SPECIFICATION FOR ALDER LED

MODEL：**AS-3528SRA2-C2**

ROHS

ALDER optomechanical corp.

Believe SRL
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■ Absolute Maximum Ratings (Ta = 25°C)

Items	Symbol	Absolute maximum Rating	Unit
Power Dissipation	P_D	120	mW
Forward Current(DC)	I_F	50	mA
Peak Forward Current*	I_{FP}	100	mA
Thermal Resistance	R_{th}	250	°C/W
Operation Temperature	T_{opr}	-40 ~ +100	°C
Storage Temperature	T_{stg}	-40 ~ +100	°C
Reflow Soldering Temperature	Tsol	260°C for 5 seconds	°C

*Pulse width≦0.1msec duty≦1/10

■ Typical Electrical & Optical Characteristics (Ta = 25°C)

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	I_F = 20mA	---	2.1	2.4	V
Reverse Current	I_R	V_R = 5V	---	---	50	μA
Dominant Wavelength	Wd	I_F = 20mA	620	625	---	nm
Luminous Intensity	I_V	I_F = 20mA	460	---	1000	mcd
50% Power Angle	2θ½	I_F = 20mA	---	120	---	Deg

■ Intensity Ranks (I_F = 20mA)

Rank	3G	3H	3J
Luminous Intensity (mcd)	460-600	600-780	780-1000

■ Vf Ranks (I_F = 20mA)

Rank	D1	E1	F1	G1	H1	J1
Forward Voltage (V)	1.8-1.9	1.9-2.0	2.0-2.1	2.1-2.2	2.2-2.3	2.3-2.4

■ Wavelength Ranks (I_F = 20mA)

Rank	R1	R2	R3	R4
Dominant Wavelength (nm)	620-625	625-630	630-635	635-640

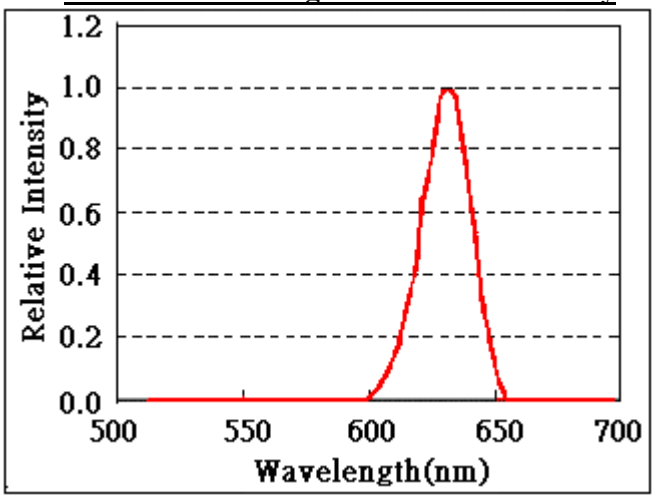
Notes:

1. Tolerance of measurement of luminous intensity : ±15%
2. Tolerance of measurement of dominant wavelength :±1nm
3. Tolerance of measurement of forward voltage : ±0.1V
4. All ranks will be included per normal delivery and rank rations will be determined by Alder.
5. Please confirm with us, if your request is different from standard specification.

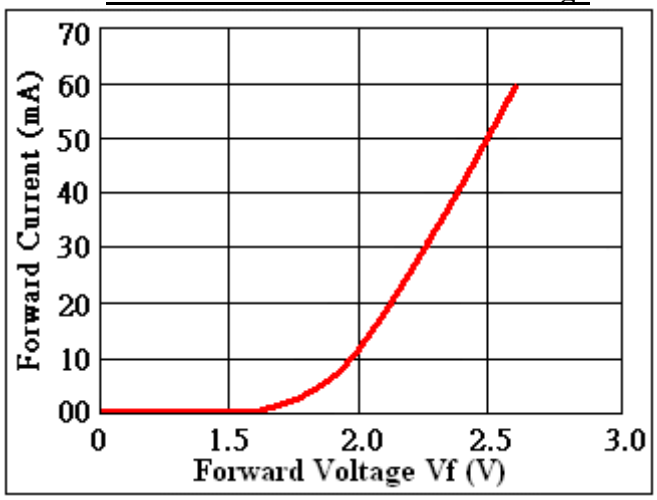
■ Typical Electrical/ Optical Characteristics Curves

(Ta=25°C Unless Otherwise Noted)

