

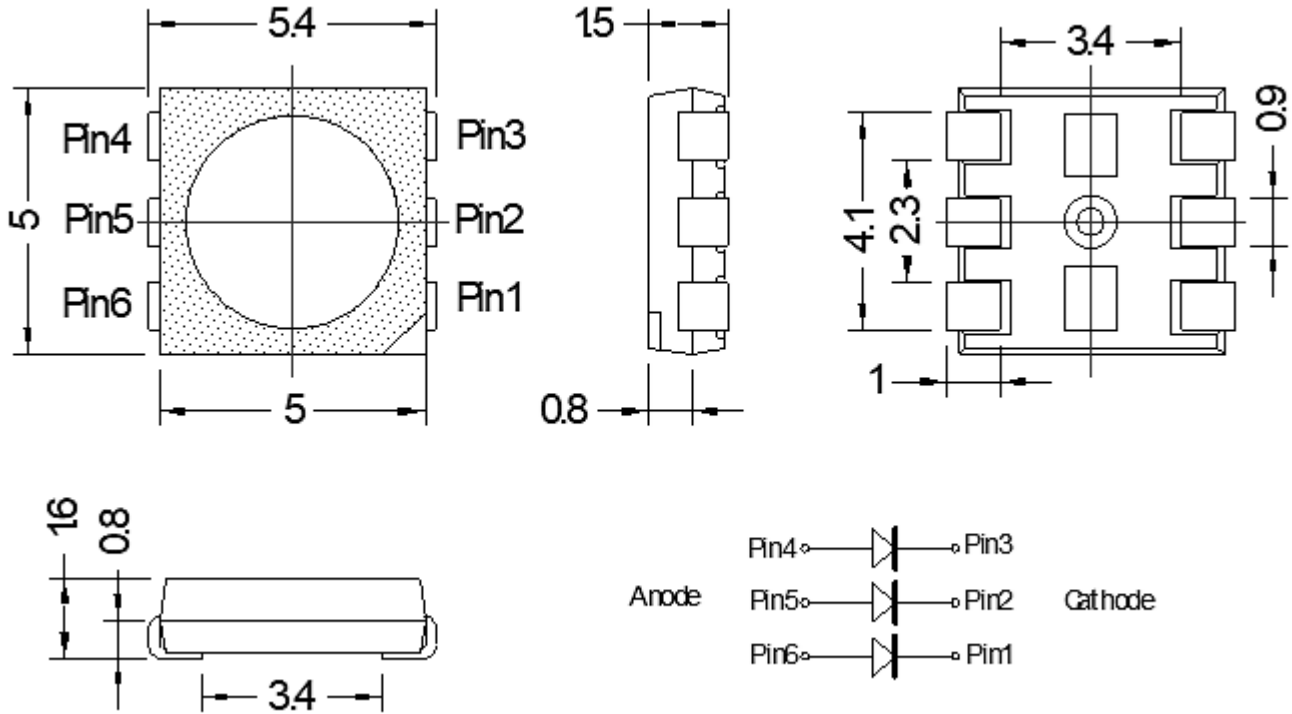


American Opto Plus LED Corp.

L996-MUBC-3D

5.4 x 5.0 x 1.5mm Blue Tri-Chip SMD LED

PACKAGE OUTLINES



Items	Materials
Encapsulating Resin	Silicone
Package	Heat-Resistant Polymer
Dice	InGaN
Electrodes	Ag Plating Copper Alloy
Emitted Color	Blue
Viewing Angle	120 Deg

Notes:

1. All dimensions are in millimeters, tolerance is 0.2mm.
2. Electrical Connection between all cathodes is recommended.

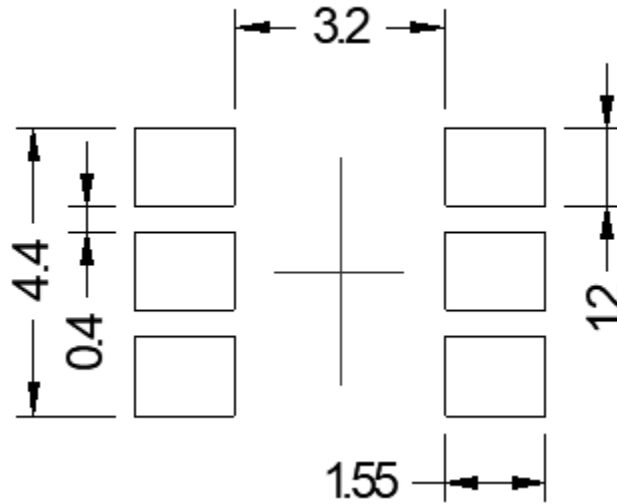


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RECOMMENDED SOLDERING PAD PATTERN



Unit=mm.



