



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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PRELIMINARY SPEC

Part Number: AAD1-9090BRGC-01/3



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE

Blue
Reddish-Orange
Green

Features

- Super high flux output and high luminance.
- Designed for high current operation.
- Low thermal resistance.
- Low voltage DC operated.
- Superior ESD protection.
- Not reflow compatible.
- The component is internally protected with silicone gel.
- RoHS compliant.



Applications

- traffic signaling.
- backlighting (illuminated advertising, general lighting).
- interior and exterior automotive lighting.
- substitution of micro incandescent lamps.
- portable light source (e.g. bicycle flashlight).
- signal and symbol luminaire for orientation.
- marker lights (e.g. steps, exit ways, etc).
- decorative and entertainment lighting.
- indoor and outdoor commercial and residential architectural lighting.

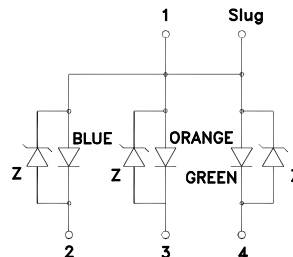
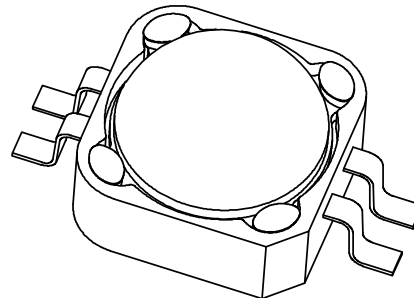
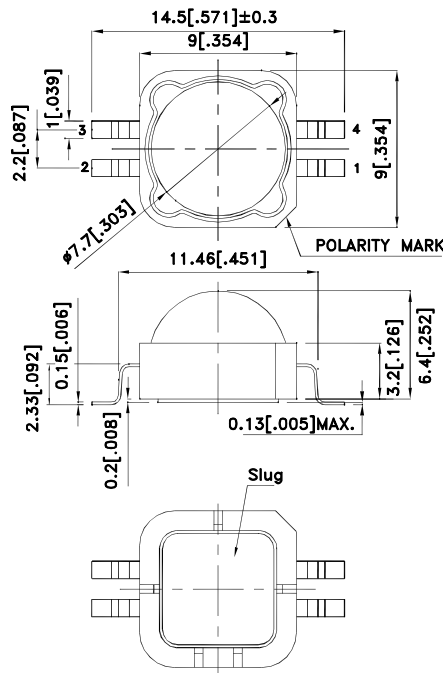
Application Note

Static electricity and surge damage the LEDs.

It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25 (0.01")$ unless otherwise noted.
3. Specifications are subject to change without notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.



Selection Guide

Part No.	Dice	Lens Type	luminous Intensity [2] lv(cd)@ 350mA		Φv (lm) [2] @ 350mA		Viewing Angle [1]
			Min.	Typ.	Min.	Typ.	2θ1/2
AAD1-9090BRGC-01/3	BLUE (AlGaInN)	WATER CLEAR	2.5	3.5	15	20	135°
	Reddish-Orange (AlGaInP)		6.7	8	25	30	
	Green (AlGaInN)		10	16	32	50	

Notes:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. Luminous intensity / luminous Flux: +/-15%.

Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	Device	Value	Unit
Power dissipation	Pt	Blue	1.25	W
		Reddish-Orange	1.05	
		Green	1.33	
Junction temperature	Tj	Blue	110	°C
		Reddish-Orange	110	
		Green	110	
Operating Temperature	Top	Blue	-40 To +100	°C
		Reddish-Orange		
		Green		
Storage Temperature	Tstg	Blue	-40 To +100	°C
		Reddish-Orange		
		Green		
DC Forward Current [1]	If	Blue	350	mA
		Reddish-Orange	350	
		Green	350	
Peak Forward Current [2]	IfM	Blue	500	mA
		Reddish-Orange	500	
		Green	500	
Thermal resistance [1]	Rth j-slug	Blue	9	°C/W
		Reddish-Orange	12	
		Green	9	
Electrostatic Discharge Threshold (HBM)		Blue	8000	V
		Reddish-Orange		
		Green		
Iron Soldering [3]		Blue	350°C For 3 Seconds	
		Reddish-Orange		
		Green		

Notes:

1. Results from mounting on MCPCB.
2. 1/10 Duty Cycle, 0.1ms Pulse Width.
3. 1.29mm distance from solder joint to package.

