

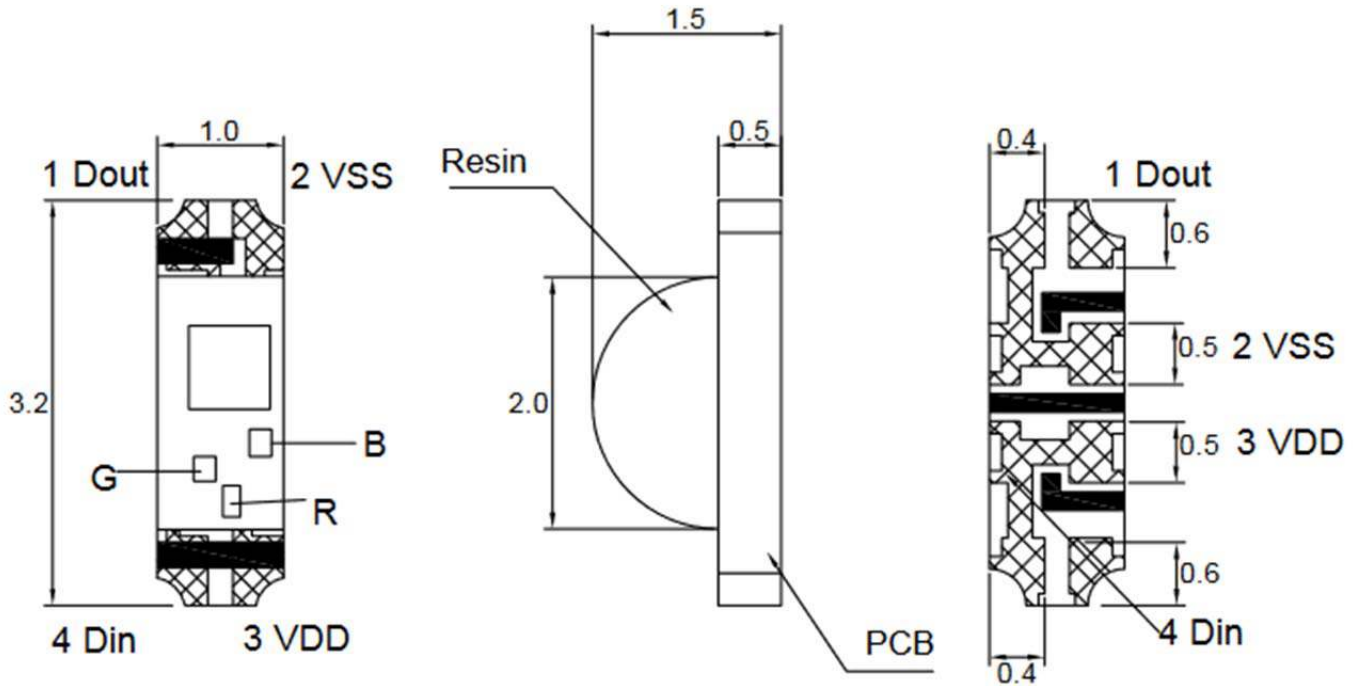


American Opto Plus LED Corp.

L121L-NEPGBW-3I

3.2 x 1.0 x 1.5mm RGB Right Angle SMD LED with IC

PACKAGE DIMENSION



NO.	Symbol	Function Description
1	DOUT	Control data signal output
2	VSS	Ground
3	VDD	DC power input
4	DIN	Control data signal input

Notes:

1. All dimension are in millimeter tolerance is ± 0.1 mm unless otherwise noted.
2. Specifications are subject to change without notice.