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ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

Parameter	Symbol	Value	Unit
DC Forward Current	I _F	225	mA
Peak Pulsed Forward Current	I _{FP}	300	mA
Power Dissipation	P _d	714	Mw
Reverse Voltage	V _R	5	V
Operating Temperature	T _{OPR}	-30 ~ +85	°C
Storage Temperature	T _{STG}	-40 ~ +100	°C
Solder Temperature	T _{SOL}	260°C for 5 sec	

Note: I_{fp}= Pulse Width≤10ms, Duty Ratio≤1/10.

OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Forward Voltage	V _F	I _F =150mA	--	3.1	3.4	V
Luminous Intensity	I _v		1500	2400	3200	mcd
Luminous Flux	∅V		5.0	7.0	8.8	mlm
Dominant Wavelength	λ _D		455	460	465	nm
Peak Wavelength	λ _P		--	465	--	nm
Spectral Half Width	Δλ1/2		--	20	--	nm
Reverse Current	I _R	V _R =5V	--	--	50	μA

Note: Measurement uncertainty of luminous intensity ±10%



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LUMINOUS INTENSITY BIN TABLE

(IF=150mA)

Rank name	Min	Max	Unit
R	1500	1900	mcd
S	1900	2500	
T	2500	3200	

Note: Tolerance for each bin limit is $\pm 15\%$.

COLOR BIN TABLE

(IF=150mA)

Rank name	Min	Max	Unit
1	455	460	nm
2	460	465	

Note: Tolerance for each bin limit is $\pm 1\text{nm}$.

Notes:

1. One delivery will include several color ranks and I_V ranks of products. The quantity ration of different ranks is decided by AOP.
2. Bin name typed on the Label: IV rank + Color Rank. For example: BIN R2 Means IV: 1500-1900mcd and Color: 460nm ~ 465nm.
3. Static Electricity or surge voltage will damage the LEDs.
It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.
4. AOP has the right to update the information without notice. Please double confirm the spec details before placing an order.



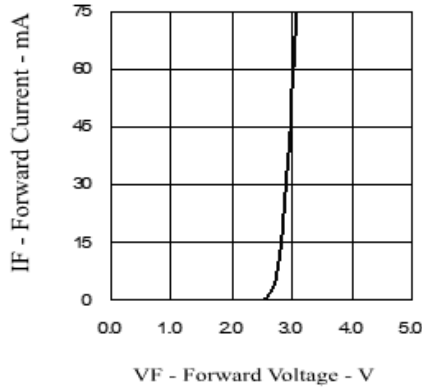
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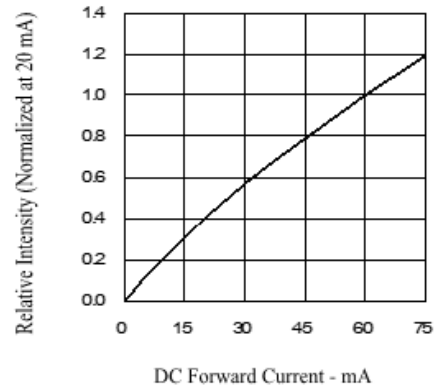
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ELECTRICAL-OPTICAL CHARACTERISTICS