Electrical / Optical Characteristics at TA=25°C

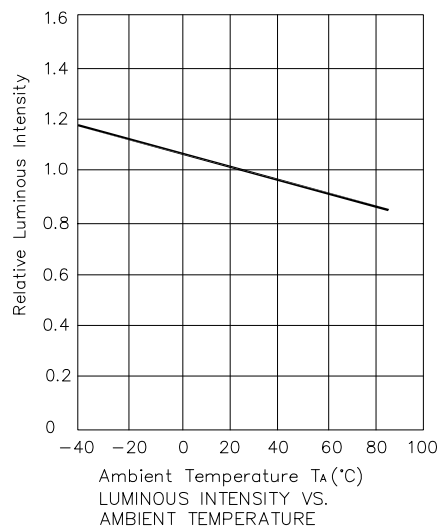
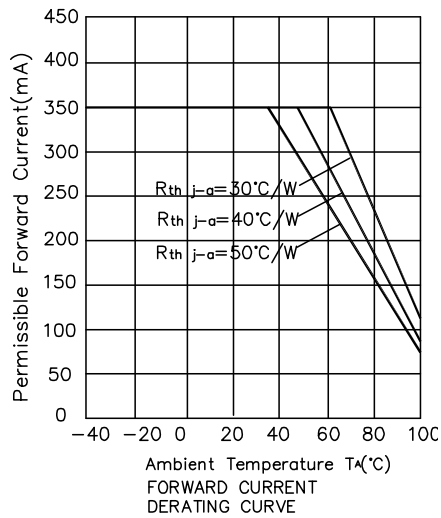
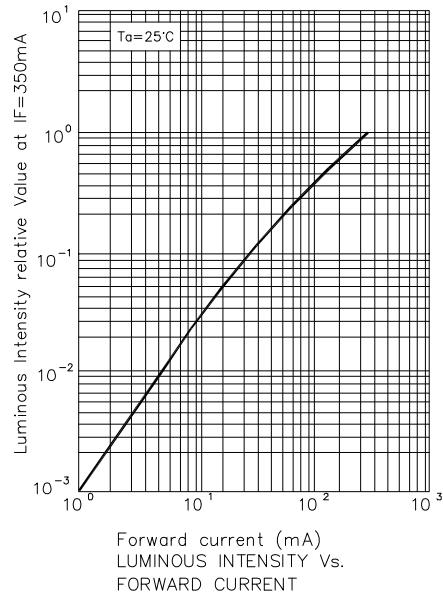
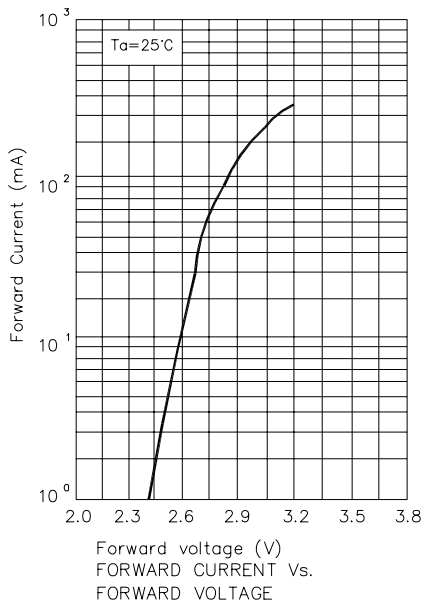
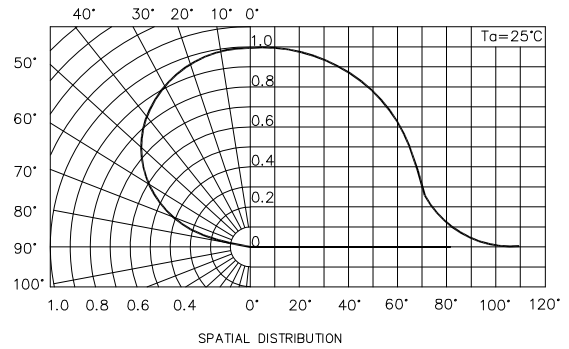
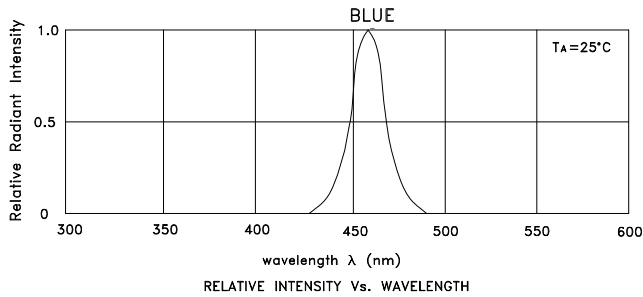
Parameter	Symbol	Device	Value			Unit
			Min.	Typ.	Max.	
Wavelength at peak emission IF=350mA	λ_{peak}	Blue		452		nm
		Reddish-Orange		640		
		Green		520		
Dominant Wavelength IF=350mA	λ_{dom} [1]	Blue		458		nm
		Reddish-Orange		625		
		Green		530		
Spectral bandwidth at 50% Φ_{REL} MAX IF=350mA	$\Delta\lambda$	Blue		20		nm
		Reddish-Orange		30		
		Green		35		
Forward Voltage IF=350mA	VF [2]	Blue	2.8	3.2	3.6	V
		Reddish-Orange	2.0	2.5	3.0	
		Green	2.7	3.3	3.8	
Temperature coefficient of λ_{peak} IF=350mA, -10°C ≤ T ≤ 100°C	TC λ_{peak}	Blue		0.2		nm/°C
		Reddish-Orange		0.12		
		Green		0.16		
Temperature coefficient of λ_{dom} IF=350mA, -10°C ≤ T ≤ 100°C	TC λ_{dom}	Blue		0.1		nm/°C
		Reddish-Orange		0.05		
		Green		0.14		
Temperature coefficient of VF IF=350mA, -10°C ≤ T ≤ 100°C	TCV	Blue		-3.2		mV/°C
		Reddish-Orange		-2.6		
		Green		-2.26		