Material	Color	
	Emitted	Lens
AlGaInP	Red	White Diffused
InGaN	Pure Green	
InGaN	Blue	

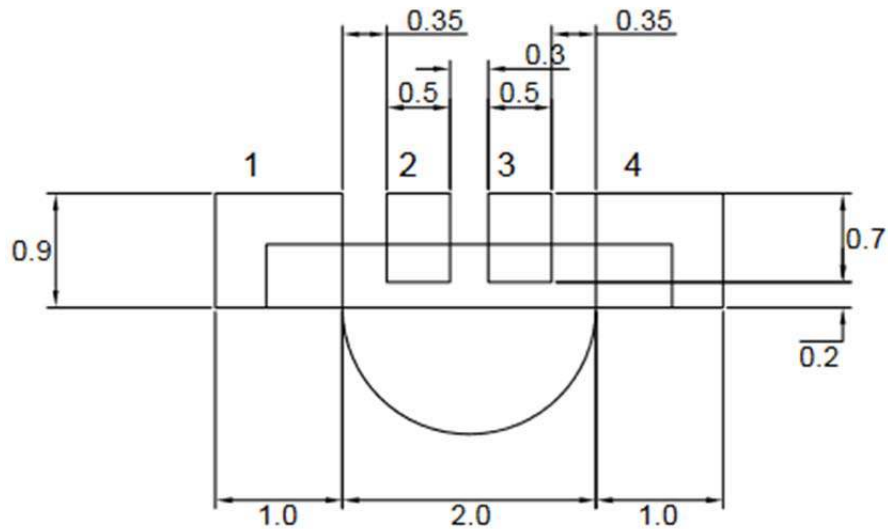


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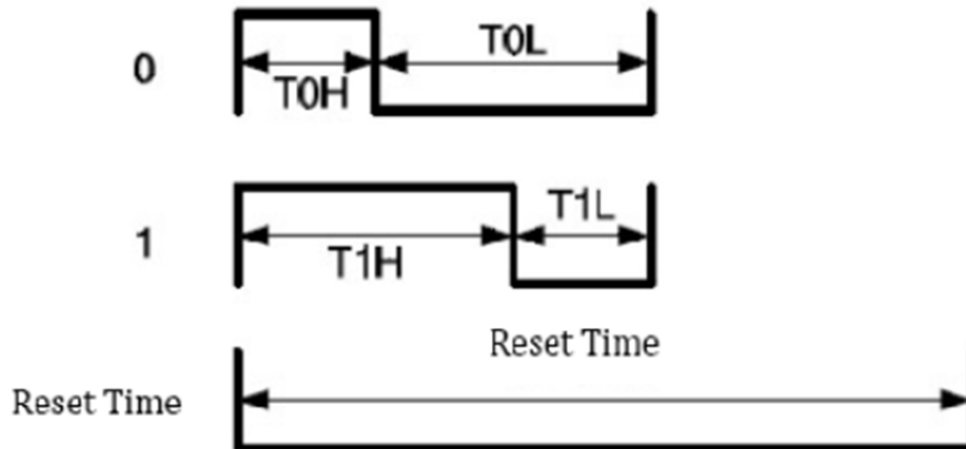
RECOMMENDED SOLDERING PAD PATTERN



Notes:

