Ciel Light "Light of Sky"

RoHS

Data Sheet

Customer: _____

Part No: CL-SFC281DBW-6.5K-90CRI

Sample No: _____

Description: 2835 White SMD

Item No: _____

Customer			
Check	Inspection	Approval	Date

Features:

. Reflow Solderable

. High Luminous Intensity and Low Power Dissipation

. Good Reliability and Long Life

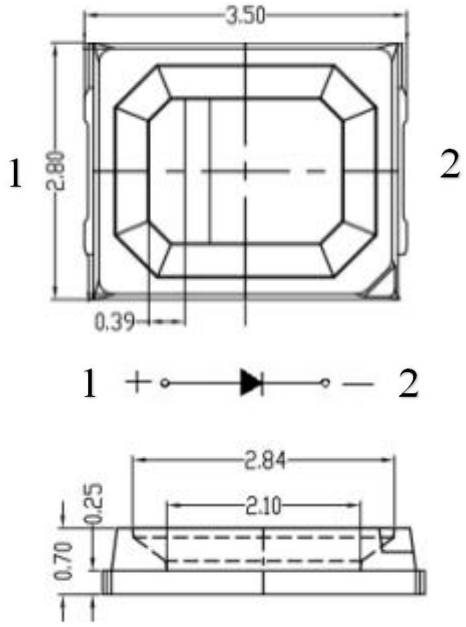
. Complied With RoHS Directive

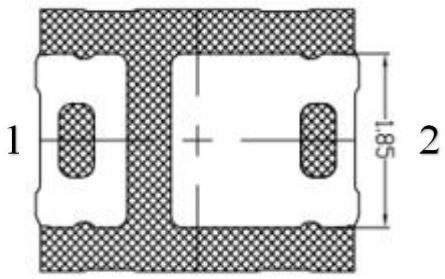
Technical Data Sheet

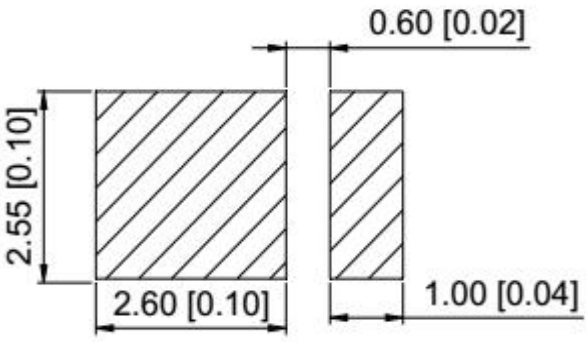
This product is generally used as indicator and luminary for electronic equipment such as household appliance, communication equipment, and dashboard.

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) 60mA			Viewing Angle
			Min	Typ	Max	2θ1/2
CL-SFC281DBW-6.5K-90CRI	InGaN	Yellow Diffused	22	24.5	26	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	2.8	- -	3.4	V	IF=60mA
Reverse Current	IR	- -	- -	10	uA	VR = 5V
Color Rendering Index	CRI	90	- -	- -	/	IF=60mA
Color Temperature	Tc	6000	- -	6500	K	IF=60mA

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Units
Power Dissipation	Pd	200	mW
DC Forward Current	IF	60	mA
Peak Forward Current [1]	IFP	120	mA
Reverse Voltage	VR	5	V
Electrostatic Discharge (HBM)	ESD	2000	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 voltagemeasurement allowance tolerance ±0.1V.

Bin Range of FLUX

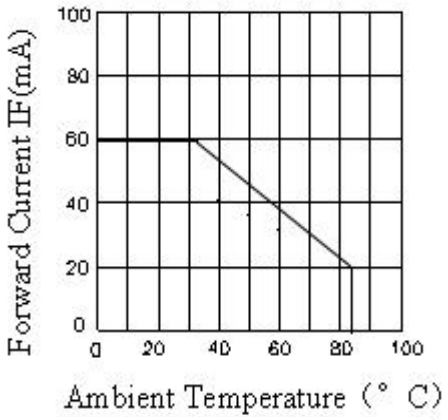
BIN	Code	min	max	Unit	IF
LM	K1	22	24	lm	60MA
	K2	24	26		