Notes:

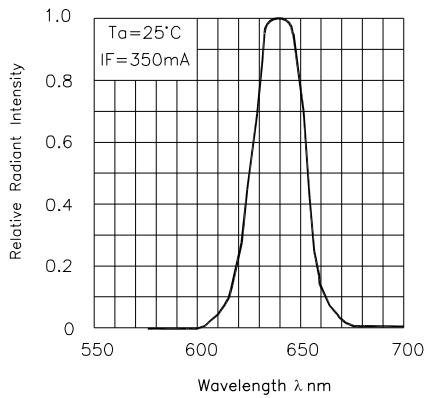
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

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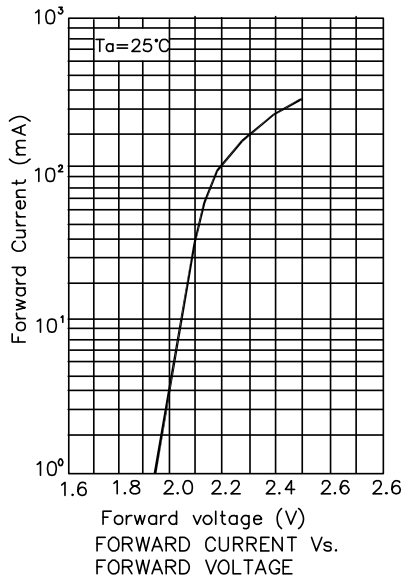
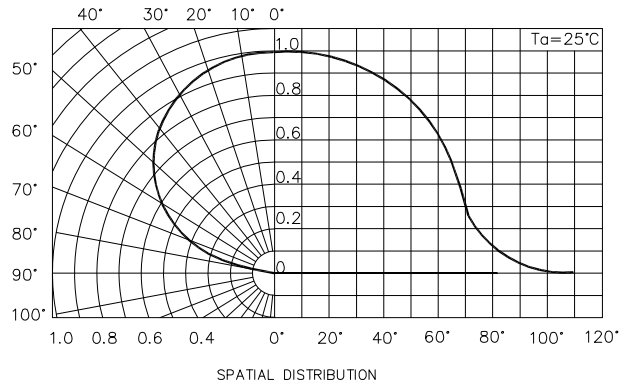
AAD1-9090BRGC-01/3 Blue