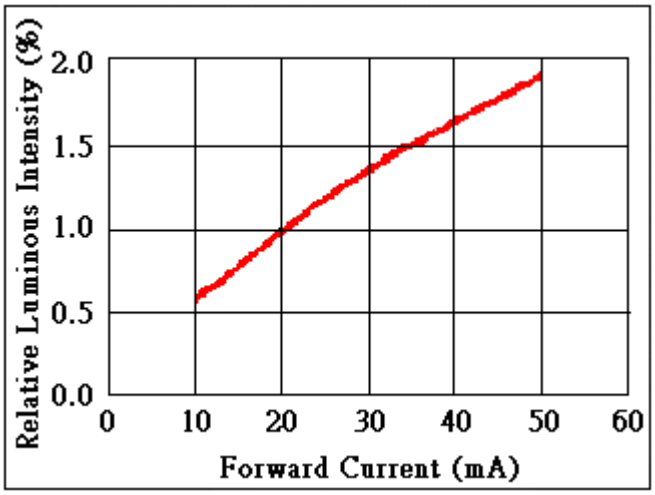
Dominant Wavelength vs. Relative Intensity



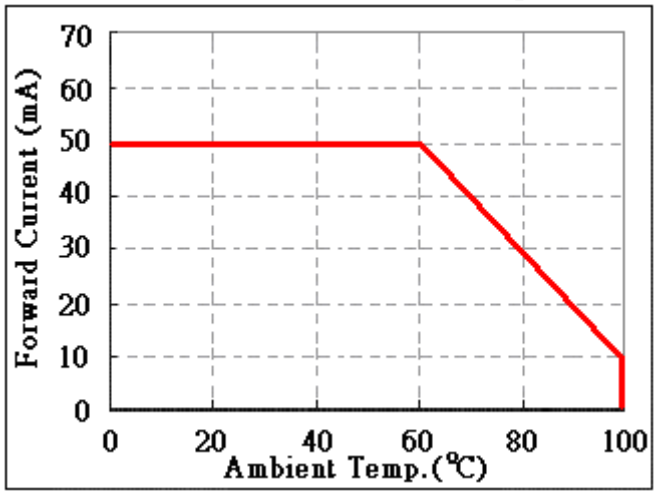
Forward Current vs. Forward Voltage



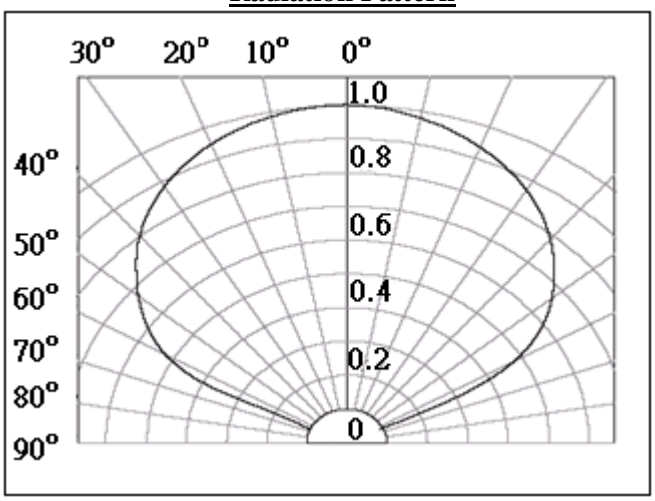
Luminous Intensity vs. Forward Current



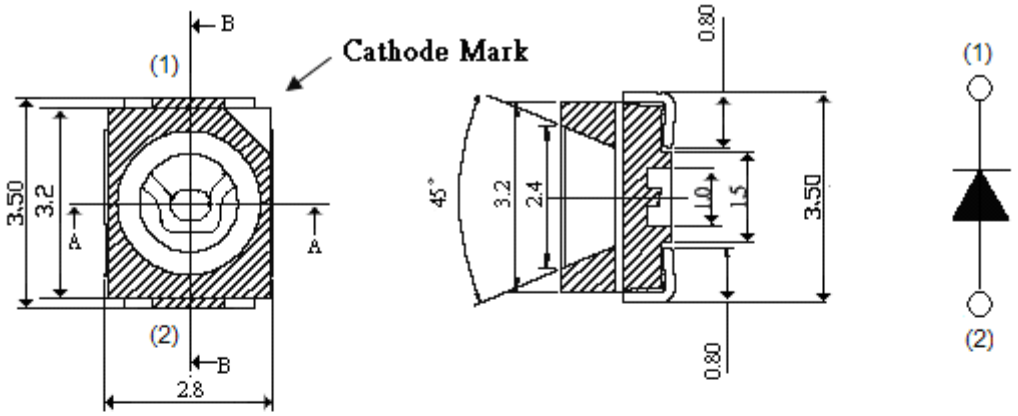