1. The tolerances unless mentioned is ± 0.1 mm.
2. Unit = mm.

TIMING WAVE FORM



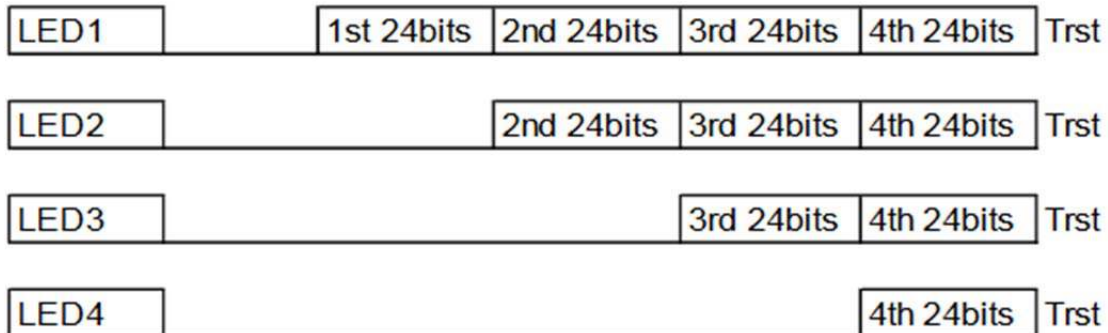


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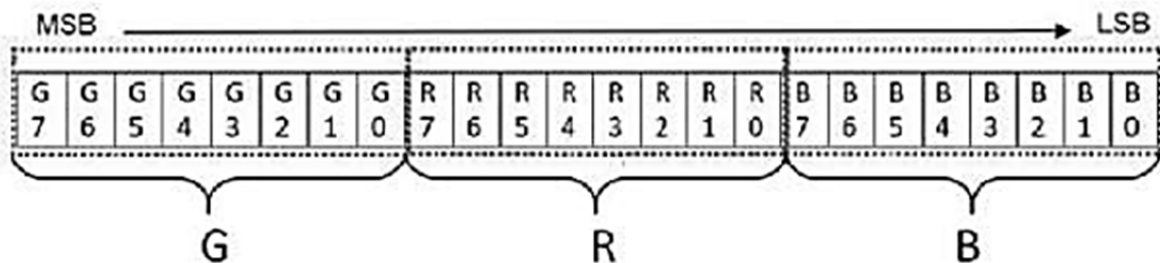
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DATA COMMUNICATION



SINGLE DATA IN 24BIT FOR RGB



HIGH SPEED MODE

Item	Description	Min.	Max.	Unit
TOH	0 code, High- level time	0.22	0.38	us
TOL	0 code, Low- level time	0.58	1	us
T1H	1 code, High- level time	0.58	1	us
T1L	1 code, Low- level time	0.58	1	us
Trst	Rest code, Low- level time	280	--	us



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ABSOLUTE MAXIMUM RATINGS

(Ta=25°C, VDD=5V, Vss=0)

Parameter	Symbol	Value	Unit
Supply Voltage	VDD	5.3	V
LED Output Current	Iout	25	mA
Power Dissipation	Pd	240	mW
Operating Temperature Range	Topr	-40~+85	°C
Storage Temperature Range	Tstg	-40~+100	°C

OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C, VDD=5V, Vss=0)

Parameter	Symbol	Test Condition	Value			Unit
			Min	Typ	Max	
Supply Voltage	VDD	--	3.7	5	5.3	V
Each R/G/B Current	IOL	VDD=5V	--	12	--	mA
Input High Voltage	VIH	DI	2.7	--	VDD	V
Input Low Voltage	VIL	DI	0	--	0.7	V

Parameter	Symbol		Test Condition	Value			Unit
				Min	Typ	Max	
Luminous intensity	Iv	R	VDD=5V	125	285	500	mcd
		G		200	370	800	
		B		50	75	200	
Dominant Wavelength	λD	R		615	622	630	nm
		G		515	523	535	
		B		460	467	475	
Viewing angle	2θ 1/2			--	120	--	Deg

Notes:

1. The dominant wavelength data did not including $\pm 1\text{nm}$ testing tolerance.
2. The luminous intensity data did not including $\pm 15\%$ testing tolerance.



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ELECTRICAL-OPTICAL CHARACTERISTIC CURVES

(Ta=25°C)

