American Opto Plus LED Corp.
L955T-UPGC-Z
3.5 x 2.8 x 0.7mm High Output Pure Green PLCC-2

DATA SHEET RECORD HISTORY:

Version 1.0 – August 2, 2013

Version 1.1 – July 31, 2015

- Updated Junction / Solder Point
- Updated Luminous Intensity
- Updated IF Condition for Dominant Wavelength, Peak Wavelength, Spectral Half Width
- Updated Luminous Intensity Bin Table
    - Updated Tolerance in notes
- Updated Color Bin Table
- Updated Page 4 notes
- Updated Page 9 notes

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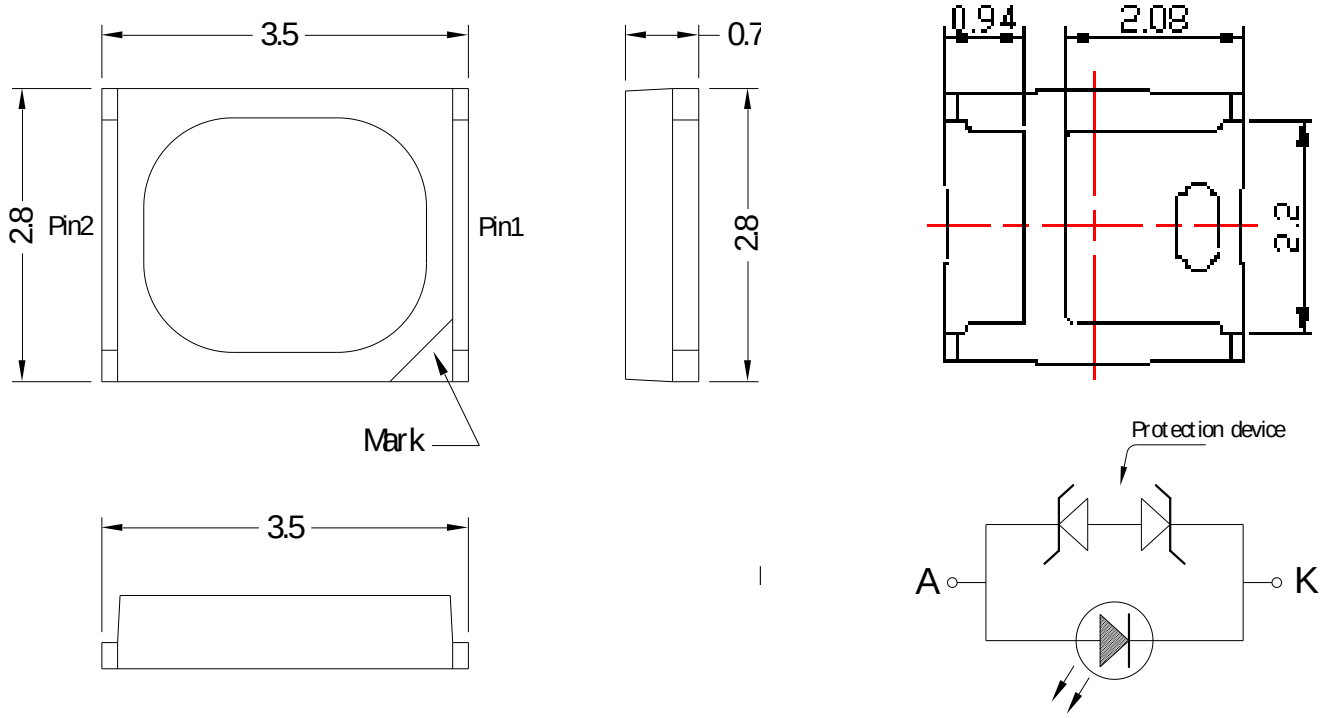
FEATURES:

- High Luminous Output Function Pure Green SMD LED (InGaN)
- PLCC-2 3.5 x 2.8mm standard package with heat sink and protection device
- High reliability package
- Wide viewing angle 120 degree
- Available in 8mm carrier tape on 7 inch reel (2000 pieces)

PACKAGE OUTLINES:



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

NOTES:

1. All dimensions are in 0.2mm;
2. Electrical Connection between all Cathodes is Recommended

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	Max Rating	Unit
DC Forward Current	I_F	250	mA
Peak Pulsed Forward Current	I_{FP}	300	mA
Reverse Voltage	V_R	--	V
Junction Temperature	Tj	125	°C
Junction / Solder Point	$R_{th\ Js}$	45	°C/W
Junction / Ambient	$R_{th\ Ja}$	80	°C/W
Power Dissipation	P_d	875	mW
Operating Temperature Range	T_{OPR}	-30 ~ +100	°C
Storage Temperature	T_{STG}	-40 ~ +100	°C
Solder Temperature	T_{SOL}	265°C for 10 sec	

IFP Conditions: Pulse Width ≤ 10 msec and Duty ≤ 1/10

OPTICAL-ELECTRICAL CHARACTERISTICS (Ta=25°C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Forward Voltage	V_F	I_F = 150mA	--	2.8	3.5	V
Luminous Flux	Φ_V	I_F = 150mA	--	27	--	lm
Luminous Intensity	I_V	I_F = 150mA	7200	12000	21000	mcd
Dominant Wavelength	λ_D	I_F = 150mA	525	535	545	nm
Peak Wavelength	λ_P	I_F = 150mA	--	535	--	nm
Spectral Half Width	$\Delta\lambda_{1/2}$	I_F = 150mA	--	37	--	nm

Notes: Luminous Intensity Tolerance: ±10%
Please refer to CIE 1931 Chromaticity Diagram

LUMINOUS INTENSITY BIN TABLE

IF=150mA

Rank name	Min (mcd)	Max (mcd)
X	7200	9300
Y	9300	12000
Z	12000	15700
ZA	15700	21000

Tolerance for each bin is ± 15%

COLOR BIN TABLE

IF=150mA

Rank name	Min (nm)	Max (nm)
1	525	530
2	530	535
3	535	540
4	540	545

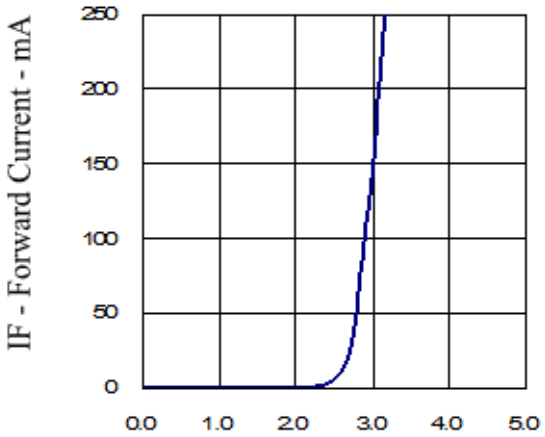
Tolerance for each bin is ±1nm

Note:

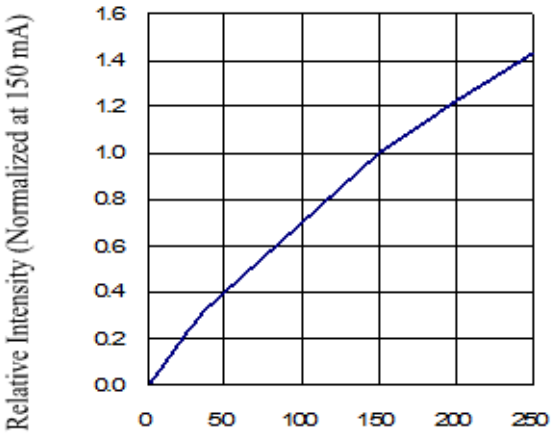
1. One delivery will include several color ranks and I_V ranks of products. The quantity-ratio of the different rank is decided by AOP.
2. Bin Name typed on the Label: I_V Rank + Color Rank + VF Rank. For example, **Bin X2A means I_V: 7200~9300mcd and Color: 530~535nm and VF: 2.8~ 2.9V.**
3. AOP has the right to update the information without notice. Please confirm the spec details before placing an order.

