



American Opto Plus LED Corp.

SMP-MYC-S-BF

3.5 x 2.7 x 1.9 YELLOW SMD PLCC-4 Black Face

DATA SHEET UPDATE HISTORY

Version 1.0 – June 4, 2013

Version 1.1 – July 1, 2016

- Forward Voltage updated

Version 1.2 – July 13, 2016

- Added Moisture Sensitivity
- Luminous Intensity updated
- Baking Conditions updated
- Solder Dipping Temperature updated.

Version 1.3 – December 8, 2016

- Operating Temperature Updated

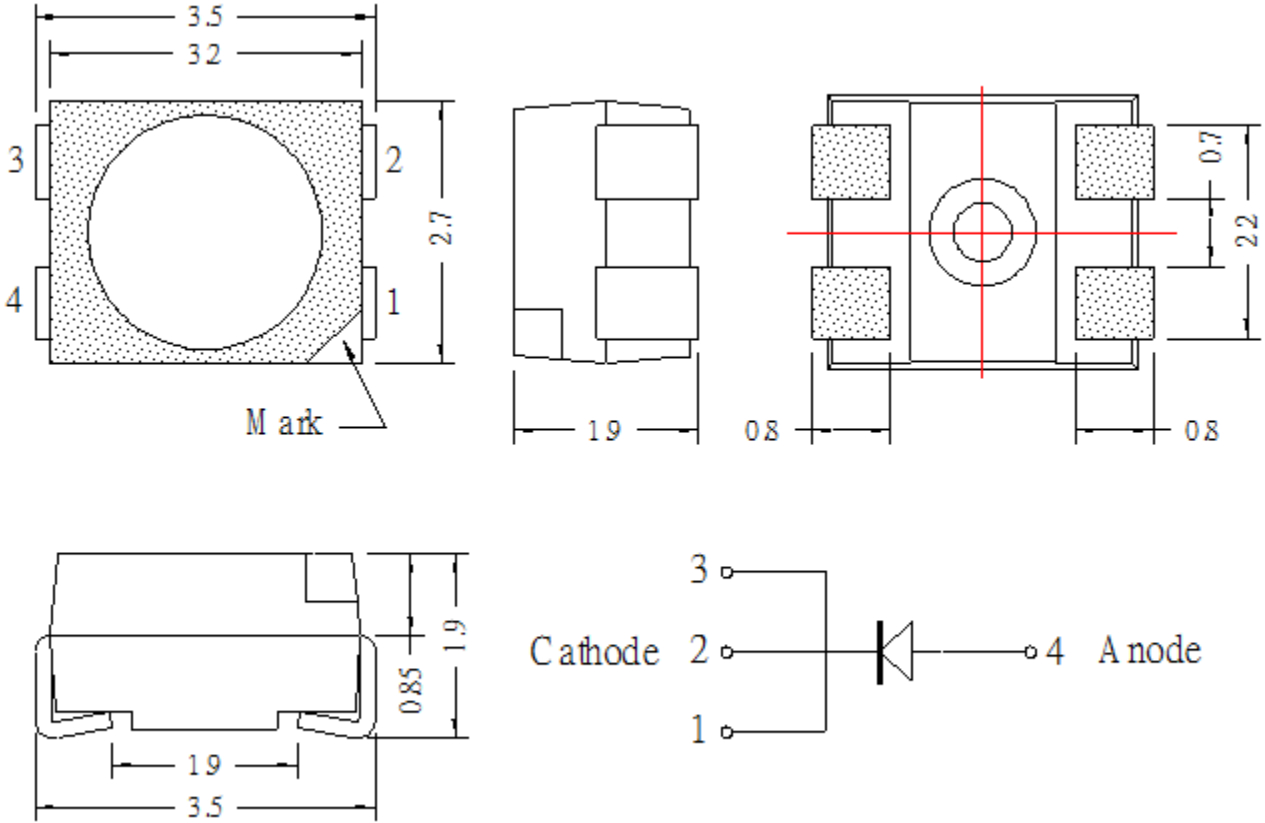


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PACKAGE OUTLINES



ITEM	MATERIALS
Package	Heat-Resistant Polymer (BLACK FACE)
Encapsulating Resin	Silicone
Electrodes	Ag Plating Copper Alloy