Fig.1 R CHIP

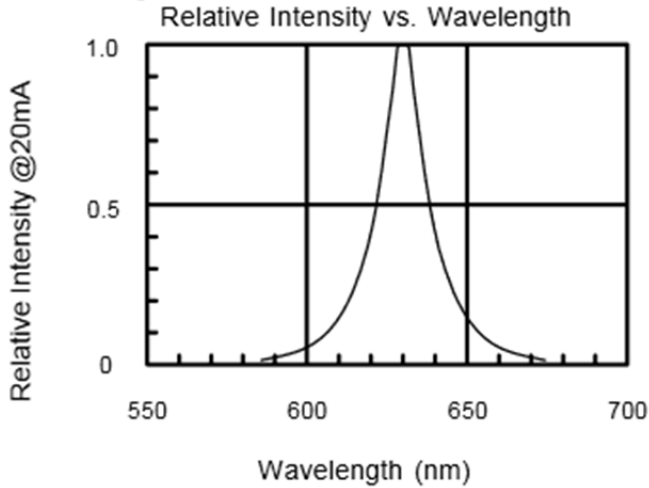


Fig.2 G CHIP

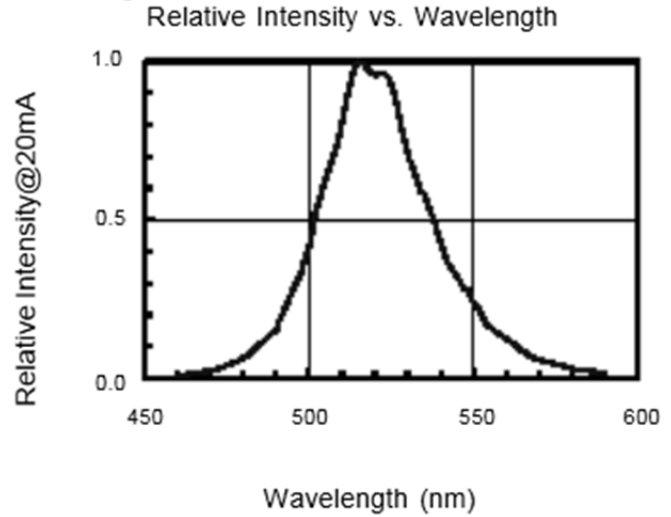


Fig.3 B CHIP

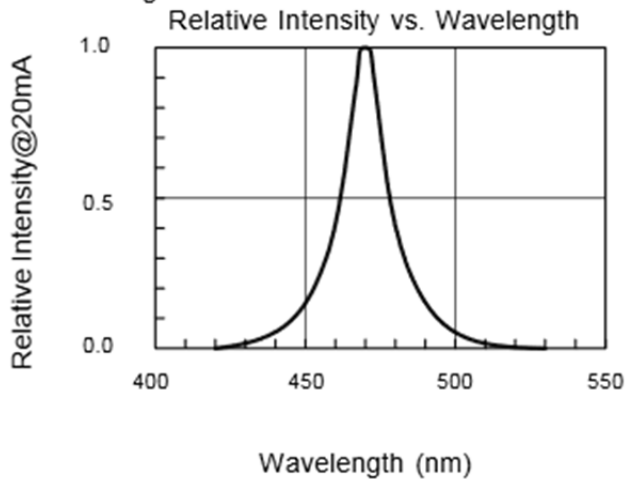
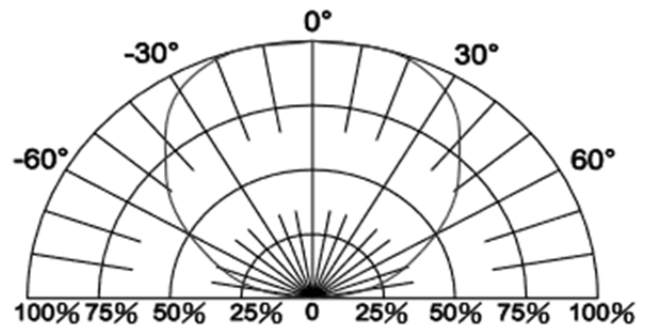