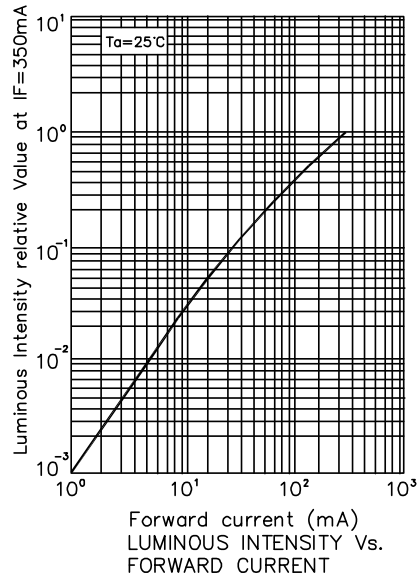
Reddish-Orange



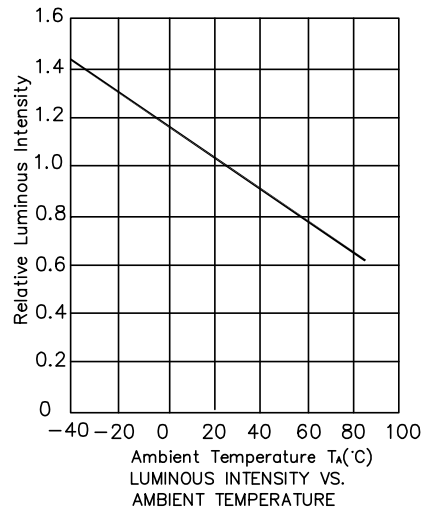
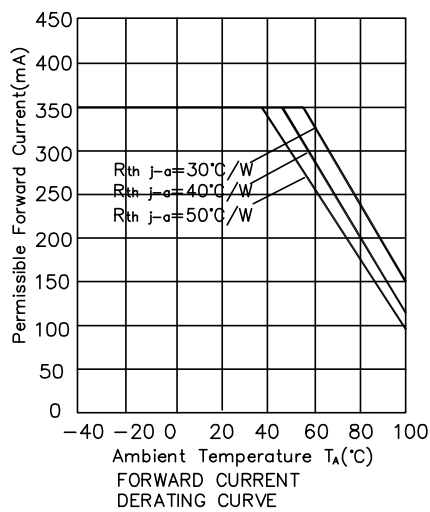
RELATIVE INTENSITY Vs. WAVELENGTH



