Data Sheet

Customer: _____

Part No: CL-SP110IR-940-02

Sample No: _____

Description: _____

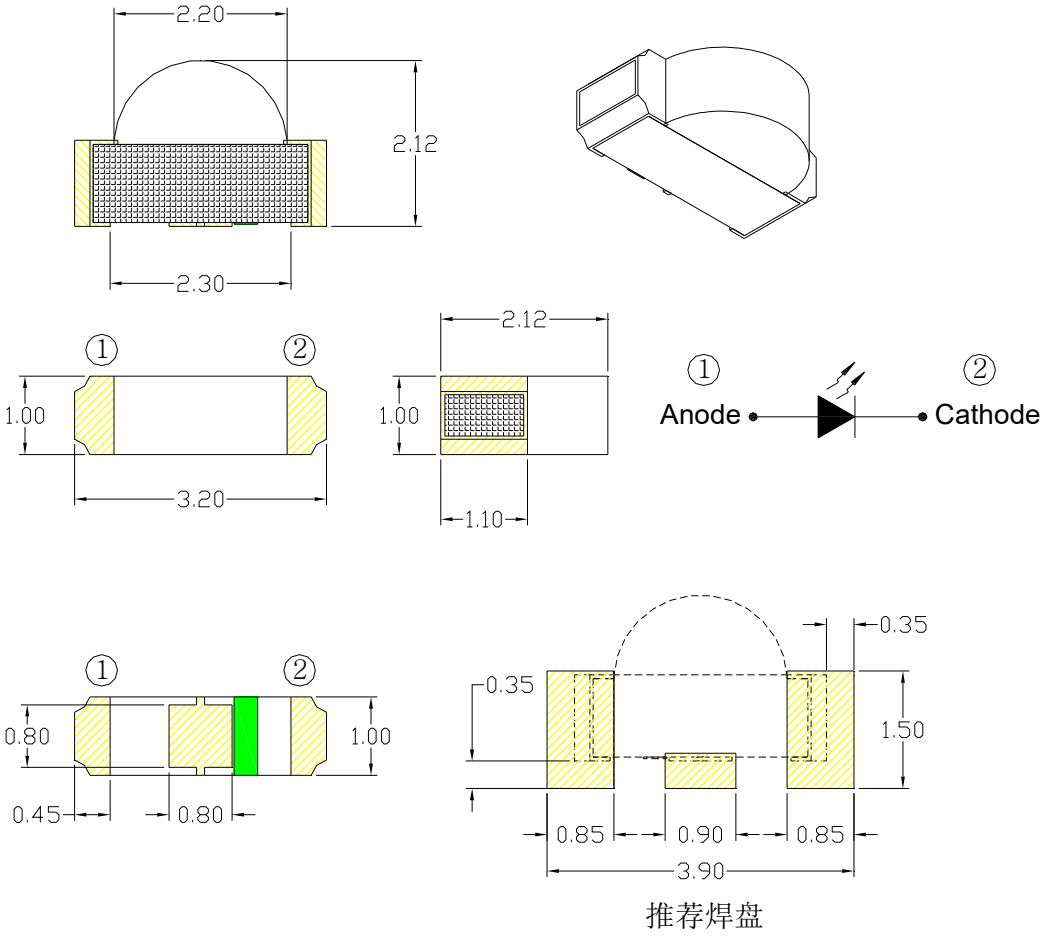
Item No: _____

Customer			
Check	Inspection	Approval	Date

Features

- Peak emission wavelength at 940nm
- Narrow viewing angel of 160 degree
- High speed response
- Dimension: 3.2mm(L) x 1.0mm(W) x 2.1mm(H)

Package Dimensions



推荐焊盘

Notes:

1. All dimensions are in millimeters (inches).

2. Tolerance is ±0.1(0.004") unless otherwise noted.

3.Specifications are subject to change without notice.

Absolute Maximum Ratings at Ta = 25°C

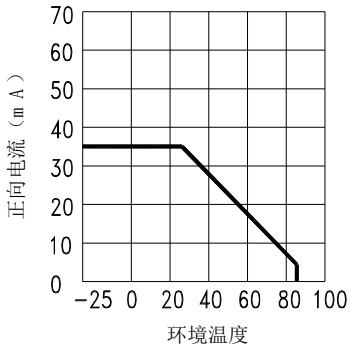
Parameter	Symbol	Rating	Unit
Power Dissipation	P_D	100	mW
Continuous Forward Current	I_F	35	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{OP}	-30 to 80	℃
Storage Temperature	T_{ST}	-40 to 85	℃