NOTES:

1. All dimensions are in millimeters
2. Electrical Connection between all Cathodes is recommended



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ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

Parameter	Symbol	Ratings	Unit
DC Forward Current	I_F	70	mA
Peak Pulsed Forward Current	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_d	150	mW
Operating temperature range	T_{opr}	-40~+100	°C
Storage temperature range	T_{stg}	-40~+100	°C
Solder Dipping Temperature	T_{sld}	265°C for 10 sec	

Pulse Width \leq 10 ms, Duty Ratio \leq 1/10

OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Current	I_R	$V_R=5V$	--	--	50	μA
Forward Voltage	V_F	$I_F=50mA$	--	2.5	3.0	V
Luminous Intensity	I_v		1500	2300	3200	Mcd
Luminous Flux	Φ_V		--	7.6	--	Lm
Dominant Wavelength	λ_d		585	590	595	Nm
Peak Wavelength	λ_p		--	596	--	Nm
Viewing Angle	$2\theta_{1/2}$		--	120	--	Deg
Spectral Half Width	$\Delta\lambda_{1/2}$		--	15	--	Nm

Note:

Measurement uncertainty of luminous intensity: $\pm 10\%$
Please refer to CIE 1931 chromaticity diagram



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LUMINOUS INENSITY BIN TABLE

IF=50mA

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

Tolerance for each bin limit is $\pm 15\%$

COLOR BIN TABLE

IF=50mA

Rank Name	Min (nm)	Max (nm)
1	585	587.5
2	587.5	590
3	590	592.5
4	592.5	595

Tolerance for each bin limit is ± 1 nm

VOLTAGE BIN TABLE

I_F = 50mA

Rank Name	Min (V)	Max (V)
A	2.0	2.1
B	2.1	2.2
C	2.2	2.3
D	2.4	2.4
E	2.4	2.5
F	2.5	2.6

Notes:

1. One delivery will include several color ranks and I_V ranks of products.
The quantity-ratio of different rank is decided by AOP.
2. Bin name typed on the label: IV RANK + Color Rank.
For example, BIN T2A Means IV: 2500~3200mcd and Color:587.5nm~590nm and VF: 2.0~2.1V
3. AOP has the right to update the information without notice.
Please double confirm the spec details before placing an order.



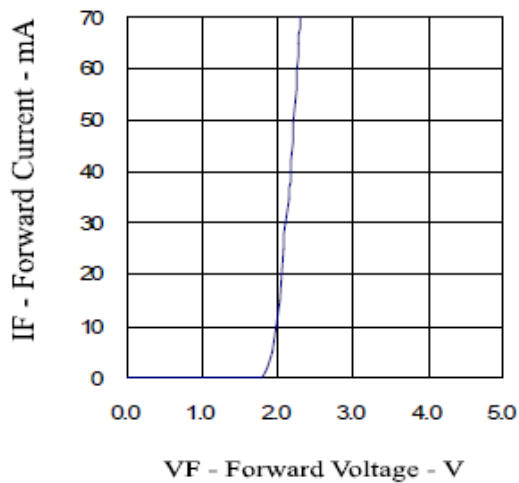
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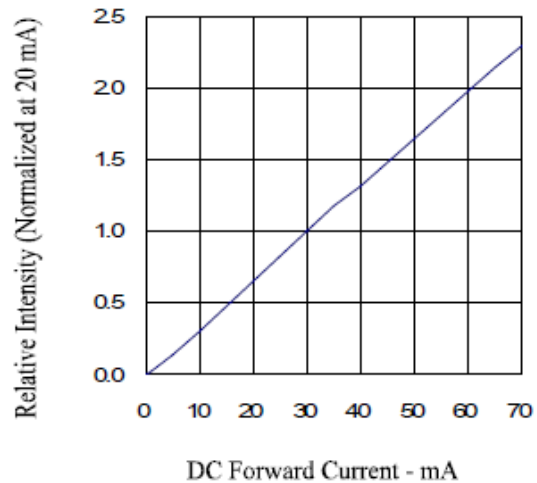
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TYPICAL ELECTRICAL-OPTICAL CHARACTERISTIC CURVES

