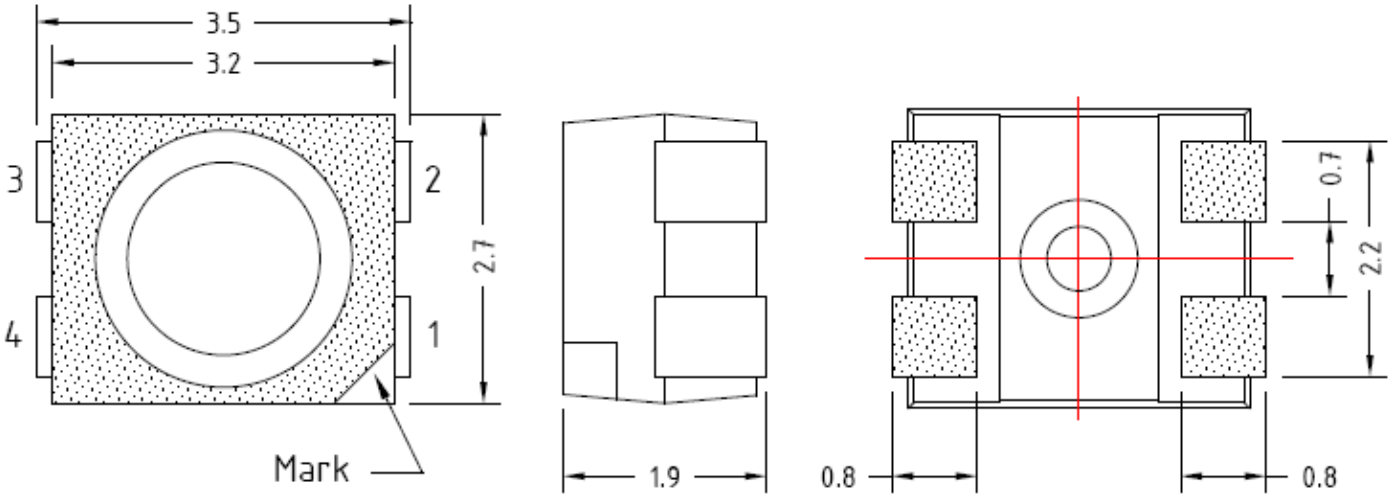
DATA SHEET UPDATE HISTORY

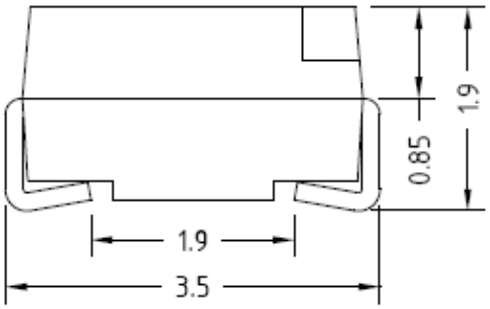
Version 1.0 – September 12, 2012

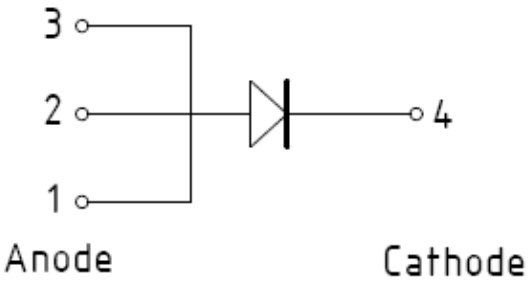
Version 1.1 – August 4, 2016

- Luminous Intensity Increased
- Forward Current vs Ambient Temperature graph updated
- Moisture Sensitivity Spec Added

PACKAGE OUTLINES







Item	Materials
Package	Heat-Resistant Polymer
Encapsulating Resin	Silicone
Electrodes	Ag Plating Copper Alloy

NOTES:
1. All dimensions are in millimeters tolerance is ±0.25mm unless otherwise noted;
2. Electrical connection between all cathodes is recommended.

