



DATA SHEET

Customer: _____
Part No: CL-SPD150IR-940-R-02
Sample No: _____
Description: _____
Item No: _____

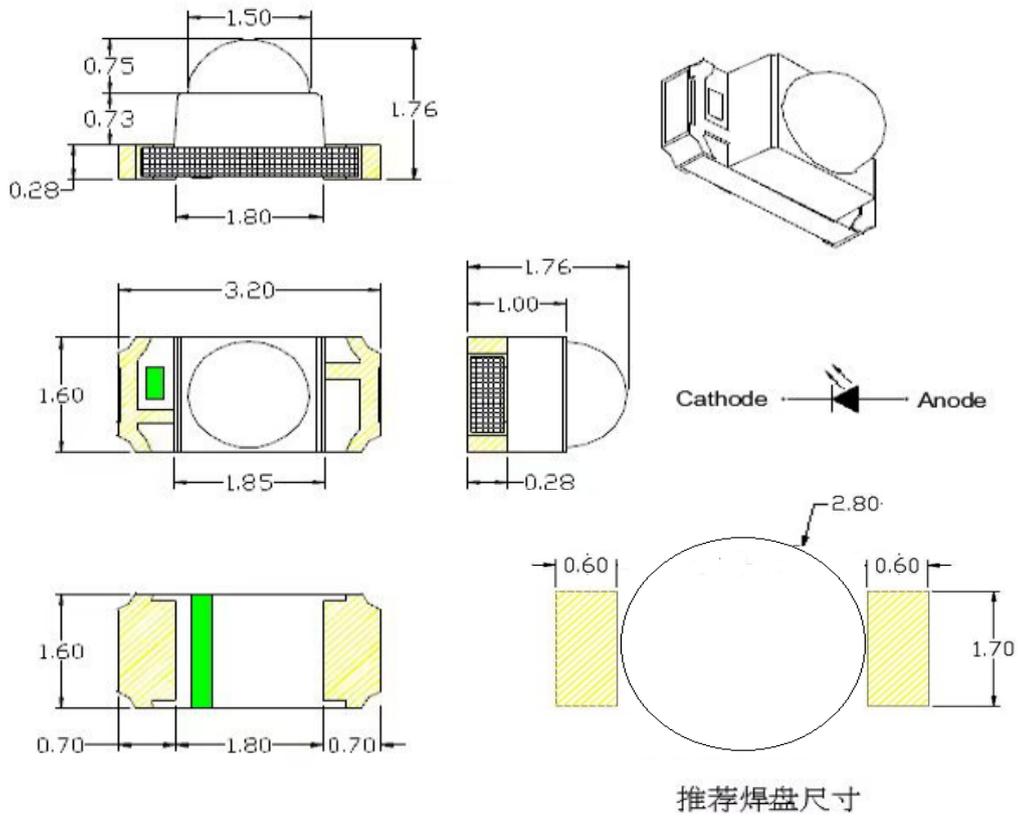
Customer			
Check	Inspection	Approval	Date

Features

- Peak emission wavelength at 850nm
- High power output of min. 5mW/sr @ $I_F = 20\text{mA}$
- Narrow viewing angel of 20 degree
- High speed response
- Dimension: 3.2mm(L) x 1.6mm(W) x 1.76mm(H)



Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.1(0.004")$ 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	120	mW
Continuous Forward Current	I _F	75	mA
Reverse Voltage	V _R	5	V
Operating Temperature	T _{OP}	-30 to 80	°C
Storage Temperature	T _{ST}	-40 to 85	°C

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

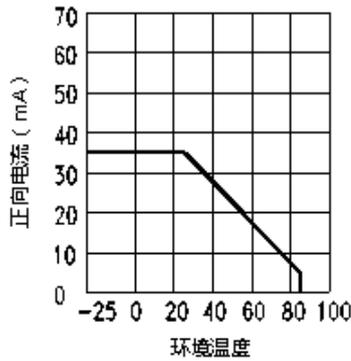
Electrical & Optical Specifications at Ta = 25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage	V _F	--	1.3	1.7	V	I _F =20mA
Reverse Current	I _R	--	--	10	uA	V _R =5V
Peak Wavelength	λ _p	--	940	--	nm	I _F =20mA
Radiant Intensity	E _e	5.0	--	--	mW/sr	I _F =20mA
Spectral Bandwidth	Δλ	--	50	--	nm	I _F =20mA
Rise/Fall Time	Tr / Tf		25/15	35/35	ns	I _F =50mA
View angle	2θ _{1/2}	-	30	-	deg	I _F =20mA