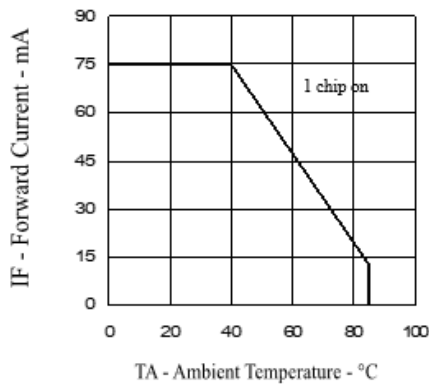
Forward Current vs. Forward Voltage



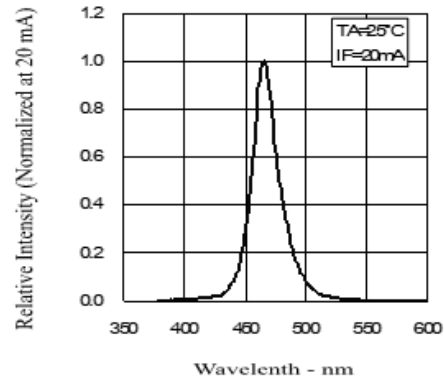
Relative Intensity vs. Forward Current



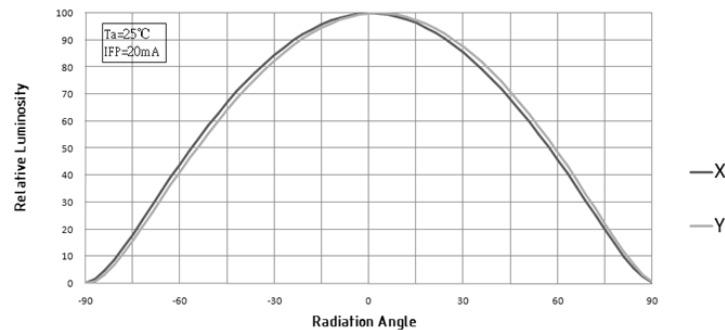
Forward Current vs. Ambient Temperature



Relative Intensity vs. Wavelength



Radiation Pattern



TENTATIVE

Date: 07/29/2020

Specifications are subject to change without notice.

American Opto Plus LED Corp. 1206 E. Lexington Ave., Pomona CA 91766 Tel: 909-465-0080 Fax: 909-465-0130 www.aoped.com