** Condition for I_{FP} is pulse of 1/10 duty and 0.1msec width

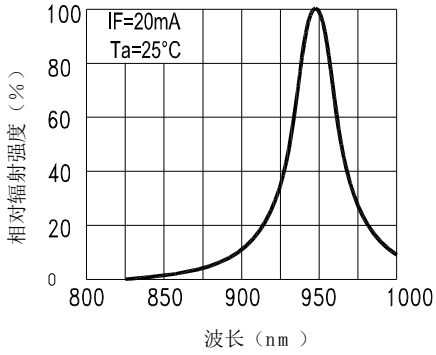
Electrical & Optical Specifications at Ta = 25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage	V_F	1.0	1.2	1.5	V	I_F=20mA
Reverse Current	I_R	--	--	1	uA	V_R=5V
Peak Wavelength	λp	--	940	--	nm	I_F=20mA
Radiant Intensity	Ee	0.5	1.0	--	mW/sr	I_F=20mA
Spectral Bandwidth	Δλ	--	50	--	nm	I_F=20mA
View angle	$2\theta_{1/2}$	-	160	-	deg	I_F=20mA

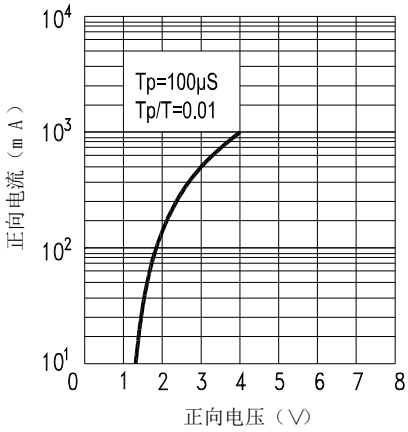
图一：正向电流和环境温度关系曲线



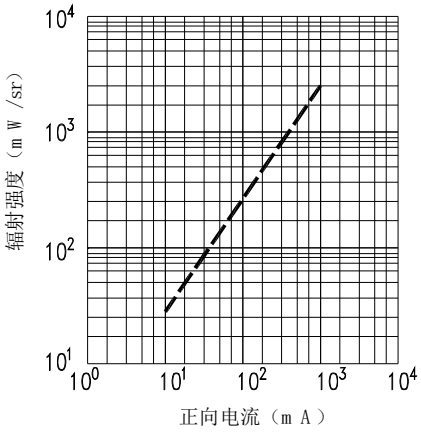
图二：光谱分布曲线



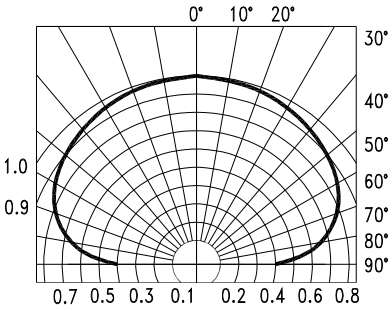
图三：正向电压和正向电流关系曲线



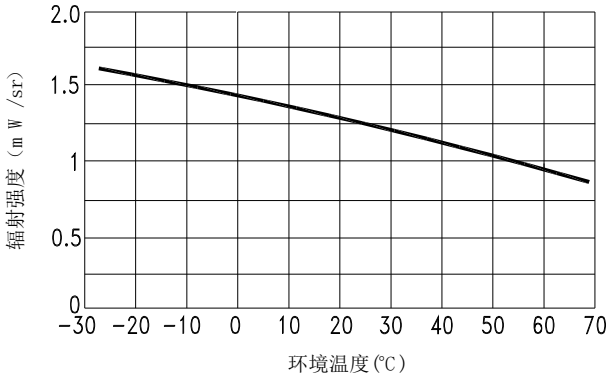
图四：相对强度和正向电流关系曲线



图五：相对辐射强度和空间角关系曲线



图六：相对辐射强度和环境温度关系曲线



RELIABILITY

(1) Test Items and Results

NO.	Test Item	Reference Standard	Test Conditions	(Hours/ Cycles)	Sample	Number of Damaged
1	Temperature Cycle	JEITA ED-4701	-40 °C - 25 °C - 100 °C - 25 °C 30min 5min 30min 5min	100 Cycles	20	0/20
2	Thermal shock	MIL-STD-202G	-40℃～100℃ 15min 15min	500 Cycles	20	0/20
3	High Temperature Storage	JEITA ED-4701 200 201	Ta=100℃	1000 Hours	20	0/20
4	Low Temperature Storage	JEITA ED-4701 200 201	Ta=-40℃	1000 Hours	20	0/20
5	Room Temperature Life Test		Ta=25±5℃ IF=20mA	1000 Hours	20	0/20
6	High Temperature High Humidity Life Test		Ta=60℃ RH=85% IF=20mA	1000 Hours	20	0/20
7	Solderability (Reflow Soldering)	JEITA ED-4701 300 303	Tsol=235℃±5℃, 5sec (Using Flux, Lead Solder)	1 time, 5sec	10	0/10
8	Resistance to Soldering Heat (Reflow Soldering)	JEITA ED-4701 300 301	Tsol=250℃, 10 sec Pre Treatment: 35 °C 95% RH96 Hrs	2 time, 10sec	10	0/10