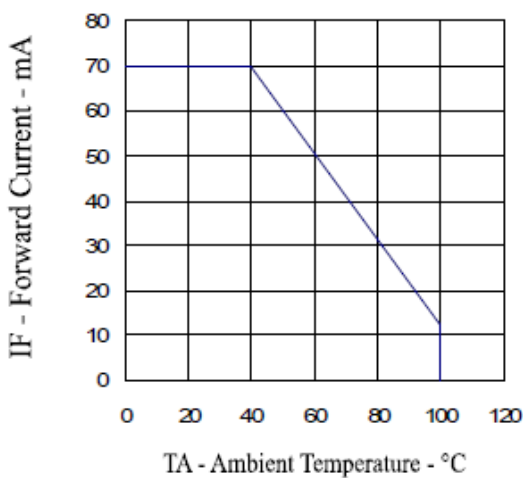
Forward Current vs. Forward Voltage



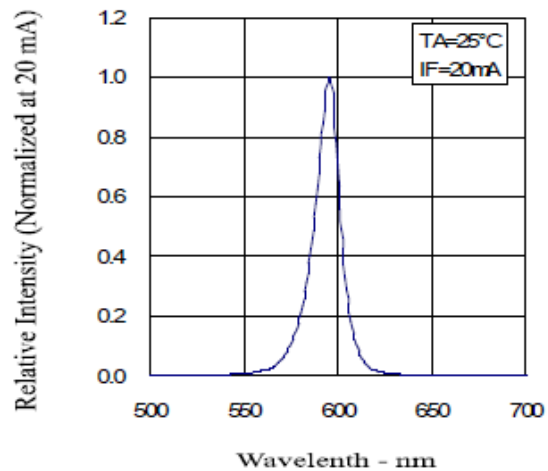
Relative Intensity vs. Forward Current



Forward Current vs. Ambient Temperature



Relative Intensity vs. Wavelength



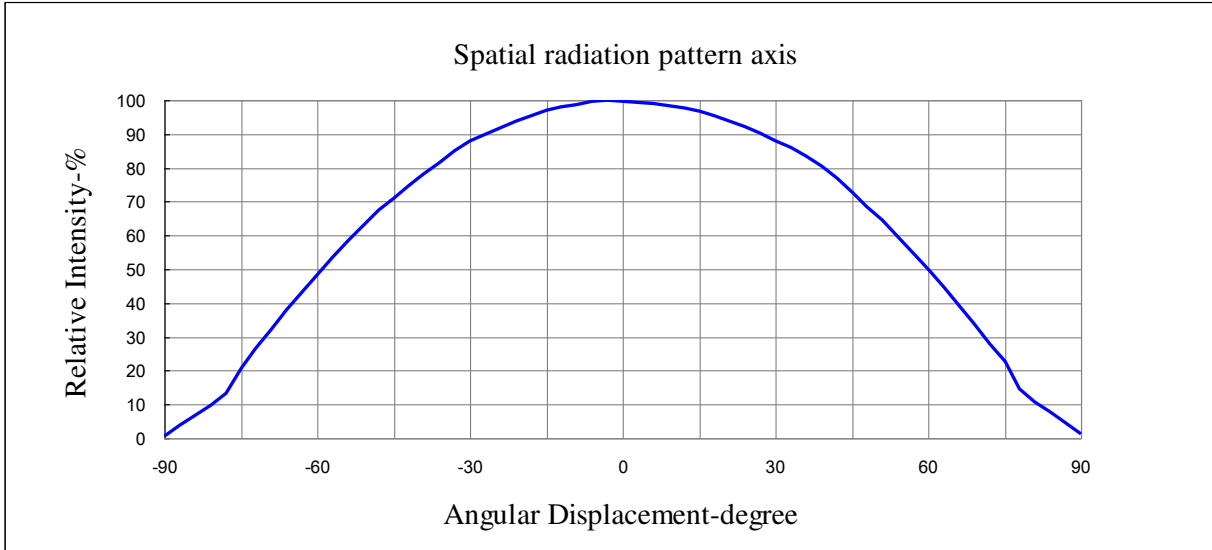


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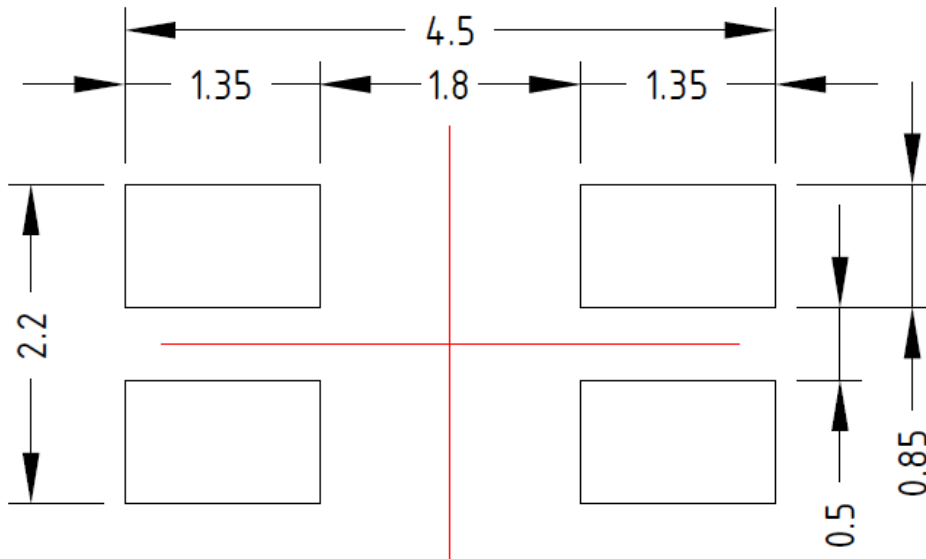