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Parameter	Symbol	Ratings	Unit
DC Forward Current	I_F	30	mA
Peak Pulsed Forward Current	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Power Dissipation	Pd	108	mW
Operating temperature range	Topr	-30 ~ +100	°C
Storage temperature range	Tstg	-40 ~ +100	°C
Solder Temperature	Tsld	265°C for 10 sec	

OPTICAL-ELECTRICAL CHARACTERISTICS (Ta=25°C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Forward Voltage	V_F	I_F=20mA	--	3.0	3.6	V
Luminous Intensity	I_V		1500	2000	3200	mcd
Dominant Wavelength	λd		515	525	535	nm
Peak Wavelength	λp		--	515	--	nm
Spectral Half Width	Δλ1/2		--	28	--	nm
Viewing Angle	2θ ½		--	120	--	deg

Note:
1. Measurement uncertainty of luminous intensity: ±10%
2. Please refer to CIE 1931 chromaticity diagram

LUMINOUS INENSITY BIN TABLE

IF=20mA

Rank Name	Min (mcd)	Max (mcd)
R	1500	1900
S	1900	2500
T	2500	3200

Tolerance for each bin limit is ±15%

COLOR BIN TABLE

IF=20mA

Rank Name	Min (nm)	Max (nm)
1	515	520
2	520	525
3	525	530
4	530	535

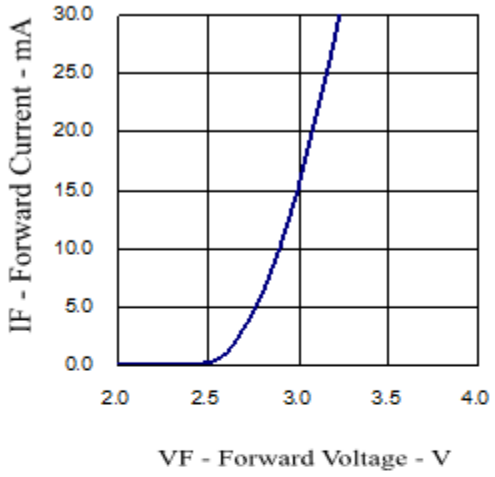
Tolerance for each bin limit is ±1nm

Notes:

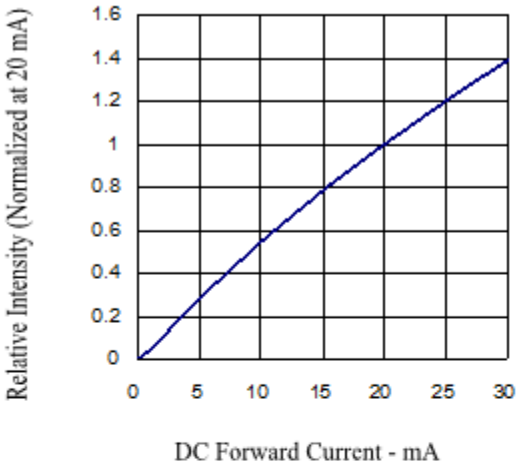
1. One delivery will include several color ranks and I_V ranks of products.
   The quantity-ratio of the different ranks is decided by AOP.
2. Bin name typed on the label: IV RANK + Color Rank.
   For example, BIN S2 Means IV: 1900~2500mcd and Color: 520nm~525nm.
3. Static Electricity or Surge Voltage damages the LEDs
4. AOP has the right to update the information without notice.
   Please double confirm the spec details before placing an order.