Forward Current vs. Ambient Temperature

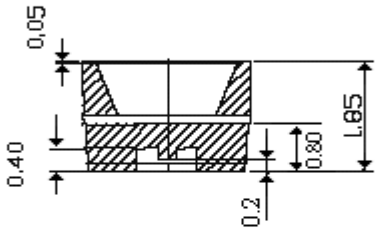


Radiation Pattern



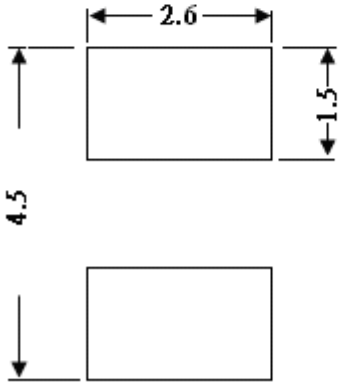
■ Package Dimensions

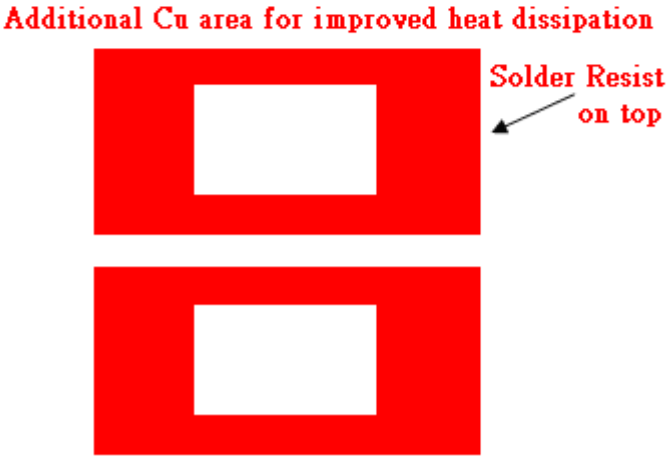




Item	Material
Encapsulation	Silicone
Housing	Plastic
Lead Frame	Silver Plated Copper Alloy

