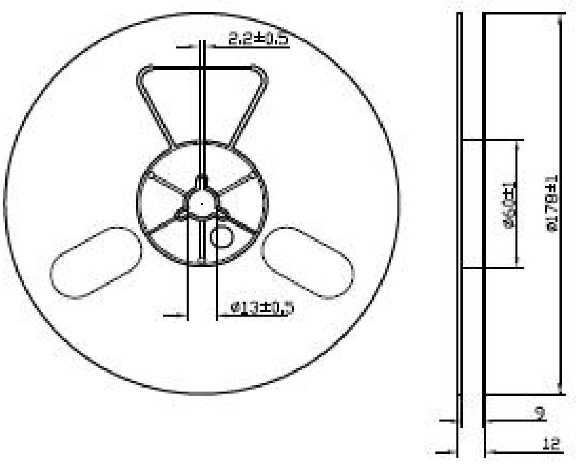
2.Not available in the situation of acidity for PH.

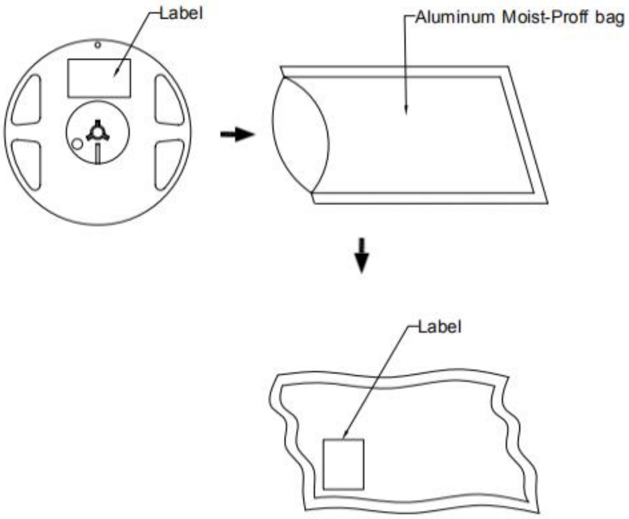
3.Electrostatic sensitive device

Carrier tape: 1000PCS/reel



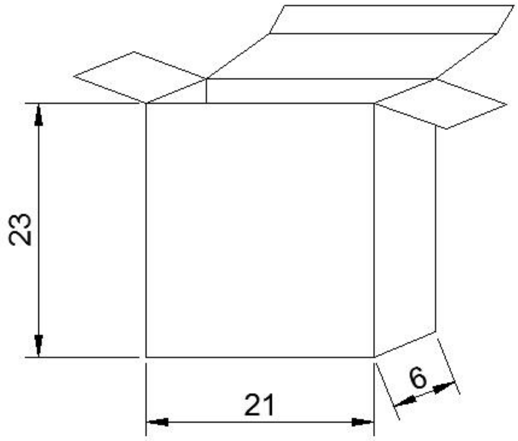
Moisture Resistant Packaging





Cardboard Box

Maximum packing quantity (5 packs of material)



Maximum packing quantity (27 bags of material or 5 small boxes)