OPTICAL CHARACTERISTIC CURVES

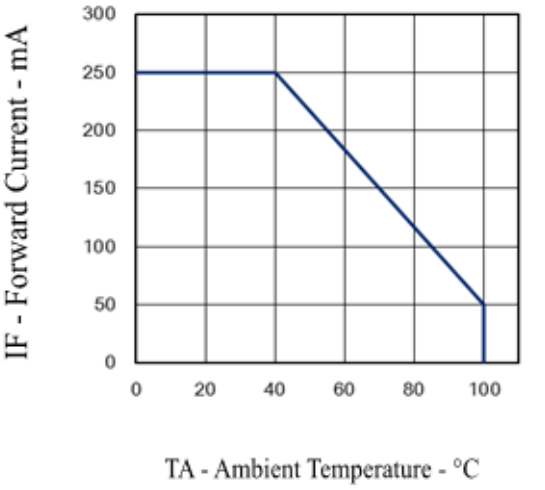
Forward Current vs. Forward Voltage



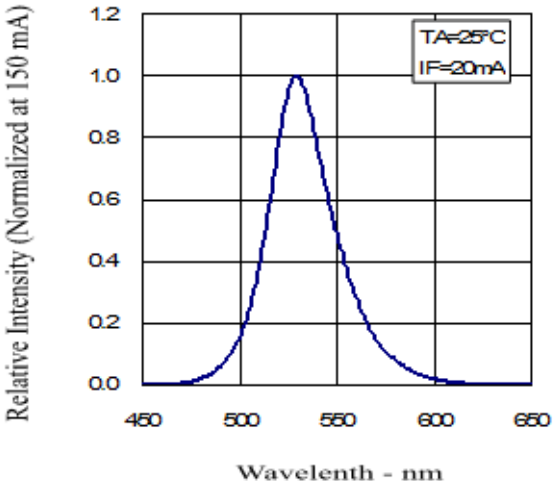
Relative Intensity vs. Forward Current



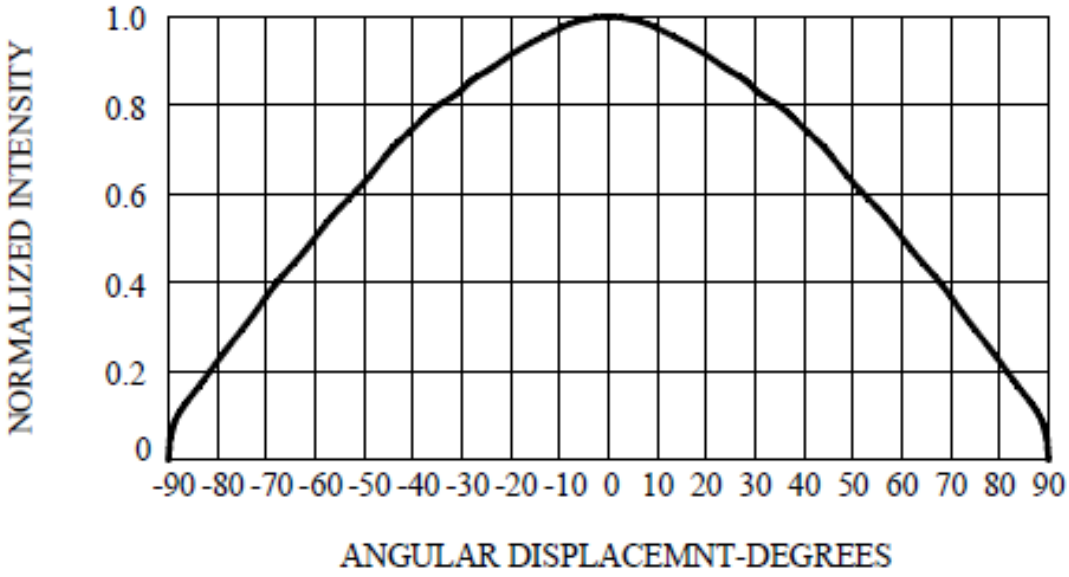
Forward Current vs. Ambient Temperature