TYPICAL ELECTRICAL-OPTICAL CHARACTERISTIC CURVES

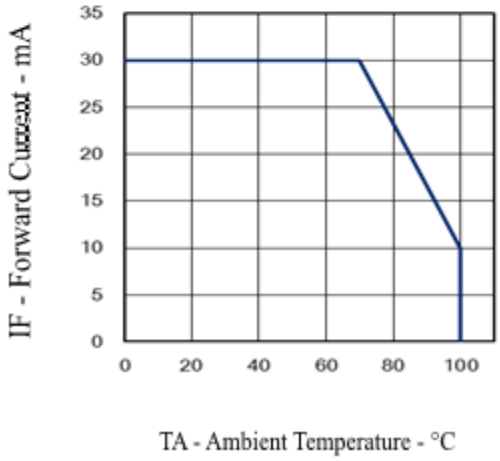
Forward Current vs. Forward Voltage



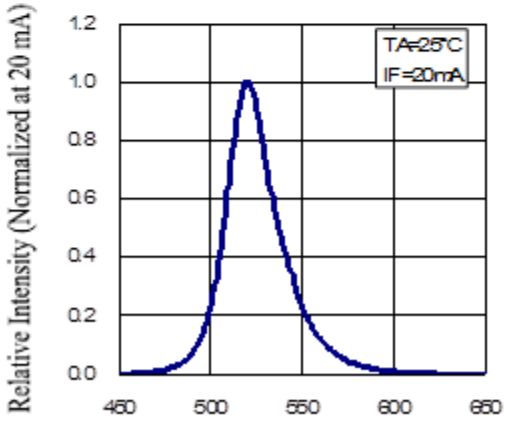
Relative Intensity vs. Forward Current



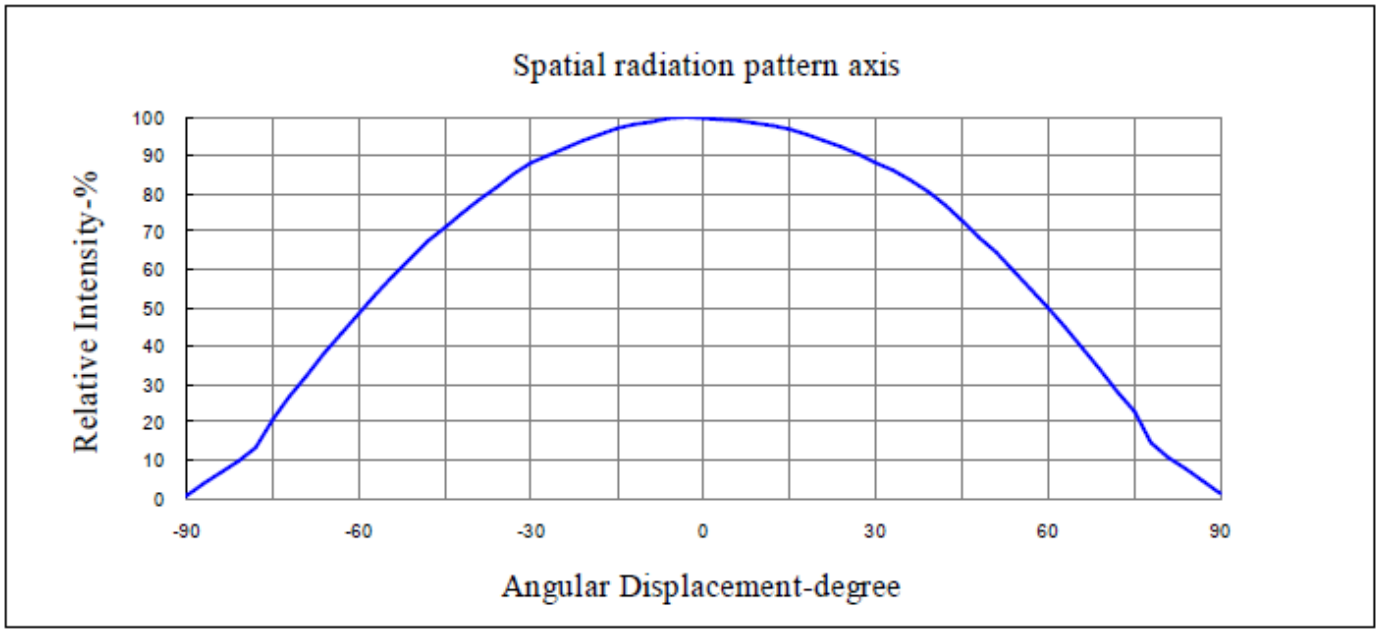
Forward Current vs. Ambient Temperature



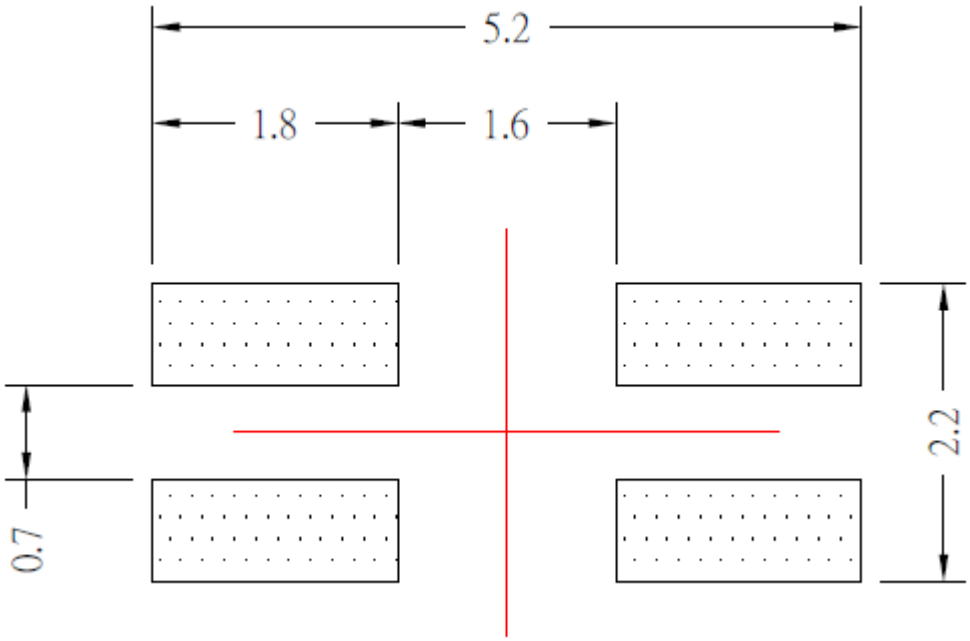