The above test items such as differences or special customer specific requirements according to the actual situation in accordance with the requirements of customers to try the requirements with the customer, the customer is not required by our test standard test. Different products using different current test

Cautions

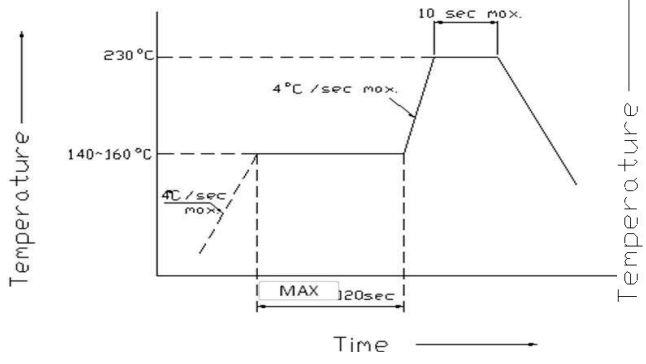
(1) Soldering Conditions

Number of reflow process shall be less than 2 times and cooling process to normal temperature is required between first and Second soldering process.

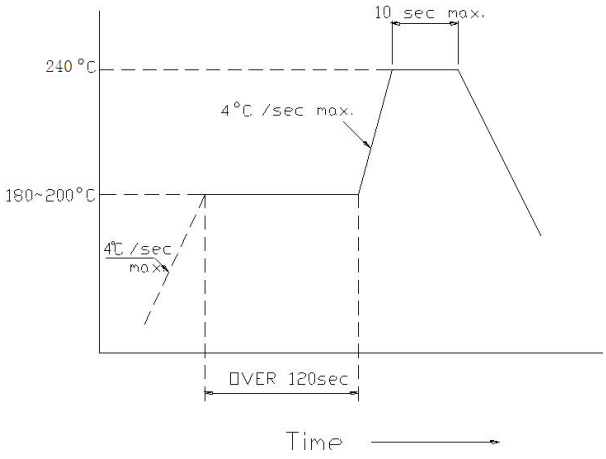
(Recommended soldering conditions)

Reflow Soldering			Manual Soldering	
	Lead Solder	Lead-free Solder	Temperature	350° C Max.
Pre-heat	140 ~ 160° C	180 ~ 200° C	Soldering time	3 sec. Max. (one time only)
Pre-heat time	120 sec. Max.	120 sec. Max.		
Peak temperature	230° C Max.	240° C Max.		
Soldering time	10 sec. Max.	10 sec. Max.		
Condition				

（Lead Solder）



(Lead-Free Solder)



(2) Static Electricity

It is recommended that a wrist band or an anti-electrostatic glove be used when handling the LEDs.

All devices, equipment and machinery must be properly grounded.

Damaged LEDs will show some unusual characteristics such as the forward voltage becomes lower, or the LEDs do not light at the low current. Criteria : (VF > 2.0V at IF=0.5mA)

(3) Moisture Proof Package

It is recommended that moisture proof package be used .

(4)Cautions:

4.1Please check if there is air leak before opening the package, if so, please return the goods back to take drying process for later using.