Recommended Solder Pad

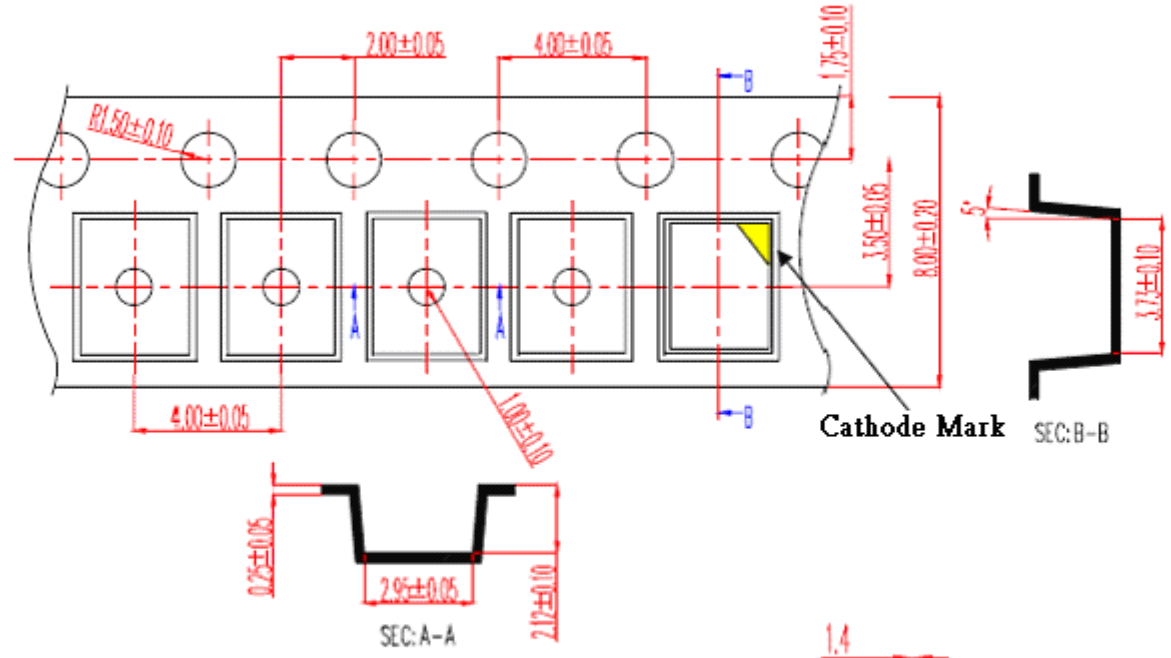


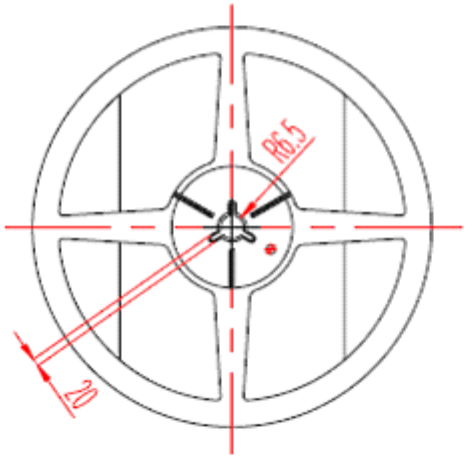


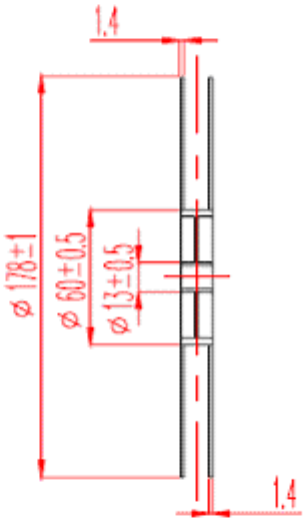
Notes:

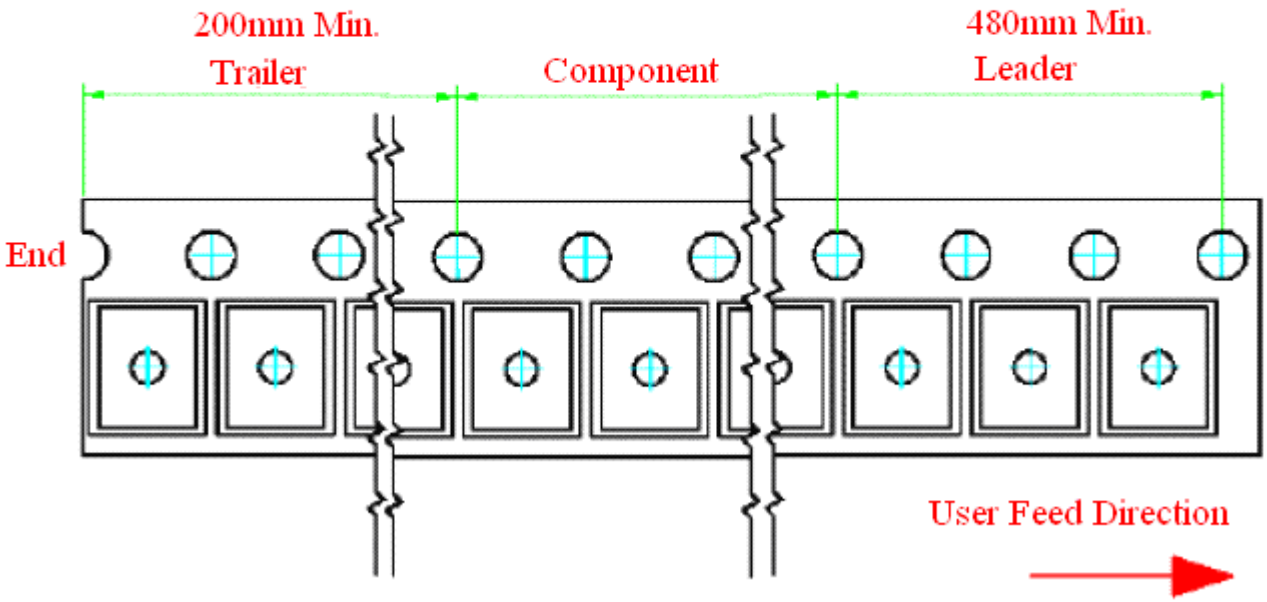
All dimensions are in mm with tolerance ±0.25mm unless otherwise noted.