Relative Intensity vs. Wavelength



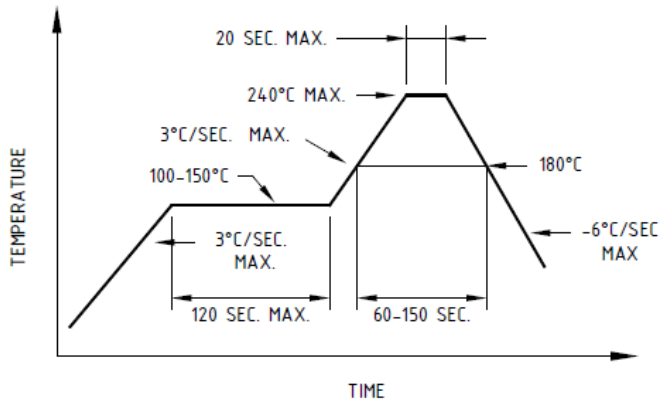
RADIATION PATTERN



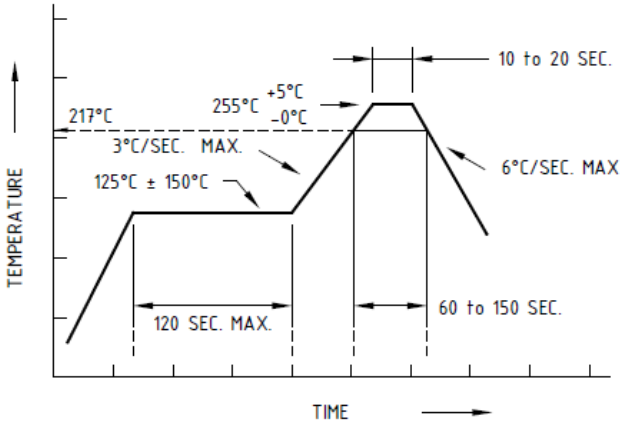
RECOMMENDED SOLDERING PAD PATTERN



SOLDERING CONDITIONS



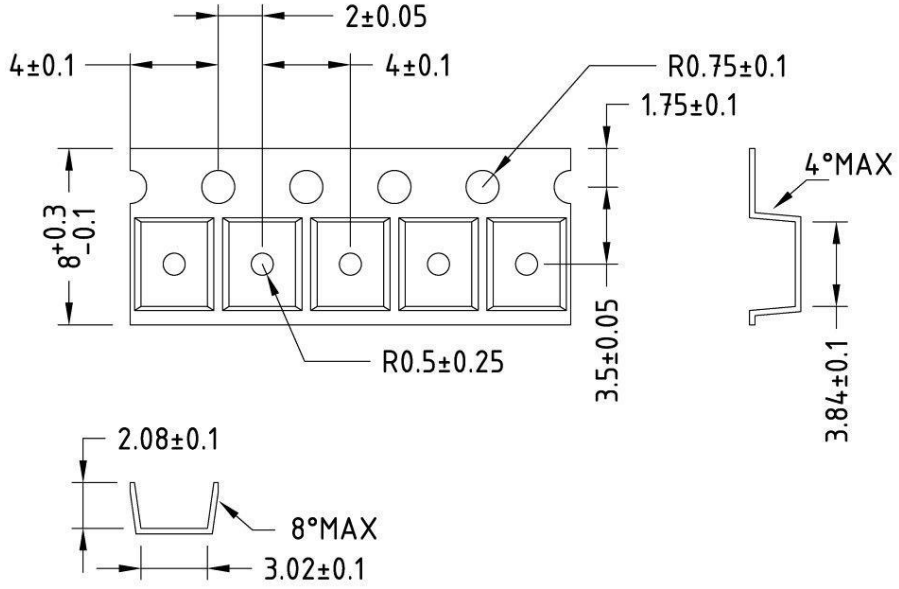
Recommended reflow soldering profile



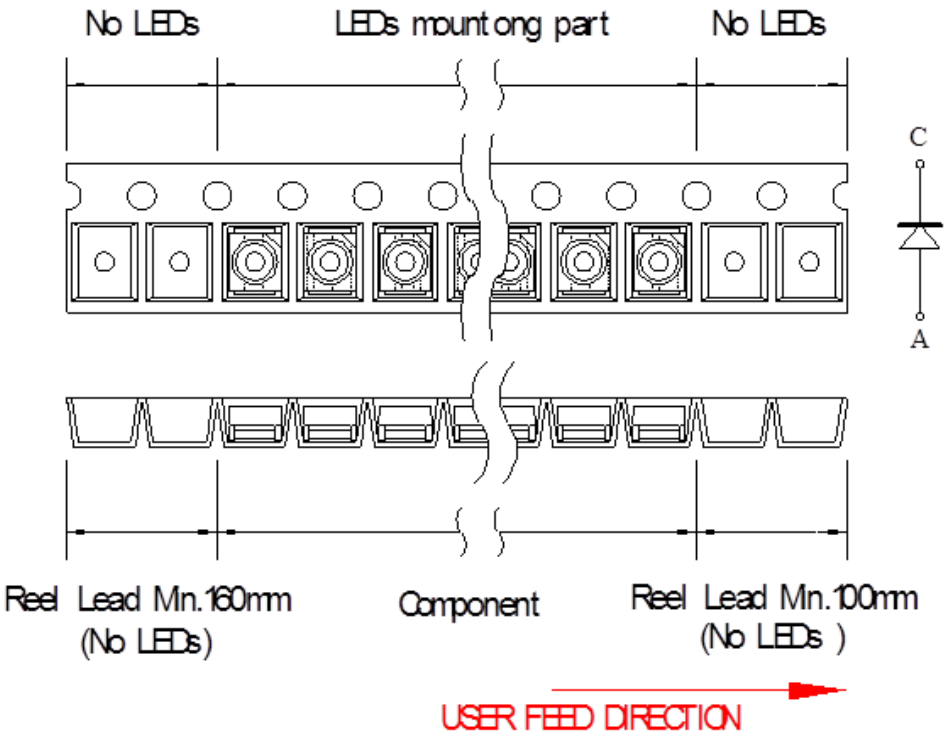
Recommended Pb-free reflow soldering profile

- Repairing should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used. It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.
- Reflow soldering should not be done more than two times.
- When soldering, do not put stress on the LEDs during heating.
- After soldering, do not warp the circuit board.