FORWARD CURRENT Vs. FORWARD VOLTAGE

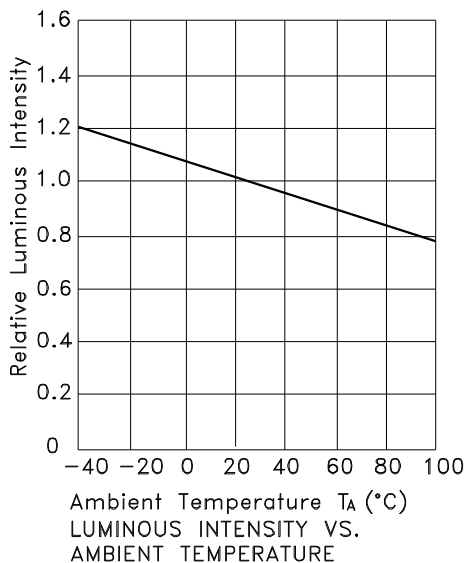
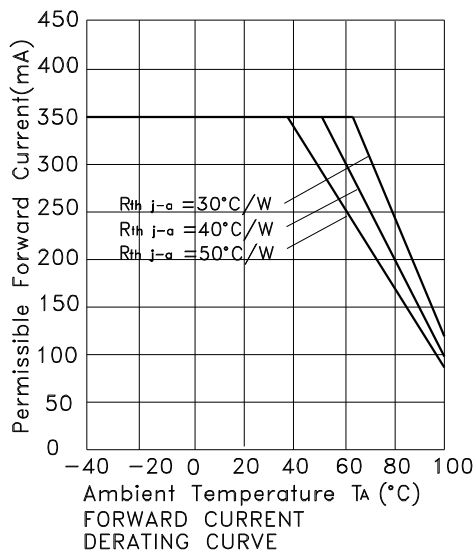
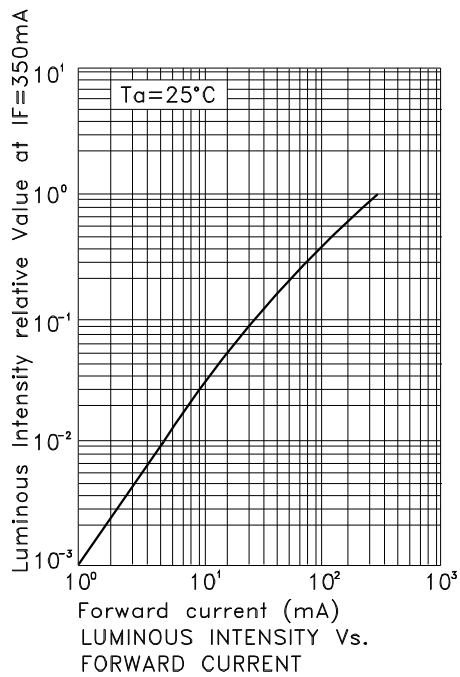
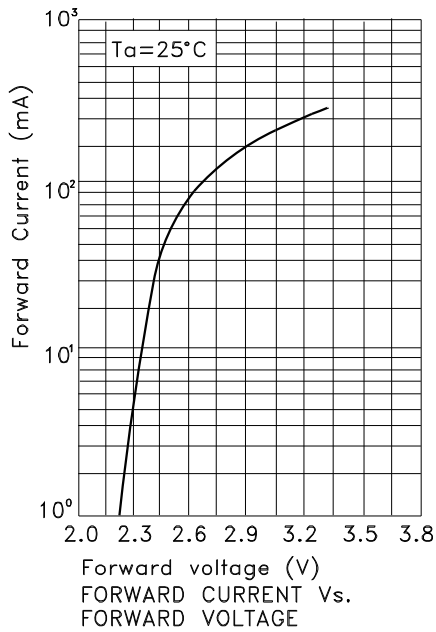
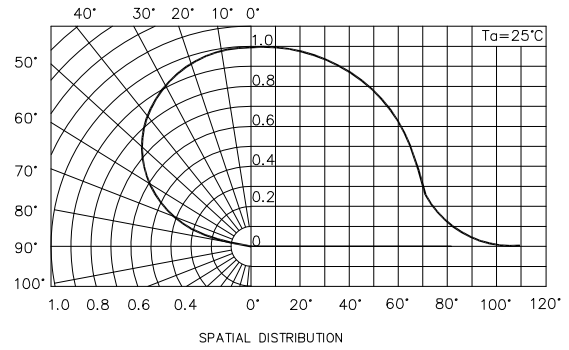
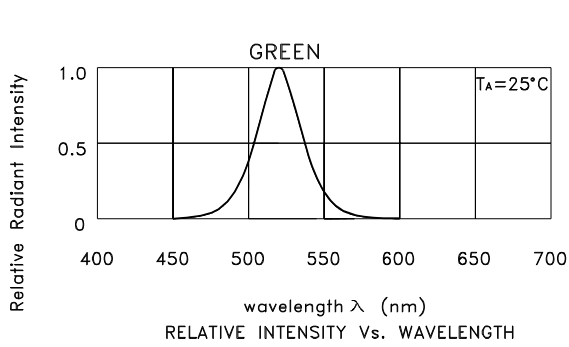


