Data Sheet

Customer:

Part No: CL-SFZ681USD-01

Sample No:

Description: 3528 Red SMD

Item No:

Customer			
Check	Inspection	Approval	Date

CL-SFZ681USD-01

Features:

. Reflow Solderable

. High Luminous Intensity and Low Power Dissipation

. Good Reliability and Long Life

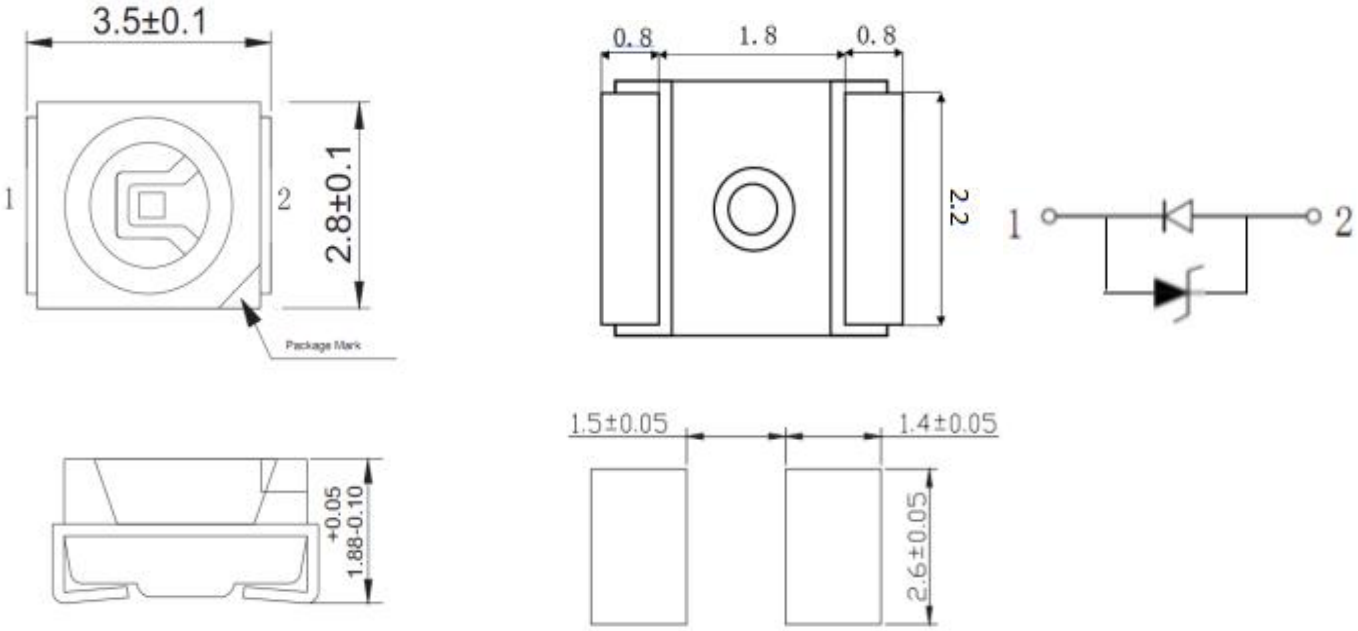
. Complied With RoHS Directive

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 intensity(mcd) @ 20mA			Viewing Angle
			Min	Typ	Max	2θ1/2
CL-SFZ681USD-01	Red (InGaN)	White Diffused	400	- -	600	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	2.1	2.4	V	IF=20mA
Reverse Current	IR	- -	- -	10	uA	VR = 5V
Dominate Wavelength	λd	626	- -	635	nm	IF=20mA

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Units
Power Dissipation	Pd	48	mW
DC Forward Current	IF	20	mA
Peak Forward Current [1]	IFP	75	mA
Reverse Voltage	VR	5	V
Electrostatic Discharge (HBM)	ESD	4000	V
Operating Temperature	Topr	-40~+85	°C
Storage Temperature	Tstg	-40~+100	°C

Note:

1. 1/10 Dut cycle,0.1ms pulse width.
2. The above forward voltage measurement allowance tolerance ±0.1V.
3. The tolerance of wave length:±1nm.