Fig.4 Directive Radiation



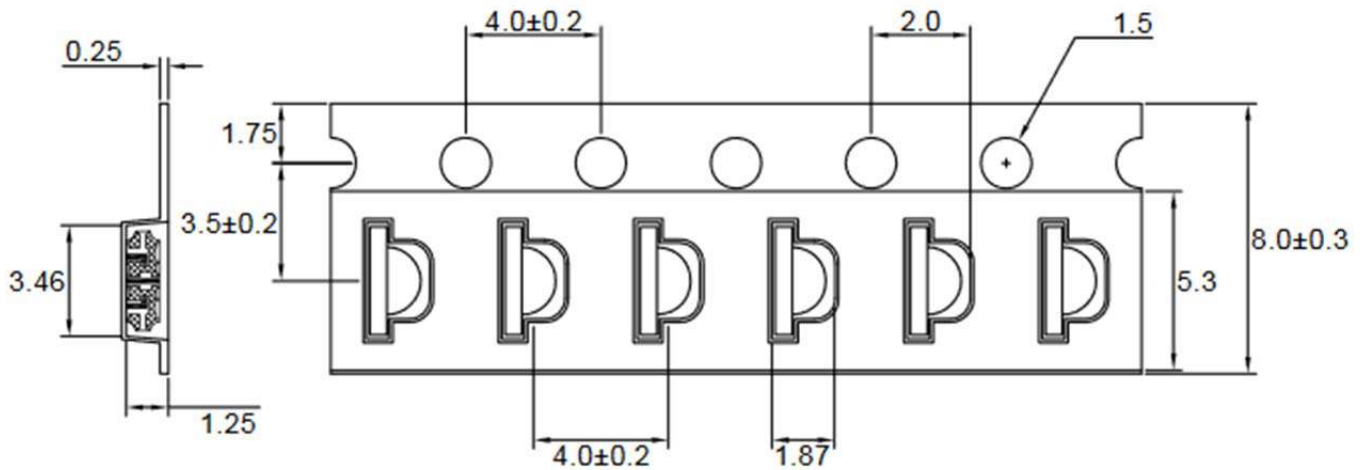


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CARRIER TAPE DIMENSIONS



Note:

1. The tolerances unless mentioned is ± 0.1 mm, Angle ± 0.5 , Unit=mm.

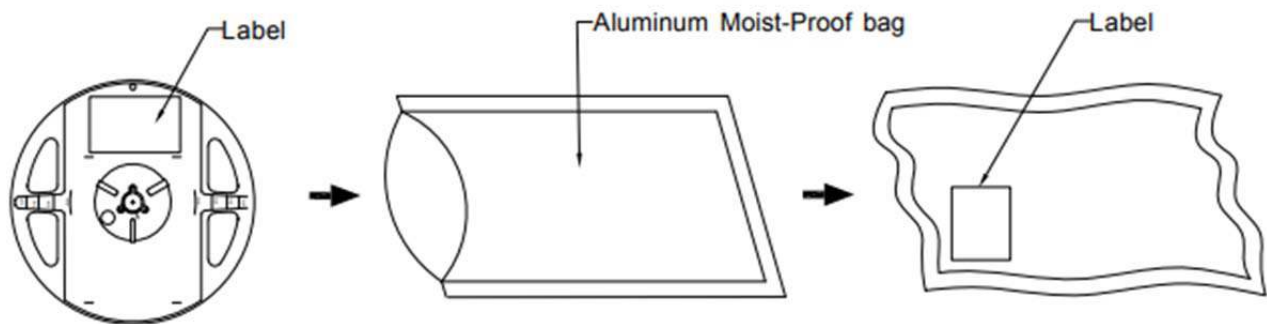
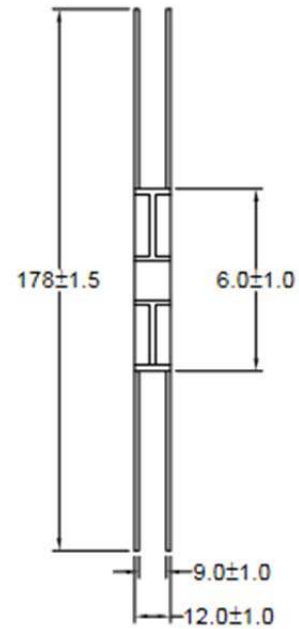
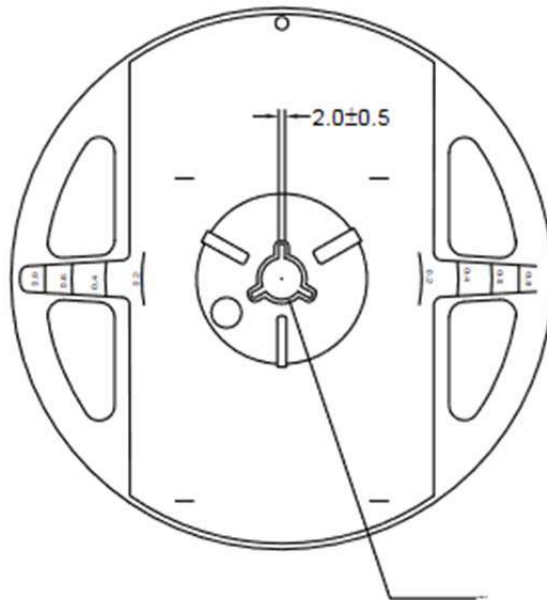