LUMINOUS INTENSITY Vs. FORWARD CURRENT

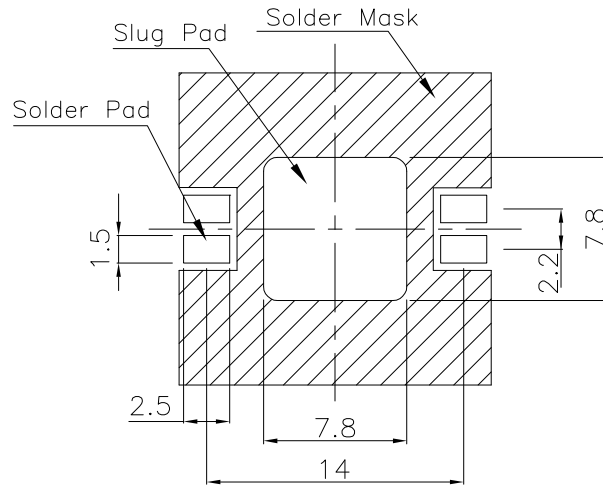


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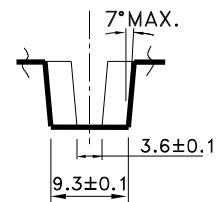
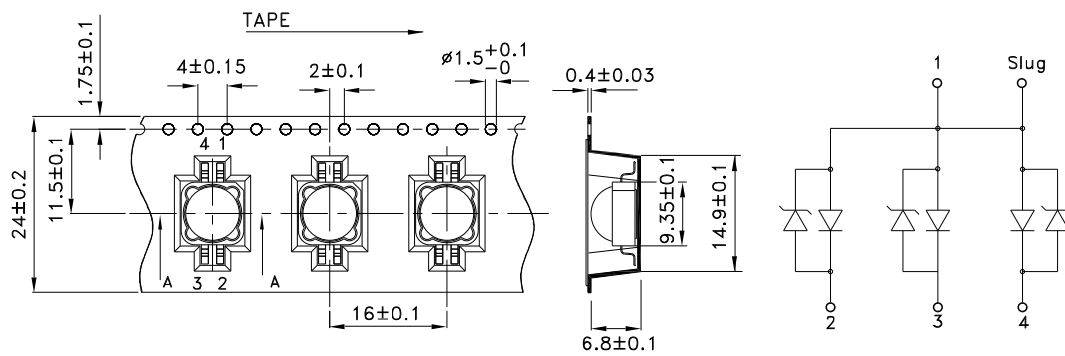
Green



AAD1-9090BRGC-01/3
Recommended Soldering Pattern
 (Units : mm; Tolerance: ± 0.1)