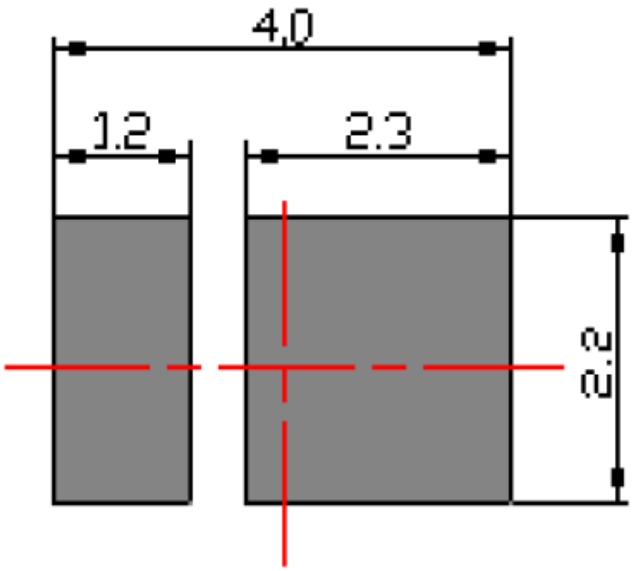
Relative Intensity vs. Wavelength



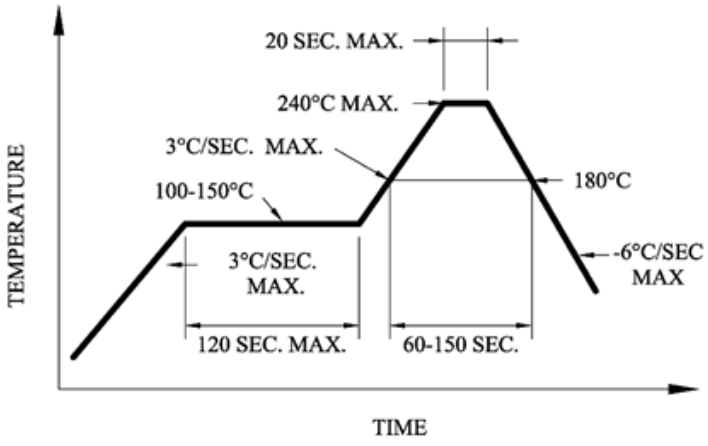
RADIATION PATTERN



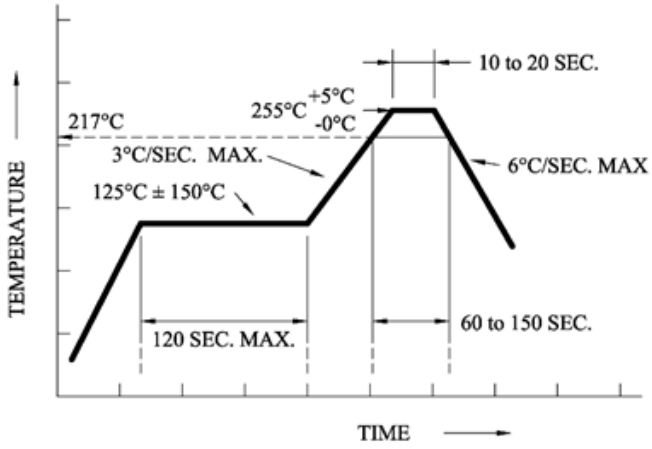
RECOMMENDED SOLDERING PAD PATTERN



SOLDERING CONDITIONS:



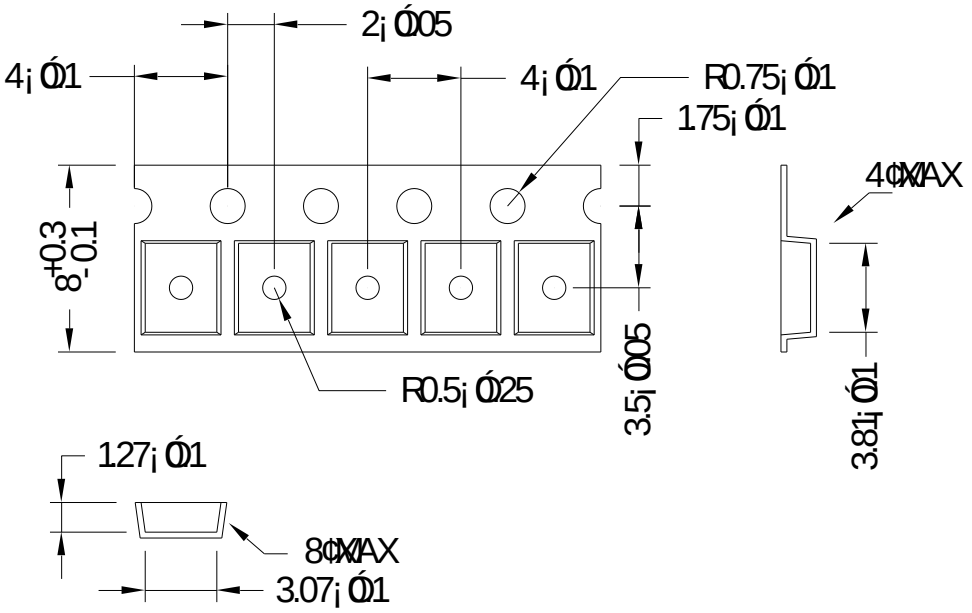
Recommended reflow soldering profile



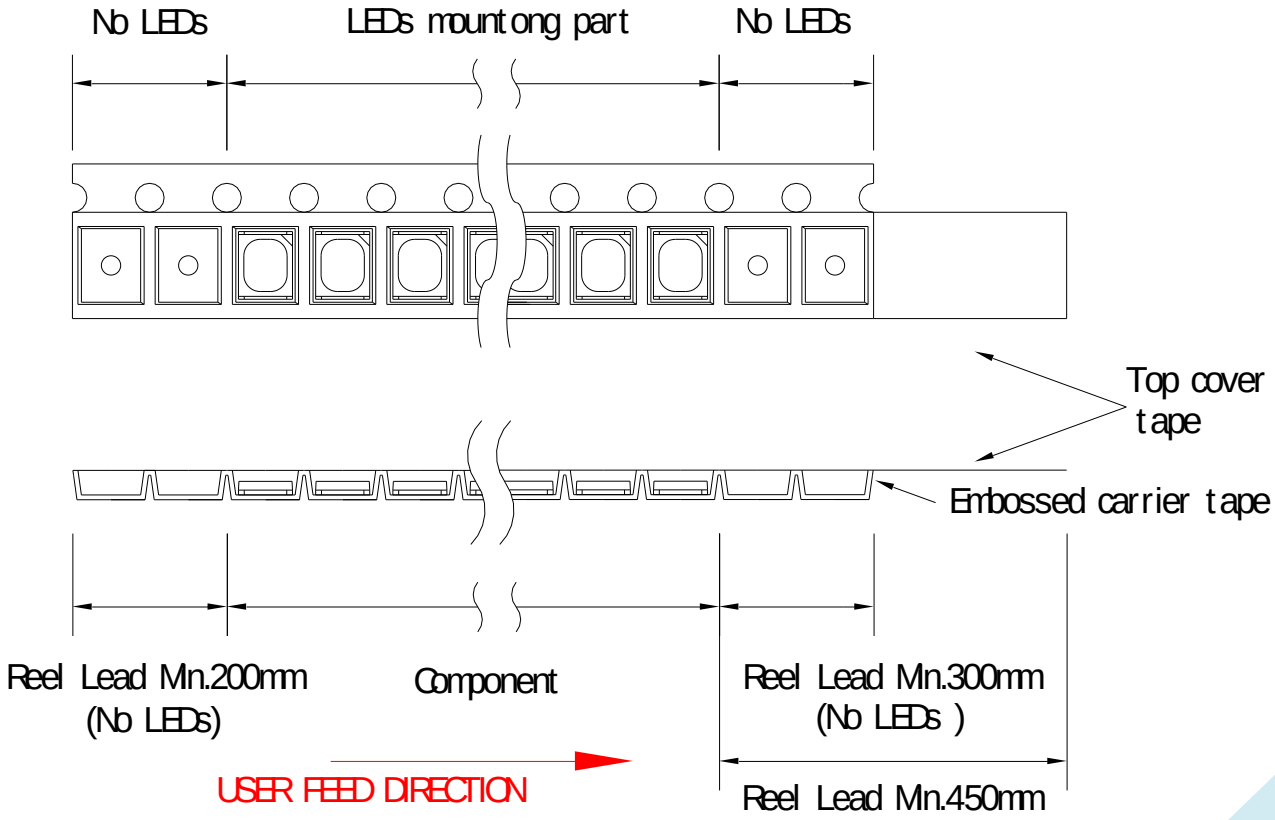
Recommended Pb-free reflow soldering profile.