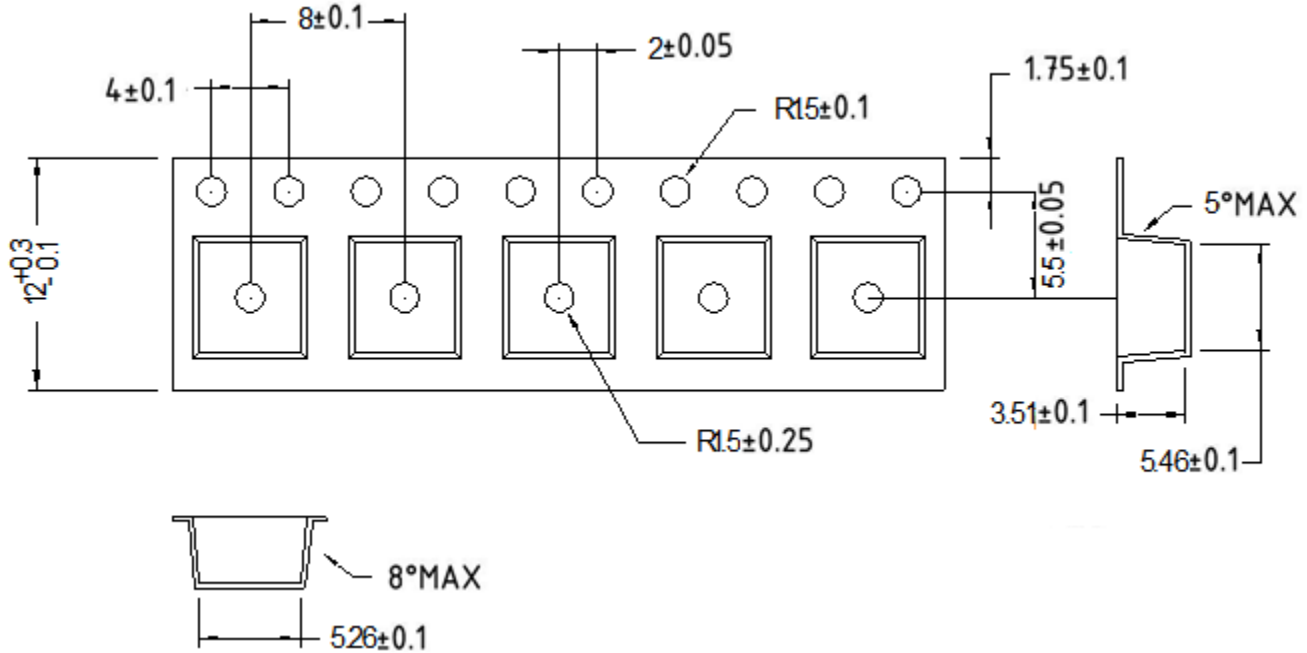


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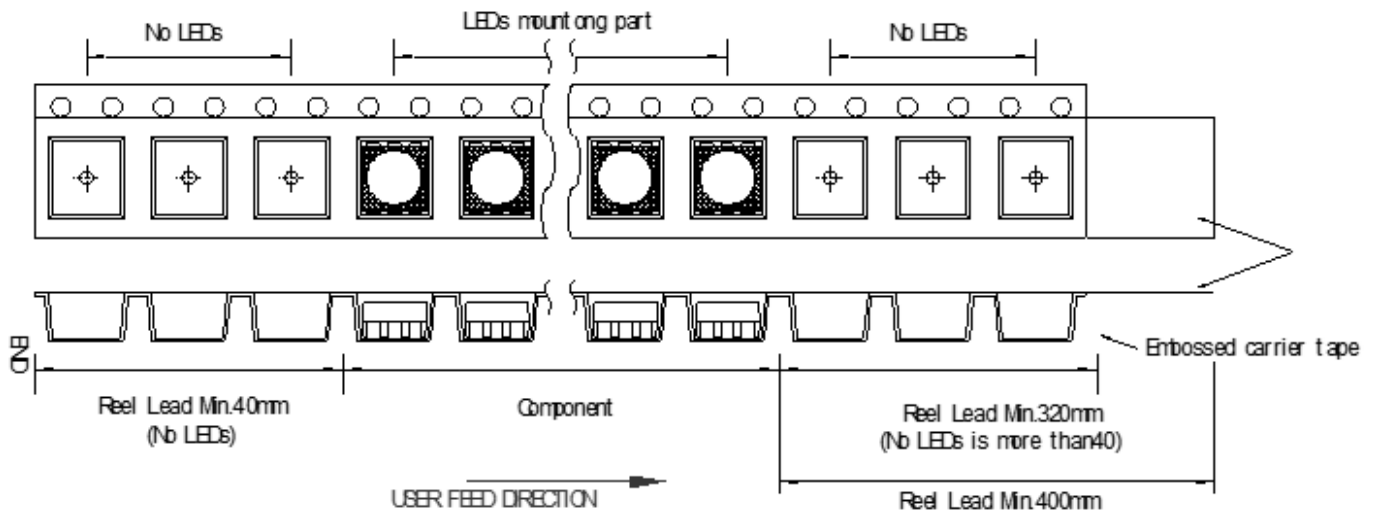
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TAPE DIMENSION