■ Packing Specifications



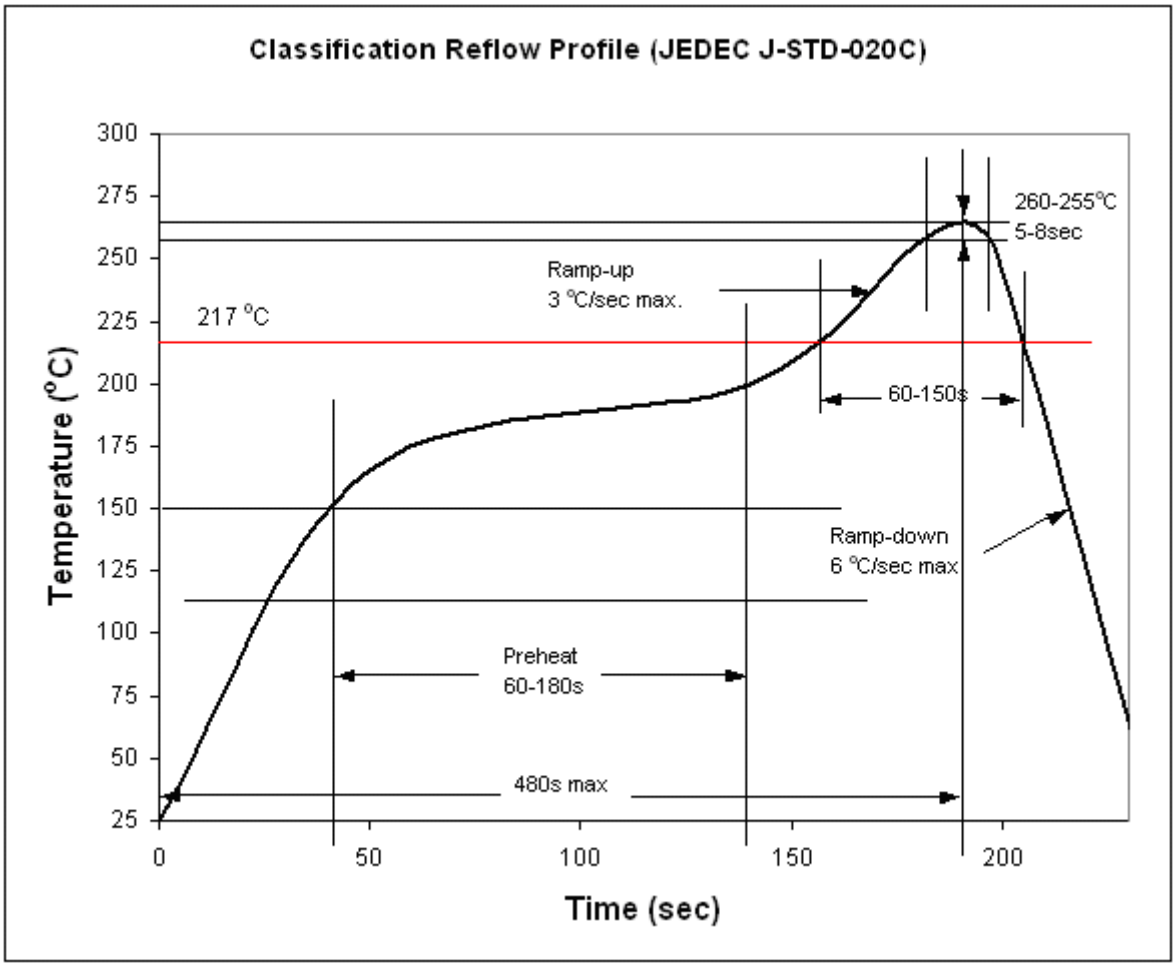






■ Soldering heat reliability

Lead-Free Solder (JEDEC J-STD-020C).



Manual Soldering.

- Lead Solder

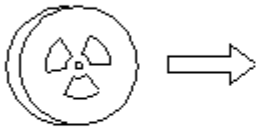
  Max. 300℃ for Max. 3sec, and only one time.

- Lead-free Solder

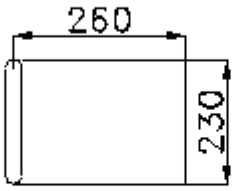
  Max. 350℃ for Max. 3sec, and only one time.