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RADIATION PATTERN



RECOMMENDED SOLDERING PAD PATTERN



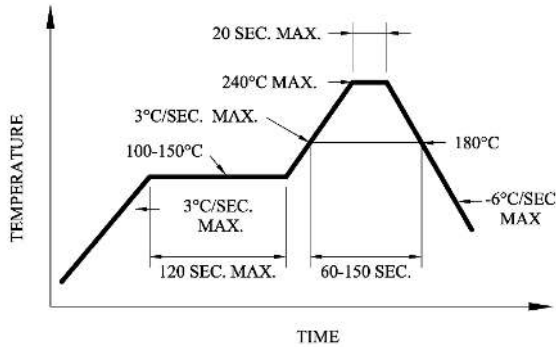


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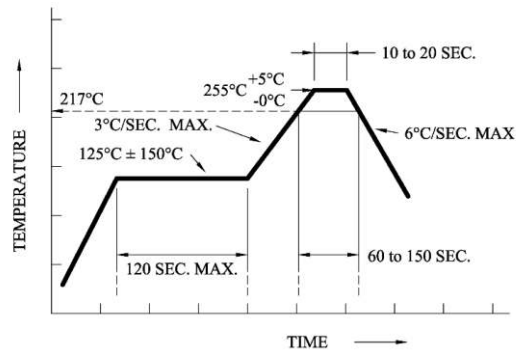
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SOLDERING CONDITIONS



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.