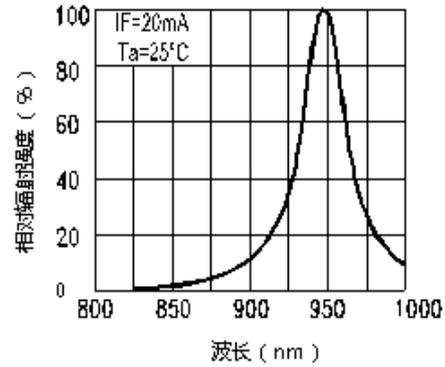
Typical Electrical and Optical Characteristics Curves

(25 Ambient Temperature Unless Otherwise Noted)

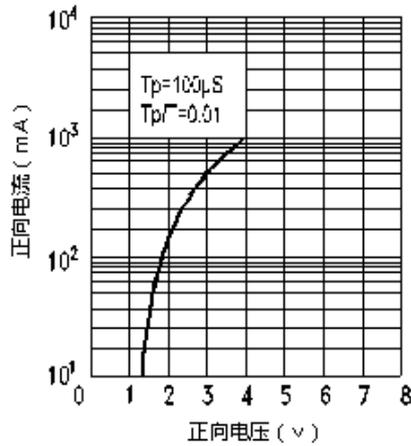
图一：正向电流和环境温度关系曲线



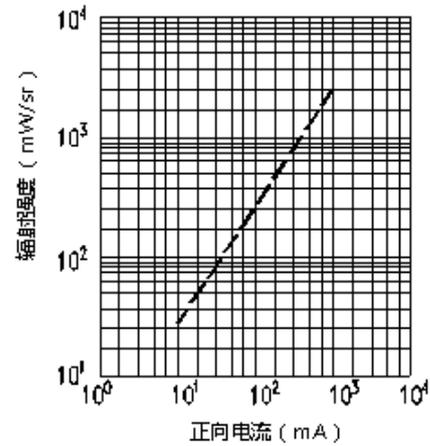
图二：光谱分布曲线



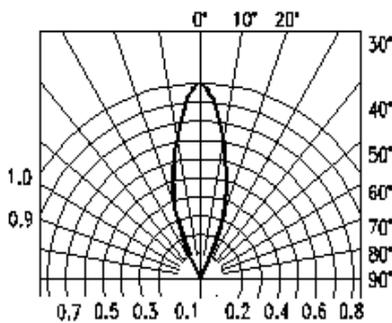
图三：正向电压和正向电流关系曲线



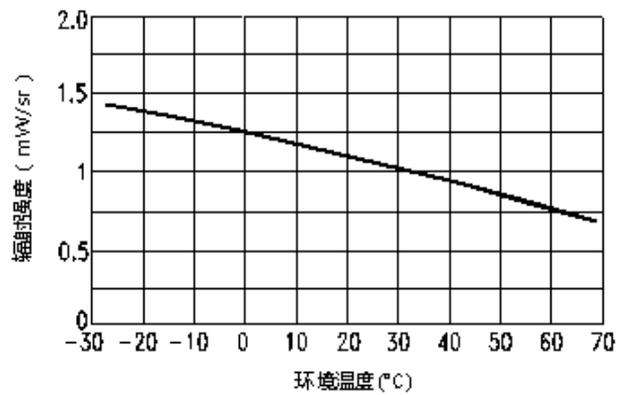
图四：相对强度和正向电流关系曲线



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



Directive Characteristics

Test Items and Results

NO	Pilot projects	Guideline	Test conditions	Duration	QTY	Acceptance
						level (number of failures/total number of samples)
1	temperature cycle	JEITA ED-4701	-40℃ ~ 25℃ ~ 100℃ ~25℃ 30minutes 5 minutes 30minutes 5 minutes	loop 100 times combine	50	0/50
2	Thermal shock	IL-STD-202G	-40℃ ~ 100℃ 15minutes 15 minutes	loop 500 times combine	50	0/50
3	high temperature storage	JEITA ED-4701 200 201	T _a =100℃	1000 hour	50	0/50
4	low temperature storage	JEITA ED-4701 200 201	T _a =-40℃	1000 hour	50	0/50
5	Normal temperature life test		T _a =25±5℃ I _F =20mA	1000 hour	50	0/50
6	High temperature and high humidity life test		T _a =60℃ RH=85% I _F =20mA	1000 hour	50	0/50
7	Solderability (reflow soldering)	JEITA ED-4701 300 303	T _{sol} =235℃±5℃,5 second use flux	Solder once , 5 seconds	10	0/10