BIN CODE LIST

Luminous Intensity(IV)				
BIN CODE	MIN	MAX	Unit	IF
J	400	500	mcd	20mA
K	500	600		

Tolerance on each Intensity bin is:+/-10%

Forward Voltange(VF)				
BIN CODE	MIN	MAX	Unit	IF
DVA2	1.8	2.0	V	20mA
DVB1	2.0	2.2		
DVB2	2.2	2.4		

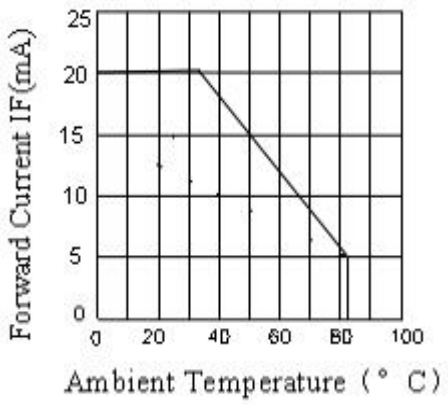
Tolerance on each Forward Voltage bin is:+/-0.1V

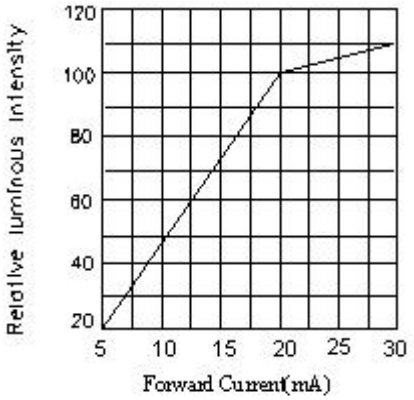
Dominant Wavelength(Hue)				
BIN CODE	MIN	MAX	Unit	IF
PA	626	629	nm	20mA
PB	629	632		
PC	632	635		

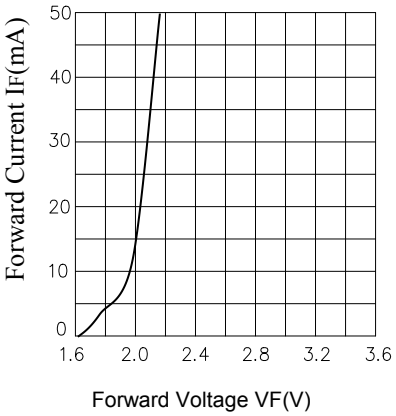
Tolerance for each Dominate Wavelength bin is:+/- 1nm

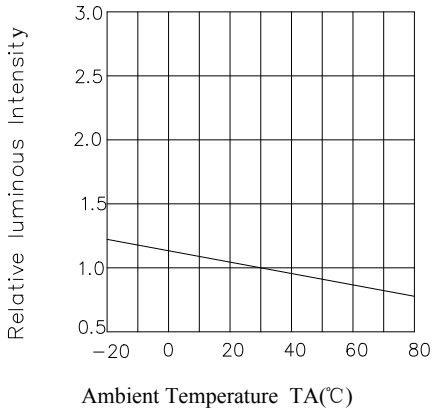
Typical optical characteristics curves

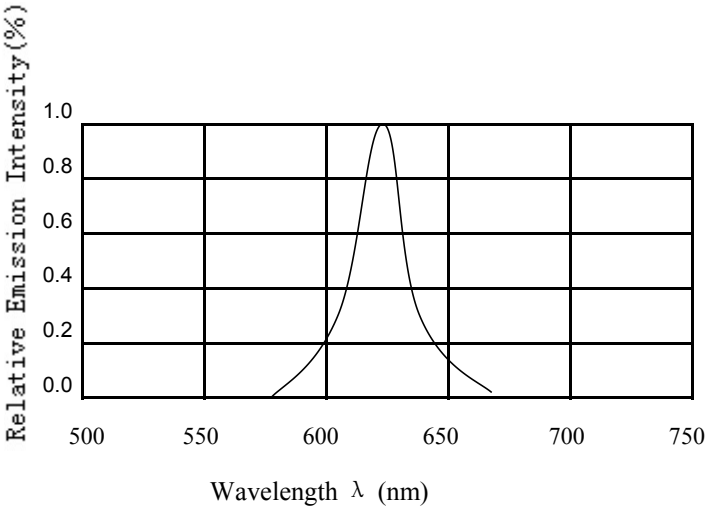
Ambient Temperature VS. Forward Current

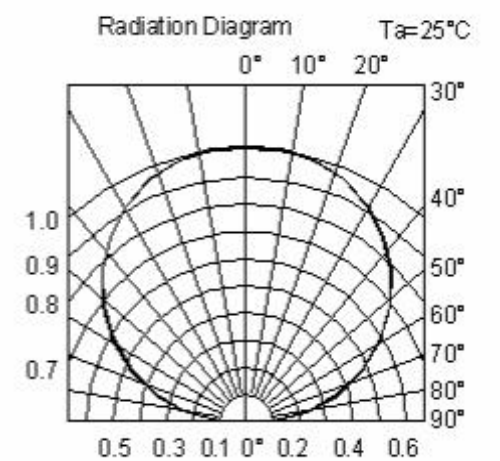












Reliability Test Items And Conditions

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=20mA	1000Hrs	22Pcs.	0/1
High Temperature High Humidity Life Test	JESD22-A101	85℃±5℃/ 85%RH IF=20mA	1000Hrs	22Pcs.	0/1