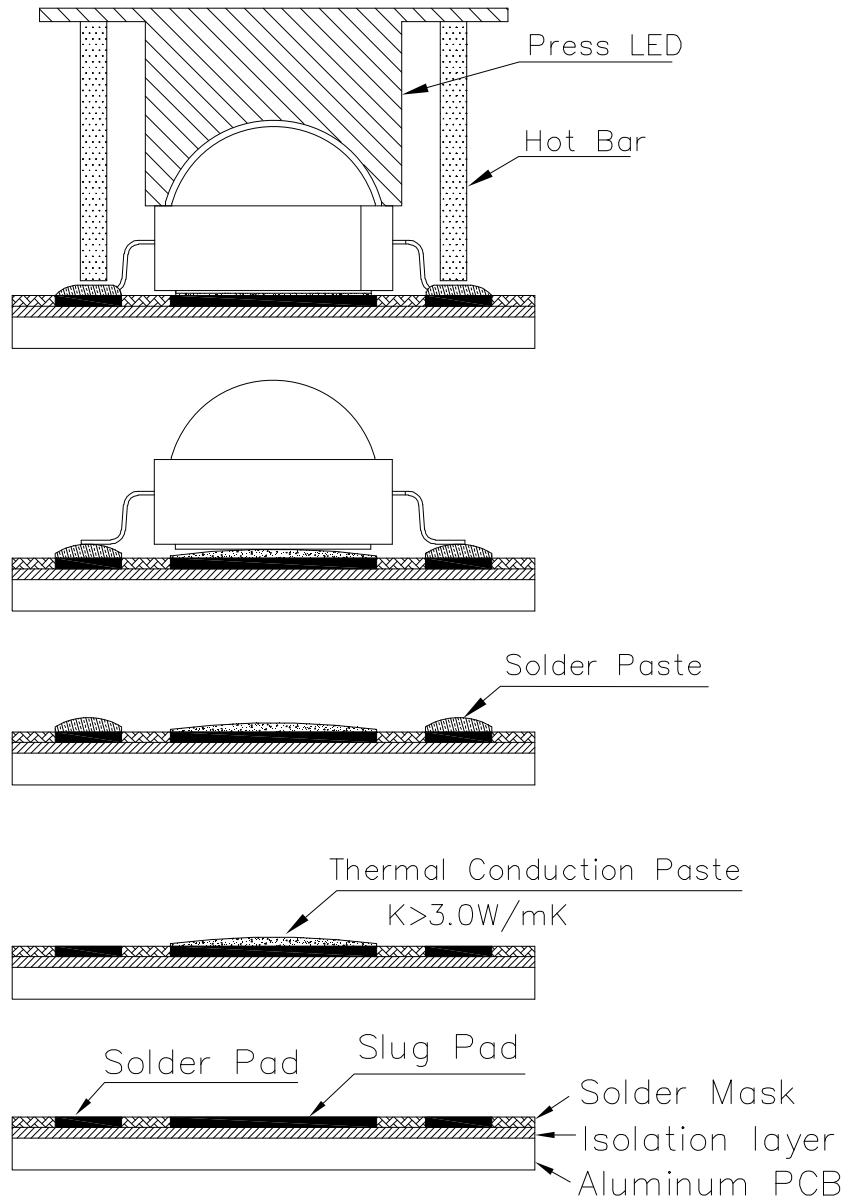


Tape Specifications
 (Units : mm)



A-A SECTION

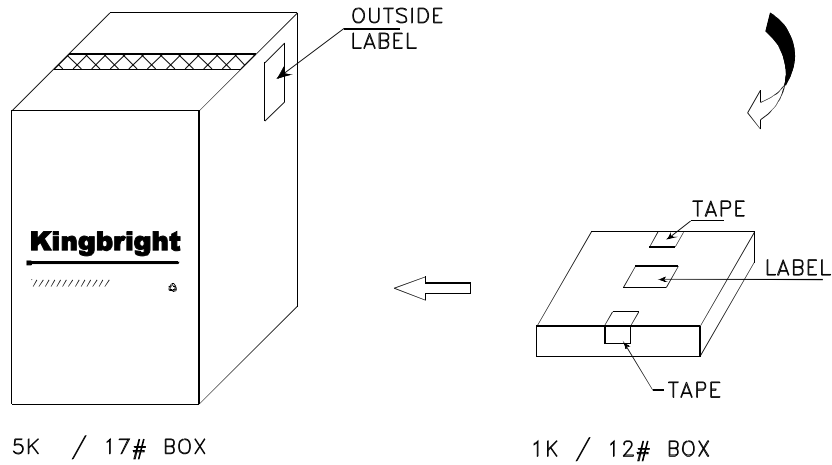
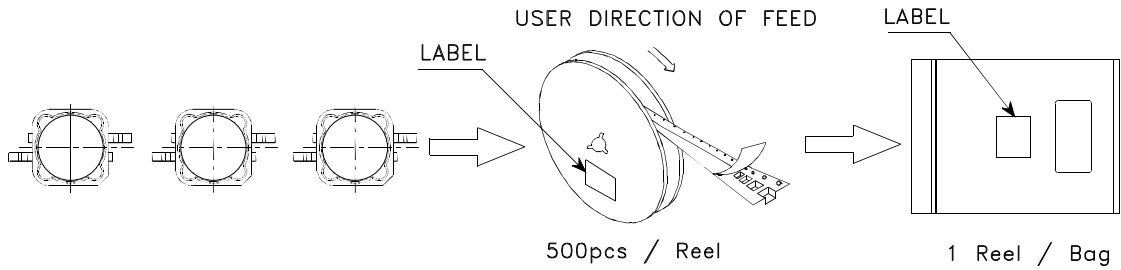
AAD1-9090BRGC-01/3 Recommended Solder Steps




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PACKING & LABEL SPECIFICATIONS

AAD1-9090BRGC-01/3



<h1>Kingbright</h1>	
P/NO: AAD1-9090xxx	
QTY: 500 pcs	Q.C. Q C XX XX XXXX PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:	
 XXXXXXXXXXXXXXXXXXXXXXXXXXXX	
RoHS Compliant	