- 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 no put stress on the LEDs during heating.
- After soldering, do not warp the circuit board.

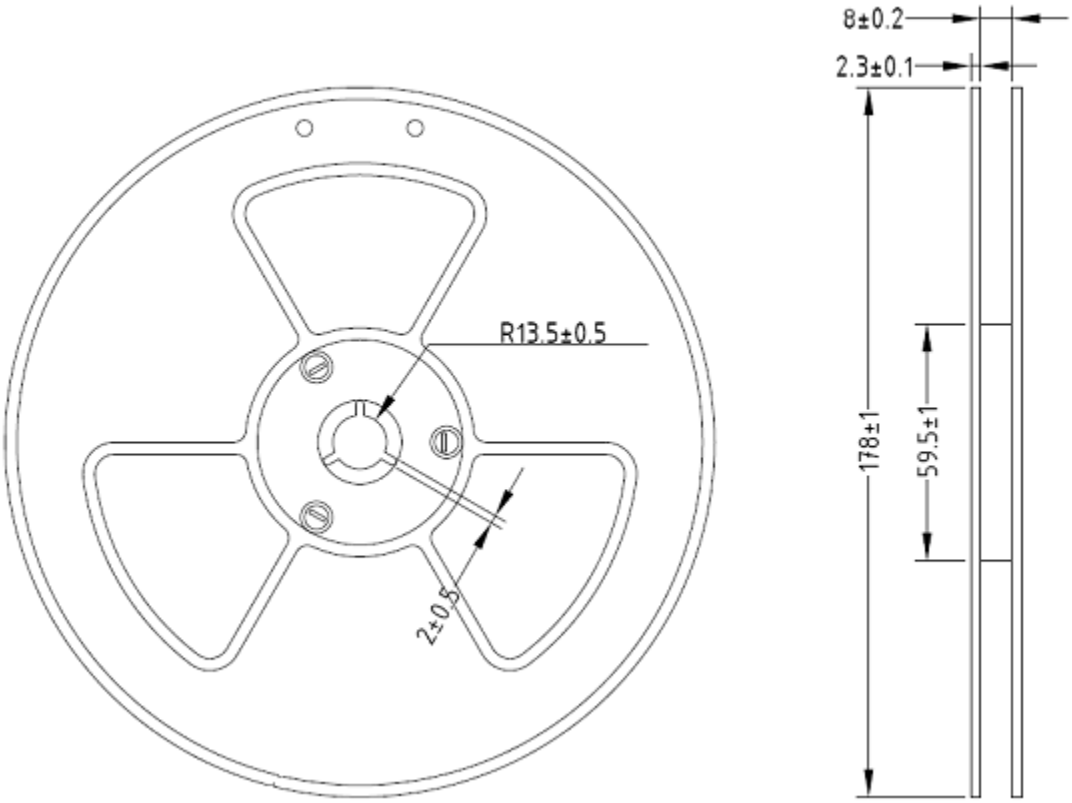
TAPE DIMENSIONS



TAPE LEADER AND TRAILER DIMENSION



REEL DIMENSION



Note: Baking is required under the following conditions:
The pack has been open for more than 48 hours.
Baking recommended conditions.
60 ± 5 °C for 20 hours.

MOISTURE SENSITIVITY

AOP's SMD LEDs 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 48 hours

- MSL of this product are MSL4, please see 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 been 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.