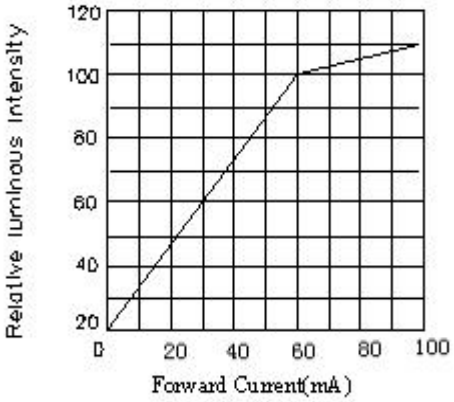
Bin Range of Forward Voltage

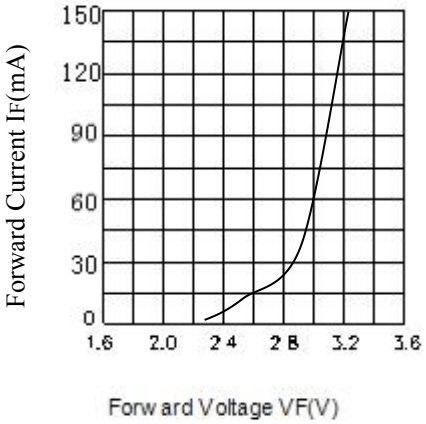
BIN	Code	min	max	Unit	IF
VF	V1	2.8	2.9	V	60MA
	V2	2.9	3.0	V	
	V3	3.1	3.2	V	
	V4	3.2	3.3	V	
	V5	3.3	3.4	V	