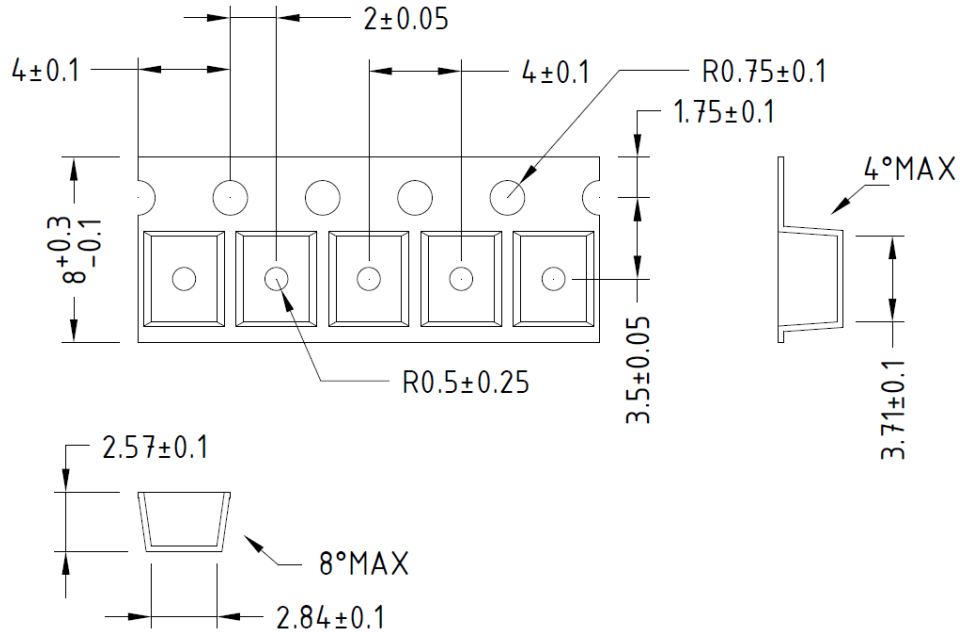


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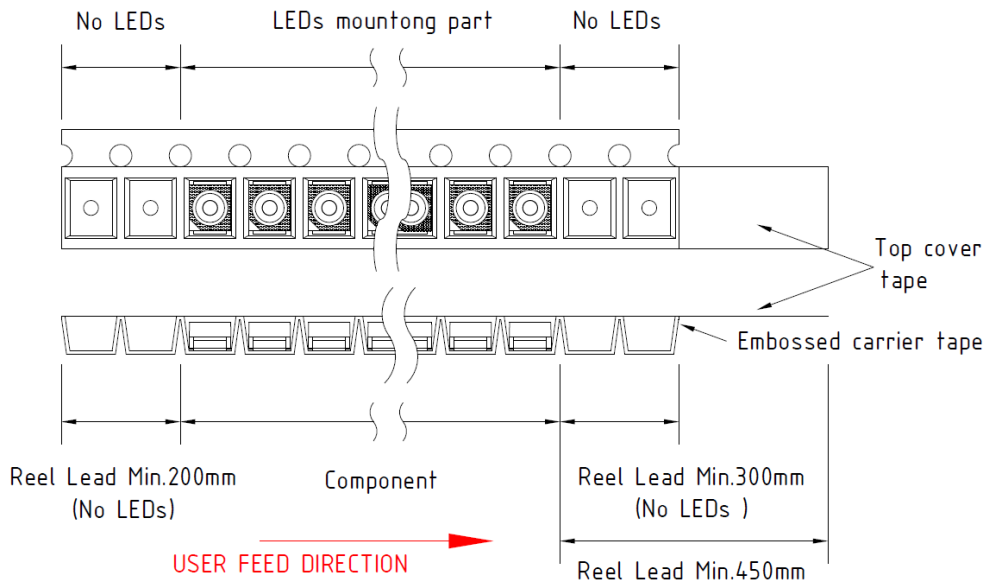
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TAPE DIMENSION