4.2 Products can be used within 15days after packaging, after that, they must be:

4.2.1 Soldered within 24 hrs

4.2.2 Used in the condition: 30℃ within and 60%RH below

4.2.3 Stored in 30%RH for moisture below.

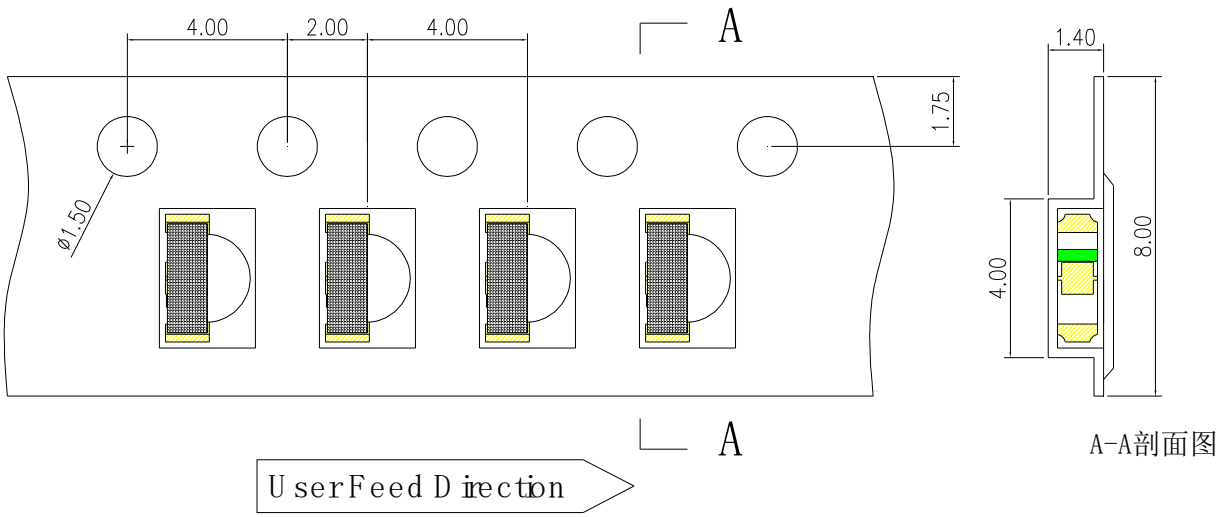
4.3.Products cannot be used for and over 15days after being packaged unless opening the package and take drying our process in 85℃/6H.

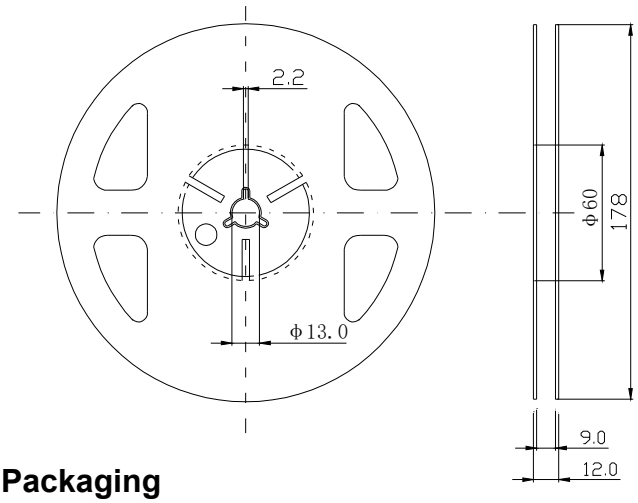
4.4.Products not be used for or over 60days after being packaged please return back to take drying out and packaging process for forward using.

4.5.Products not be used after opening the package need to be dried out for 85℃/6H

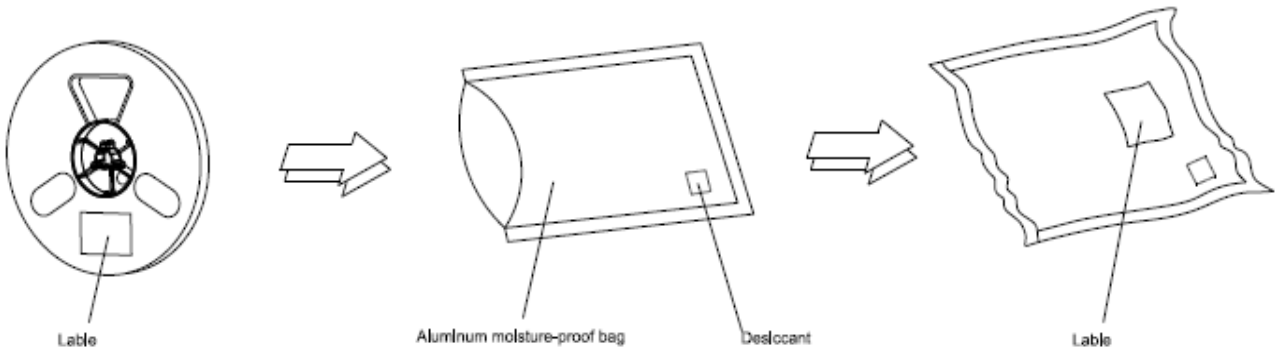
PACKAGING

The LEDs are packed in cardboard boxes after taping.





Moisture Resistant Packaging



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