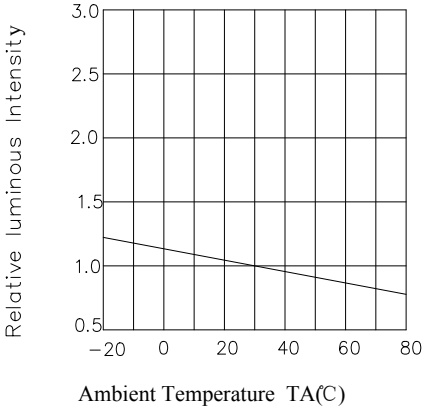
Typical optical characteristics curves

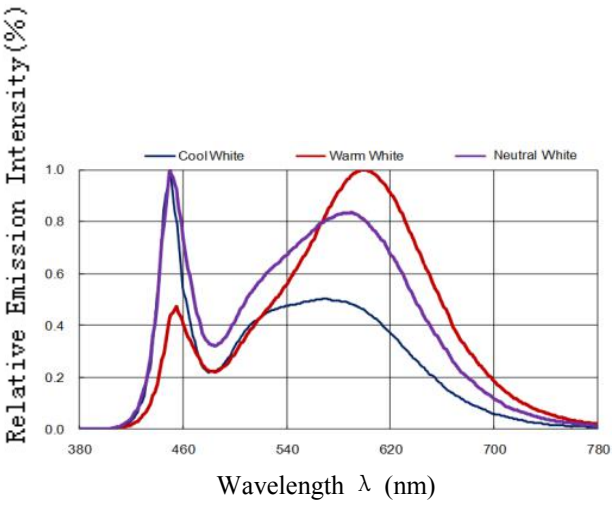
Ambient Temperature VS. Forward Current

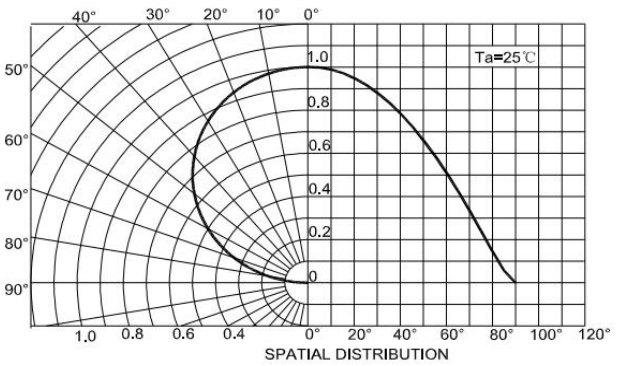




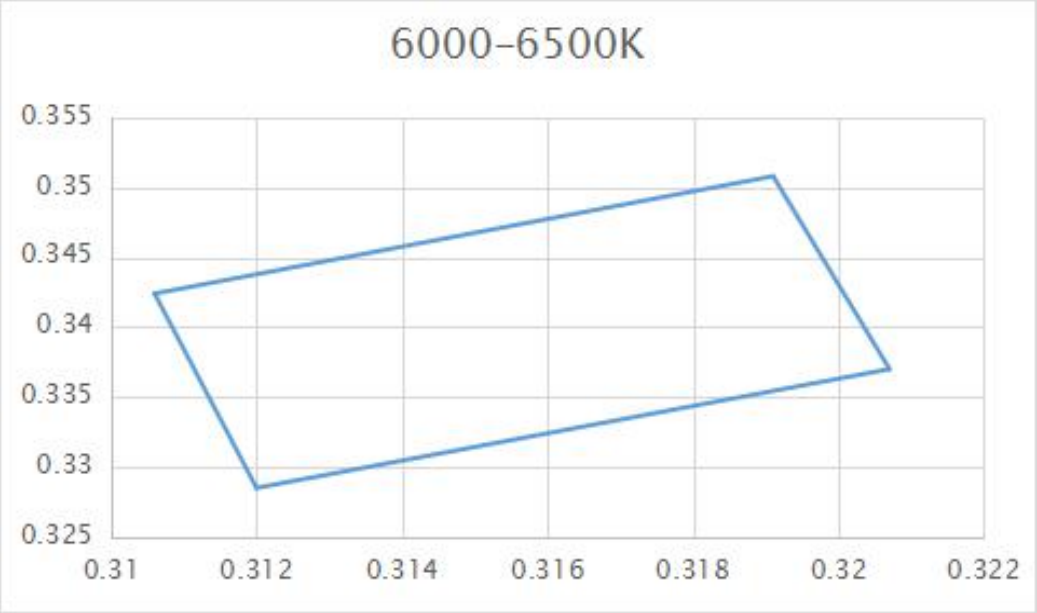








Bin Color： IF=60MA



BIN	x	y
6000-6500K	0.3191	0.3508
	0.3106	0.3424
	0.312	0.3285
	0.3207	0.337
	0.3191	0.3508

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=60mA	1000Hrs	22Pcs.	0/1
High Temperature High Humidity Life Test	JESD22-A101	85℃±5℃/ 85%RH IF=60mA	1000Hrs	22Pcs.	0/1

Criteria For Judging Damage

Test Items	Symbol	Test conditions	Criteria For Judgement	
			Min.	Max.
Forward Voltage	VF	IF=60mA		U.S.L*)x1.1
Reverse Current	IR	VR = 5V		U.S.L*)x2.0
Luminous intensity	mcd	IF=60mA	L.S.L*)x0.7	

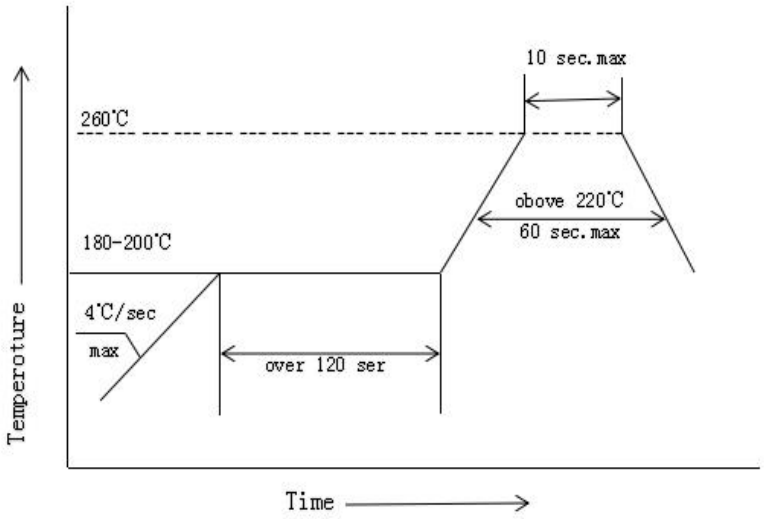
U.S.L: Upper standard level L.S.L: Lower standard level

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.Reflow soldering should not exceed once

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



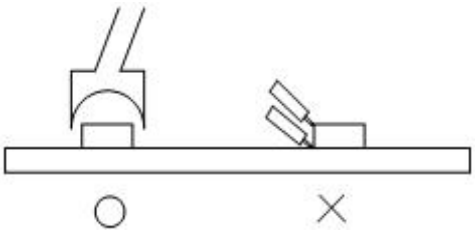
Soldering iron

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 168 hours.
2.Stored at5℃~30℃ and 60% RH or less.
3.LEDs stored more than 168 hours should be baked at about 65℃±5℃ for at least 12 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.