TAPE LEADER AND TRAILER DIMENSION



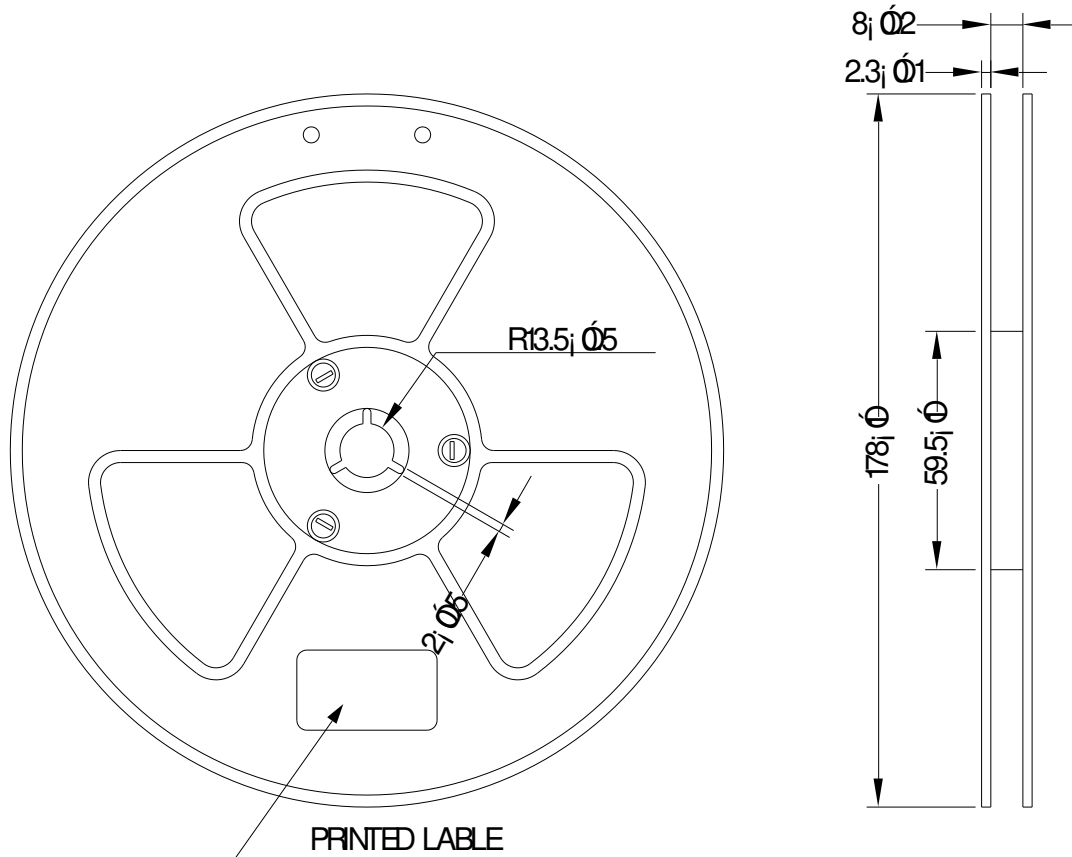


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REEL DIMENSION



Note: Baking is required under the following conditions:

The pack has been opened for more than 72 hours.

Baking recommended conditions:

60 ± 5°C for 24 hours



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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	1 year from shipping date
After Open	30	60	Within 72 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 baking the LEDs before use.
- 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.

Baking

Condition	Temperature(C)	Period of Time
With Reel	60	More than 24 hours, but not more than 48 hours
Without Reel	90	24 hours

- Baking of LED available ONCE only, more than once may damage the LEDs while baking.
- Baking only required when LED reach its floor time.