8	Solder resistance (reflow soldering)	JEITA ED-4701 300 301	T _{sol} =260℃,10 second preprocessing: 35℃ 95%RH 96 hour	Weld twice , 10 seconds each time	10	0/10
preparation	If the above test items are different from the customer's test requirements or the special customer's special requirements can be based on the actual Situation according to the customer's requirements.					
	Please make a trial production. If the customer does not request, it will be trial produced according to our test standard. Different products are tested with different currents.					

Cautions

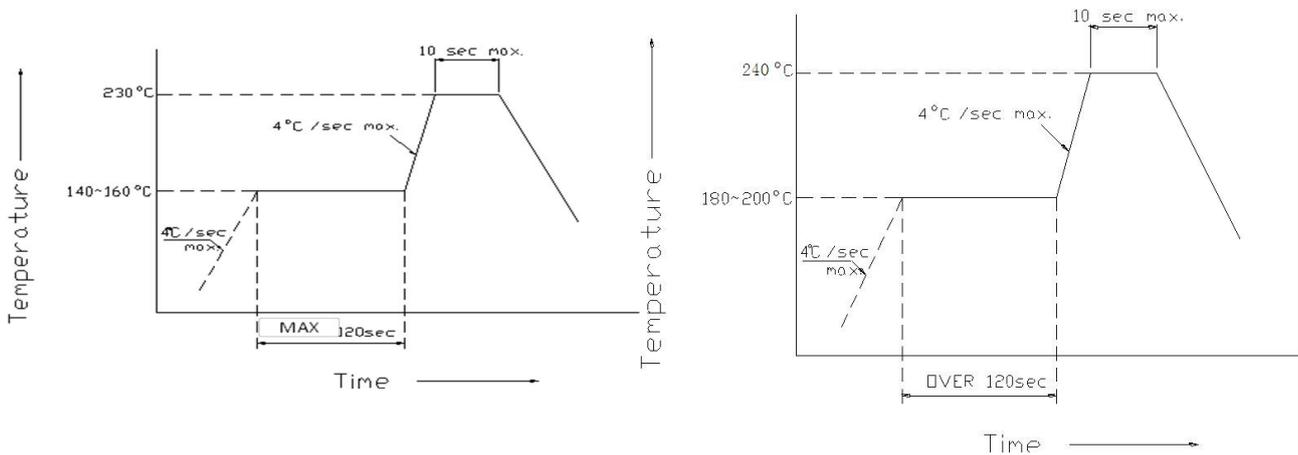
(1) Soldering Conditions

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)

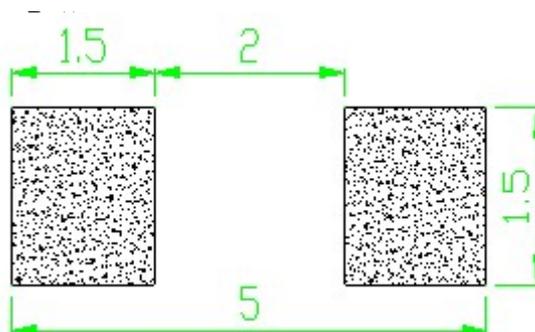
回流焊接 Reflow Soldering			手工焊接	
预热温度 Pre-heat 预热时间 Pre-heat time 峰值温度 Peak temperature 焊接时间 Soldering time 条件Condition	有铅 Lead Solder	无铅 Lead-free Solder	温度 Temperature	350° C Max.
	140 ~ 160° C 120 sec. Max.	180 ~ 200° C 120 sec. Max.	焊接时间 Soldering time	3 sec. Max. (one time only)
	230° C Max. 10 sec. Max. 参考下图	240° C Max. 10 sec. Max. 参考下图		

(Lead Solder)

(Lead-Free Solder)



Recommended Solderin
(Units : mm)



(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 : ($V_F > 2.0V$ at $I_F=0.5mA$)

(3) Moisture Proof Package

It is recommended that moisture proof package be used .