- There is possibility that the brightness of LEDs is decreased, which is influenced by heat or ambient atmosphere during reflow. It is recommended to use the nitrogen reflow method.
- After LEDs have been soldered, repairs should not be done. When repair is unavoidable, a double-head soldering iron should be used. It should be confirmed beforehand whether the characteristics of the LEDs will be damaged by repairing or not.
- Reflow soldering should not be done more than two times

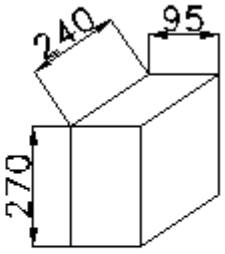
Packaging Specification



Diameter:178mm
Width:8mm
1311→2000pcs/Reel
Anti-Static Shielding
Black Reel

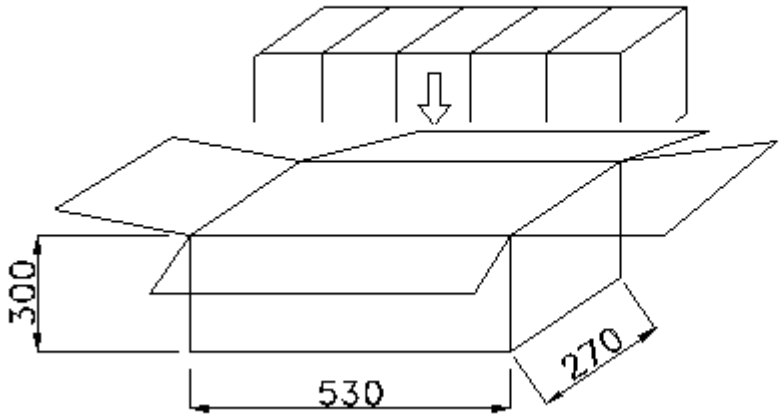


Anti-Static Shielding
1Reel/Bag(T=0.1mm)



5Bags/1Inner Box
1311→10000pcs/1Inner Box

5Inner Box/1Carton
1311→50000pcs/1Carton



Notes:

1. Dimensions are in mm
2. Normal packing quantity: 2,000pcs/reel

■ Reliability

Test Items And Results

No.	Test Item	Standard Test Method	Test Conditions	Note	Pass
1	Steady State Operating Life	Internal Ref.	I_f = 20 mA	1000 Hr	OK
2	Soldering Test	JESD22-B102-C	260°C max	2 Times	OK
3	Reflow Test	JESD22-B102-C	260°C max	2 Times	OK
4	Thermal Shock	JESD22-A106-A	-40°C ~ 100°C	84 Cycles	OK
5	Temperature Cycle	JESD22-A104-A	-35°C ~ 75°C	168 Cycles	OK
6	High Temperature Storage	JESD22-A103-A	100°C	168 Hr	OK
7	Low Temperature Storage	Internal Ref.	-40°C	168 Hr	OK
8	High Temperature High Humidity	JESD22-A101-B	85°C,85%RH	168 Hr	OK

Notes：

1. Measurement shall be taken after the tested samples have been returned to normal ambient conditions (generally after two hours)；Sample Q'ty is 20 pcs.
2. The LED is made of silicone encapsulation which is soft and prone to mechanical damage. Care must be taken to avoid direct contact pressure to the silicone otherwise the die and bonding wires may subject to damage, or the reliability will be affected. Suitable pick and place nozzle should be used for SMT operation.
3. Appropriate material for coating over LED for any purpose, such as waterproof, must be tested by the customer. Incompatible material may result in color change, or even premature LED failure. Alder will not be held responsible for any such misuse

■ Precautions For Use

1. Over-current-proof
   Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change(Burn out will happen).

2. Storage

2.1 Before opening the package ,the storage condition of temperature and R.H. are：40°C, 90%R.H. Max.

2.2 After bag is opened,devices that will be subjected to reflow solder or other high temperature process must(a)Mounted within:8 hours<30°C/60%RH or (b)Stored at <10%RH.

2.3 Devices require bake,before mounting,if:(a)Humidity Indicator Card is>30%when read at23±5°C, (b)3a or 3b not meet.

2.4 Once the damp proof bag is opened, the products should be used within a week. Otherwise they should be kept in a damp proof box with desiccating agent.

2.5 If baking is required,devices may be baked for 48hrs at 65°C±5°C.