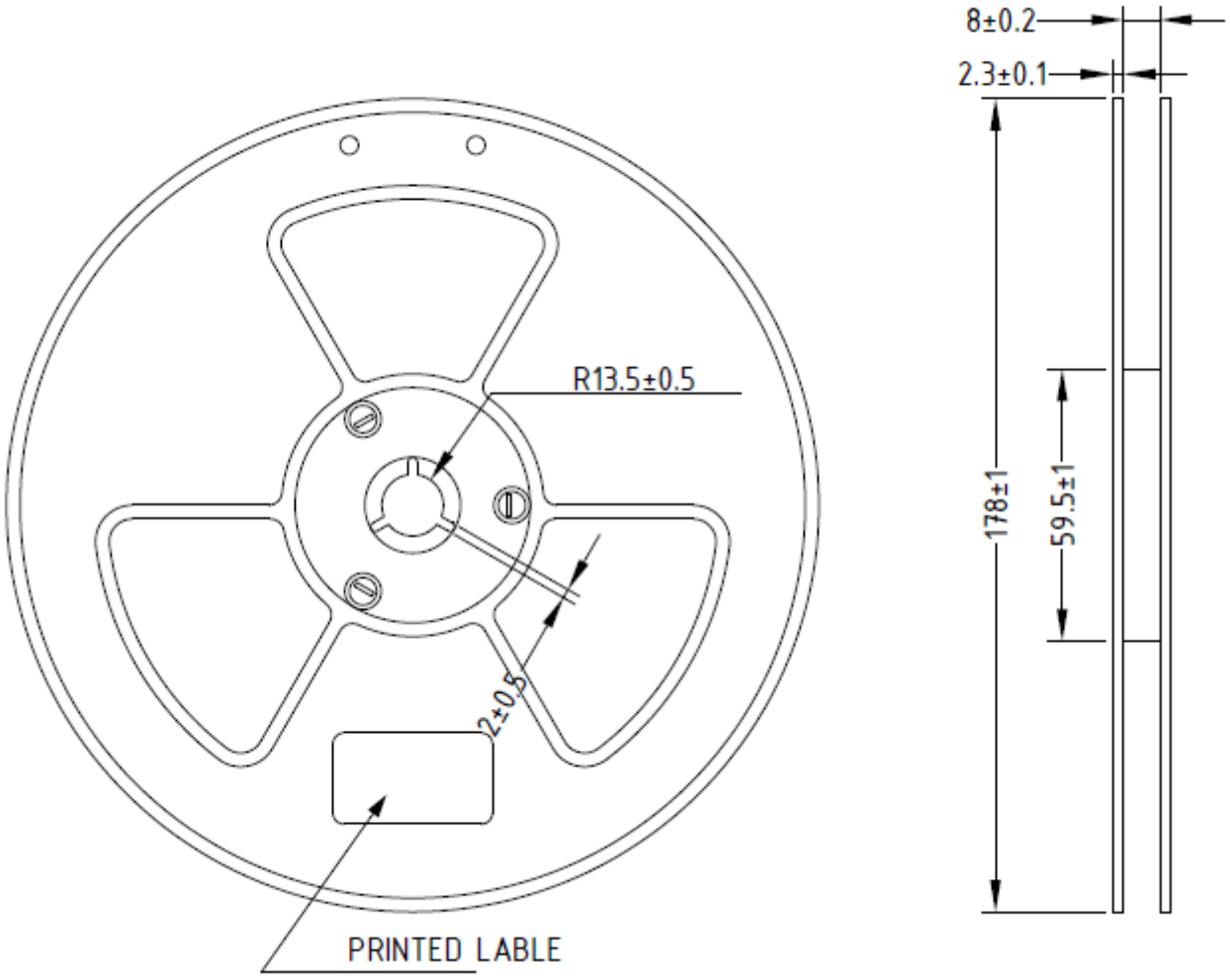
TAPE DIMENSION



TAPE LEADER AND TRAILER DIMENSION



REEL DIMENSION



Note: Baking is required under the following conditions:

The pack has been opened for more than four weeks.

Baking recommended conditions:

60 ± 5°C for 20 hours

Moisture Sensitivity

AOP's SMD LED are shipped in sealed, moisture-barrier bags(MBB) designed for long shelf life. If SMD LED has exposed with moist environments before soldering, this may cause damage to SMD LED during soldering (reflow) operation.

Storage / Floor Time

Condition	Temperature(C)	Humidity(RH)	Period of Time
Before Open	30	60	6 month from shipping date
After Open	30	60	Within 72 hours

- MSL of this product are MSL4, please seem IPC/JEDEC STD020D for more detail.
- LEDs reach floor time may be damaged while soldering/reflow processing, please discard the LED.
- If RH indicator card show 60%RH when unseal the package, please bake/discard the LED.

Reseal

- AOP's aluminum MBB may reuse as to reseal the unused LED if MBB has not damaged or had any holes on it.
- Moisture absorbent material (Silica gel) may be reuse if it does not become pink.
- Proper resealed LED's Floor time will NOT RESET, only stop counting until open.
- If RH indicator card show 60%RH when open the package, please bake/discard the LED.