(4)Cautions:

4.1

Please 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: $30^{\circ}C$ 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 $85^{\circ}C/6H$.

4.4.

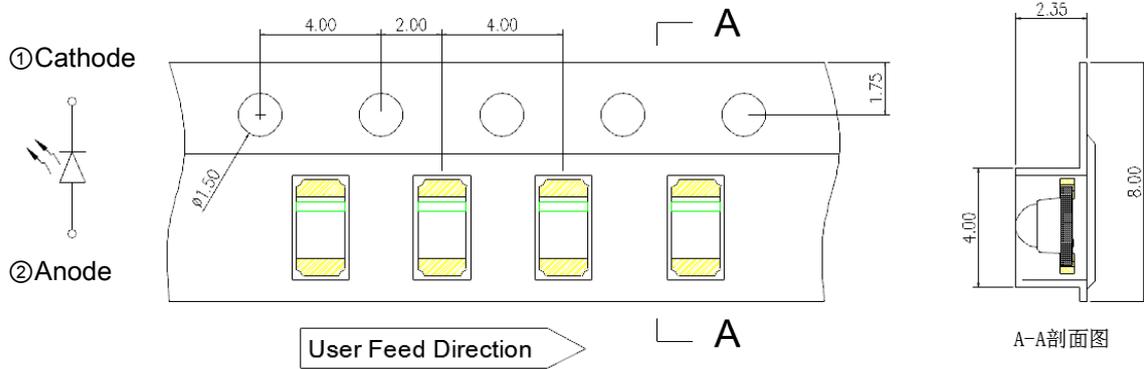
Products not be used for or over 60days after being packaged please return back to take drying out and packaging process for forward using.

4.5

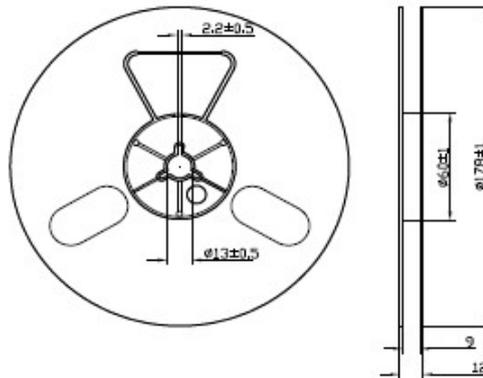
Products not be used after opening the package need to be dried out for $85^{\circ}C/6H$

PACKAGING

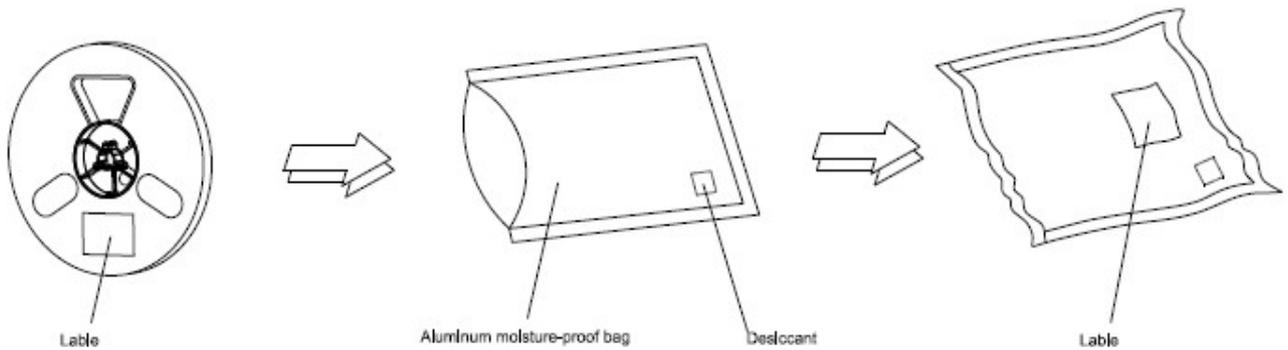
The LEDs are packed in cardboard boxes after taping.



Reel Dimensions



Moisture Resistant Packaging



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