Tape leader and trailer dimension



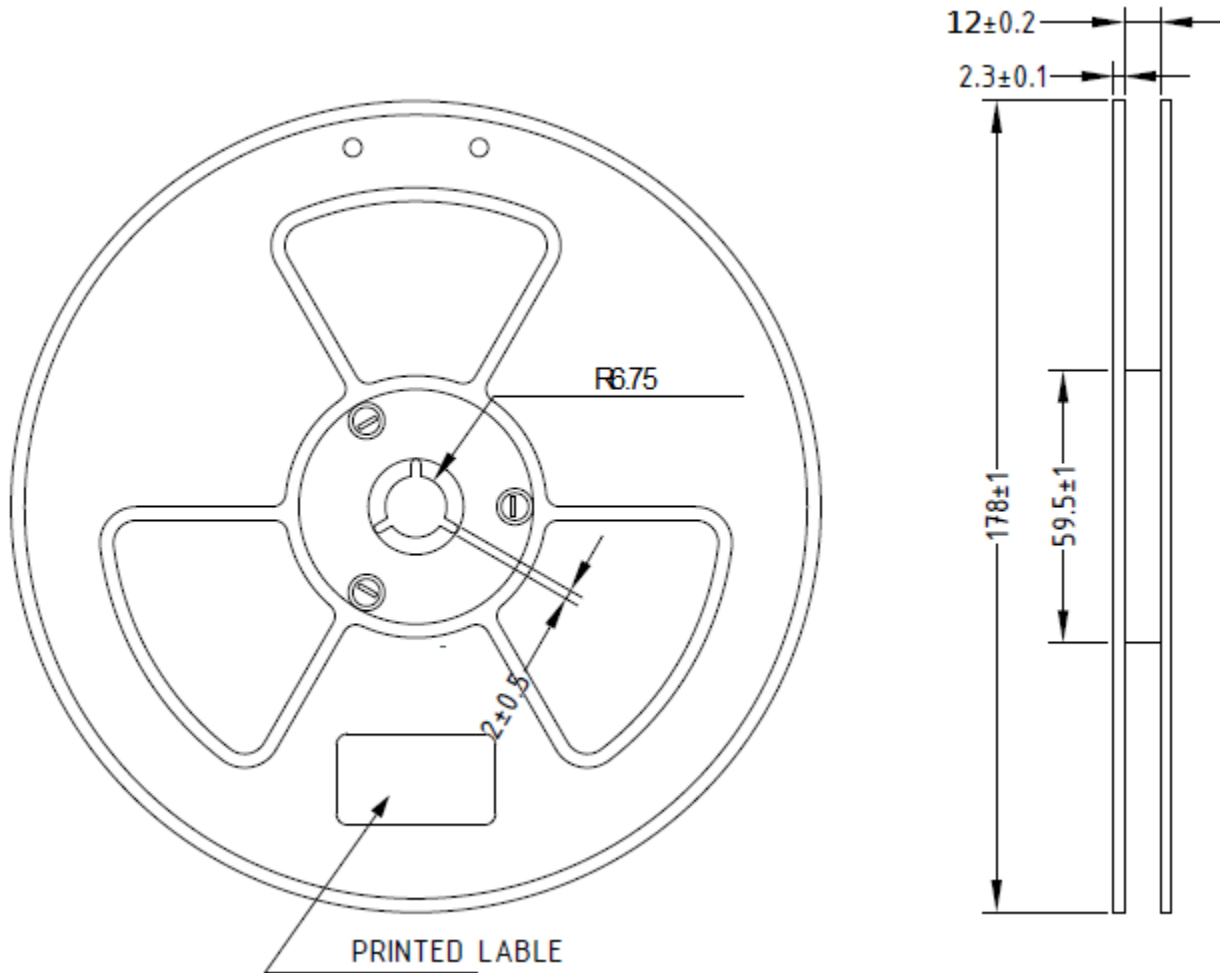


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REEL DIMENSION



Notes:

1. Empty component pockets sealed with top cover tape.
2. 12mm tape, 7 inch reel-1000 pieces per reel.
3. All dimension are in millimeters.
4. If the package is opened for more than 48 hours, baking is required.
5. Baking recommended conditions 60 ± 5 °C for 20 hours.

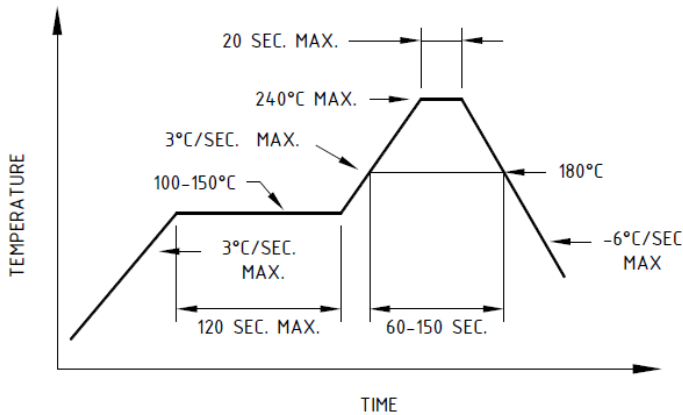


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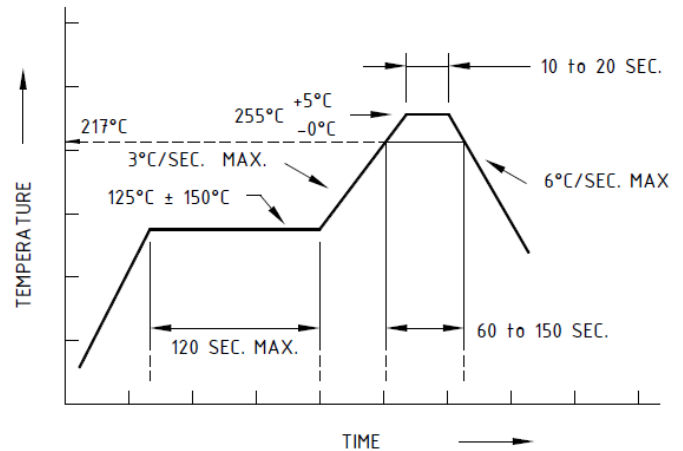
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SOLDERING CONDITIONS



Recommended reflow soldering profile



Recommended Pb-free reflow soldering profile

Notes:

1. 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 characteristic of the LEDs will or will not be damaged by repairing.
2. Reflow soldering should not be done more than two times.
3. When soldering, do not put stress on the LEDs during heating.
4. After soldering, do not warp the circuit board.

MOISTURE SENSITIVITY

AOP's SMD LED are shipped in sealed, moisture-barrier bags (MBB), designed for long shelf life. If SMD LED is 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

1. MSL of this product are MSL4, please see IPC/JEDEC STD020D for more detail.
2. LEDs reach floor time may be damaged while soldering/reflow processing, please discard the LED.
3. If RH indicator show 60% RH when package is unsealed, please bake/discard the LED.

RESEAL

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