Criteria For Judging Damage

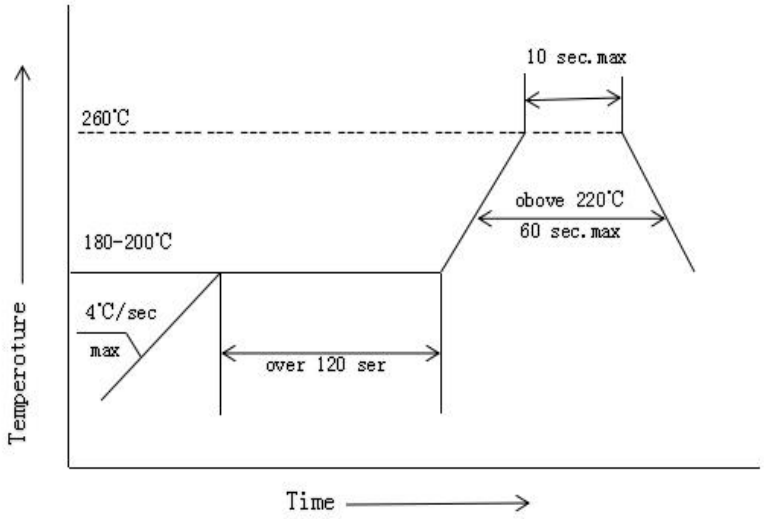
Test Items	Symbol	Test conditions	Criteria For Judgement	
			Min.	Max.
Forward Voltage	VF	IF=20mA		U.S.L*)x1.1
Reverse Current	IR	VR = 5V		U.S.L*)x2.0
Luminous intensity	mcd	IF=20mA	L.S.L*)x0.7	

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 SMT

1.It is recommended that the reflow soldering should not be more than once.
If it is subjected to two high temperature processing, please finish in 24H.
2.When soldering , do not put stress on the LEDs during heating .

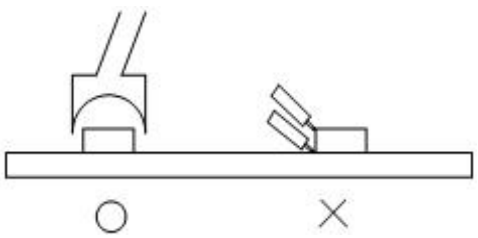


Soldering iron

1.When hand soldering, the temperature of the iron must less than 300℃ 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 beforehand 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.

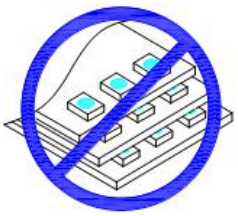
2.Use a condustive wrist band or anti-electostatic glove when handling these LEDs.

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.

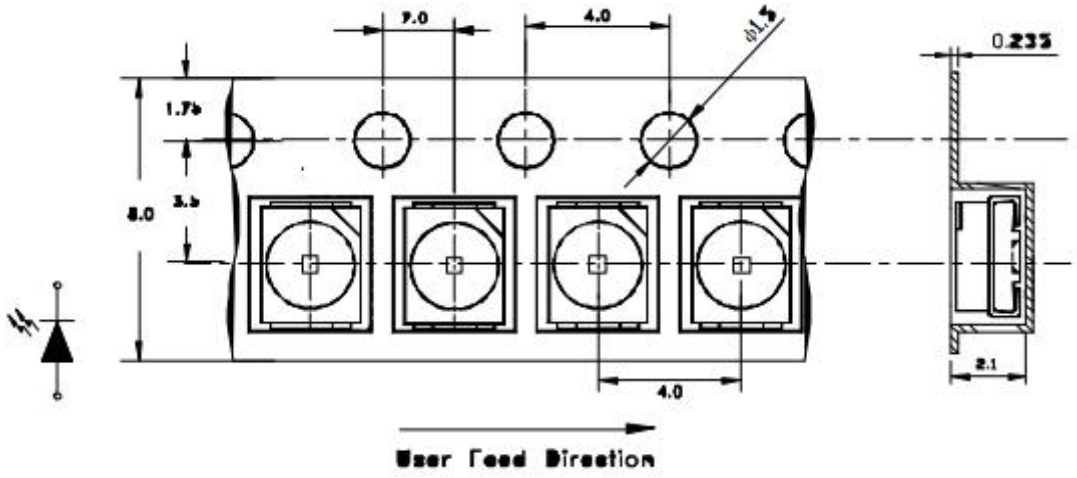


2.Not available in the situation of acidity for PH.

3.Electrostatic sensitive device

Packaging

Carrier tape（MPQ:2000PCS/reel）



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

Moisture Resistant Packaging