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REEL DIMENSIONS



Description	Quantity/Reel
8.0mm tape, 7" reel	3000 PCS

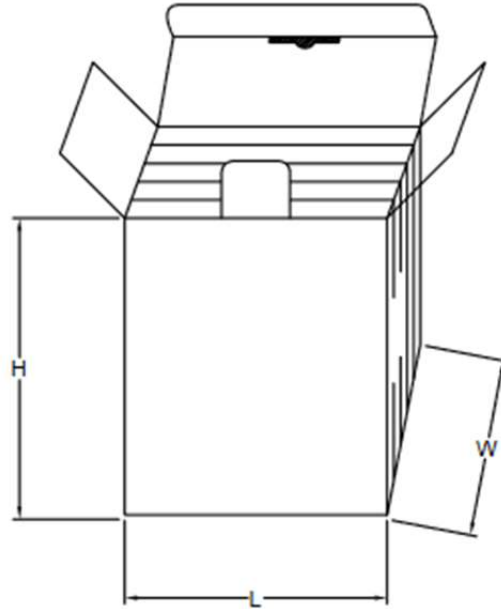


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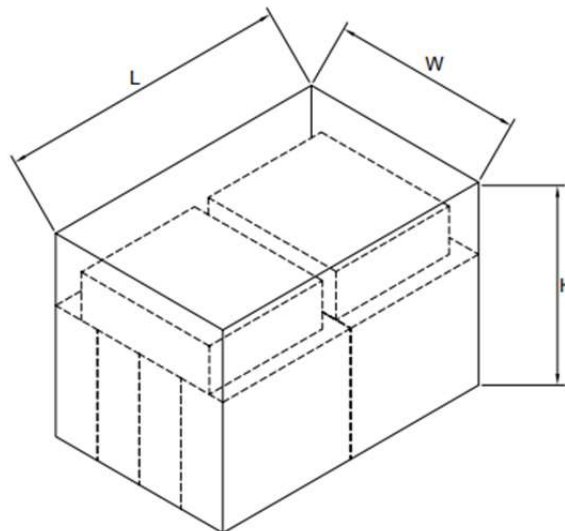
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BOX EXPLANATION



Notes:

1. 5 bag/inner box
2. Carton size : L x W x H 23cm x 8.5cm x 26cm



Notes:

1. 10 inner boxes/carton
2. Carton size : L x W x H 58cm x 34cm x 35cm



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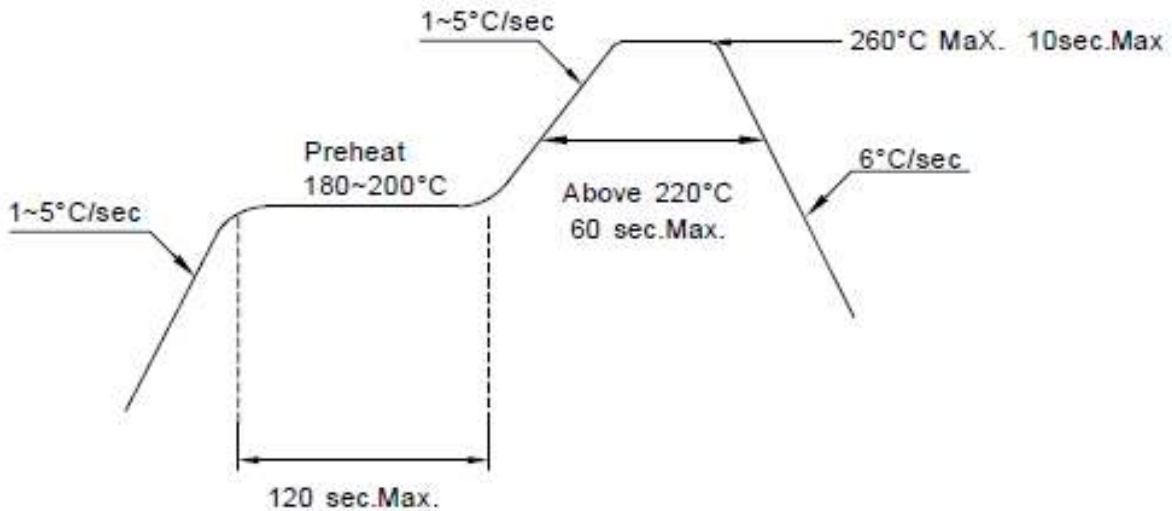
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RECOMMENDED SOLDERING CONDITIONS

1. Hand Solder

Basic spec is $\leq 320^{\circ}\text{C}$ 3 sec one time only

2. PB-Free Reflow Solder



Note:

1. Reflow soldering should not be done more than two times.
2. When soldering, do not put stress on the LED during heating.
3. After soldering, do not warp the circuit board.



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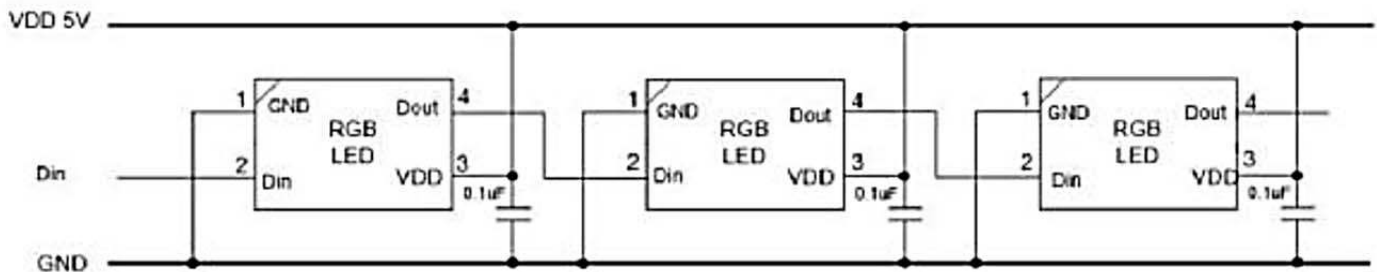
3.2 x 1.0 x 1.5mm RGB Right Angle SMD LED with IC

PRECAUTIONS FOR USE:

Storage time:

1. Calculated shelf life before opening is 12 months at $< 30^{\circ}\text{C}$ and $< 90\%$ relative humidity (RH).
2. After bag is opened, devices which will be subjected to reflow soldering or other high temperature processes must be:
 - a) Assembled within 168 hours in an environment of $\leq 30^{\circ}\text{C} / 60\%$ RH, or
 - b) Stored at ambient of 10% RH or less.
3. Devices are required baking before assembly if:
 - a) Humidity Indicator Card reads $>10\%$ (for level 2a -5a) or $>60\%$ (for level 2) at ambient temperature $23\pm 5^{\circ}\text{C}$.
 - b) 2.a) or 2.b) doesn't meet.
4. If baking is required, devices should be baked for >24 hours at $60\pm 5^{\circ}\text{C} / 5\%$ RH. Performing baking only once, and using the baked devices within 8 hours.

RECOMMENDED ROUTE



Cleaning:

Use alcohol-based cleaning solvents such as isopropyl alcohol to clean the LED.

ESD (Electrostatic Discharge):

Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrostatic glove is recommended when handling these LED. All devices, equipment and machinery must be properly grounded.