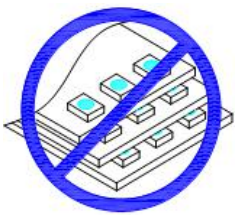
2.Use a condustive wrist band or anti-electostatic glove when handling these LEDs.

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

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

Handling Precautions

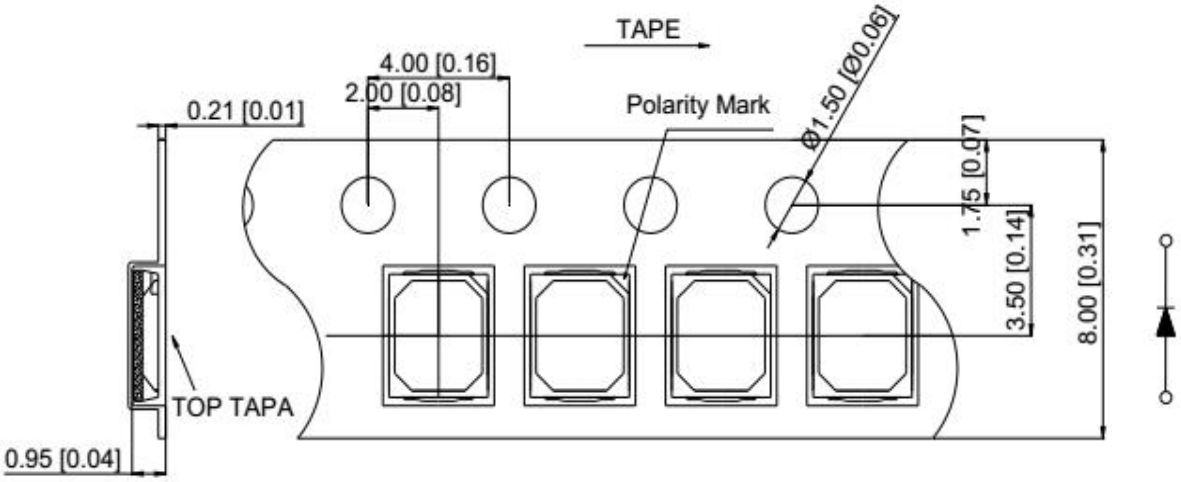
1.Do not stack together assembled PCBs containing LEDs. Impact may scratch the silicone lens or damage.



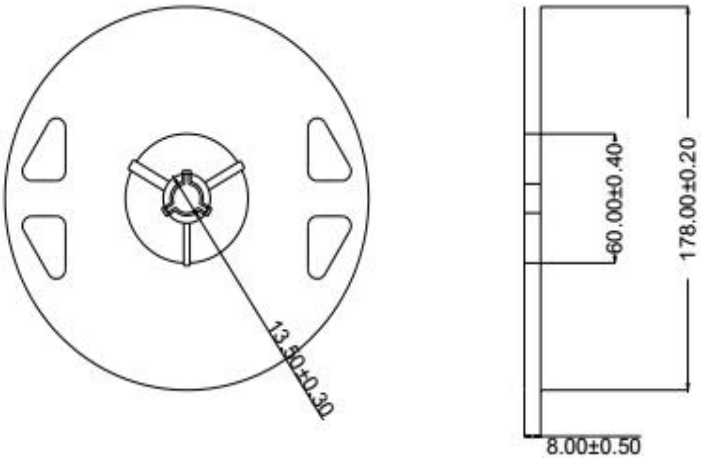
2.Not available in the situation of acidity for PH.

3.Electrostatic sensitive device

Carrier tape（MPQ:4000PCS/reel）



Reel Dimensions



All dimensions in mm, tolerances unless mentioned is ±0.1 mm.

Moisture Resistant Packaging