

### PRELIMINARY SPEC

Part Number: AAD1-9090SY9ZC/2

Super Bright Yellow



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

### Features

- Super high flux output and high luminance.
- Designed for high current operation.
- Low thermal resistance.
- Low voltage DC operated.
- Superior ESD protection.
- Package: 500pcs/reel.
- 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.

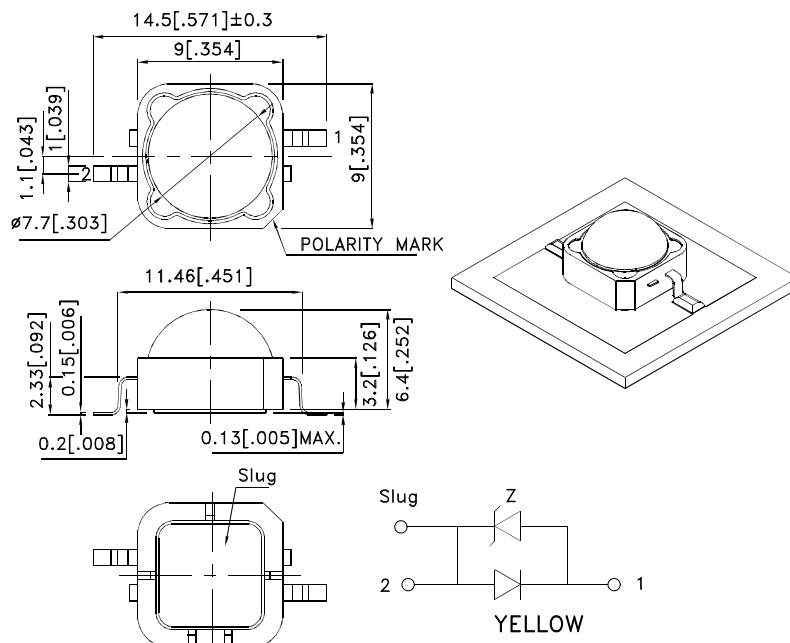
### Application Note

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 Iv (cd)@ 500 mA [2]		Φv (lm) @ 500 mA [2]		Viewing Angle [1]
			Min.	Typ.	Min.	Typ.	2θ1/2
AAD1-9090SY9ZC/2	Super Bright Yellow (AlGaInP)	WATER CLEAR	16	20	46	58	100°

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	Value	Unit
Power dissipation	Pt	1.28	W
Junction temperature	TJ	110	°C
Operating Temperature	Top	-40 To +100	°C
Storage Temperature	Tstg	-40 To +100	°C
DC Forward Current [1]	IF	500	mA
Peak Forward Current [2]	IFM	700	mA
Thermal resistance [1]	Rth j-slug	12	°C/W
Electrostatic Discharge Threshold (HBM)		8000	V
Iron Soldering [3]		350°C For 3 Seconds	

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.

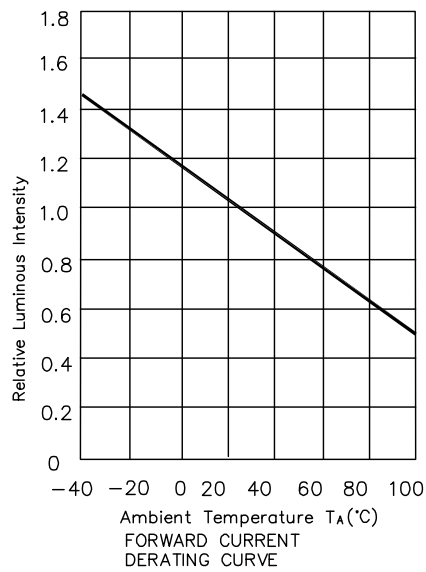
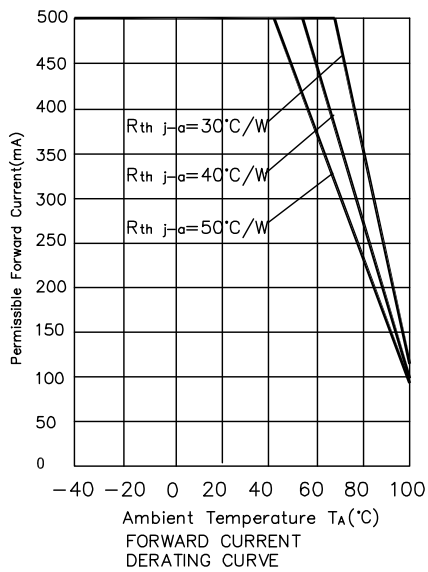
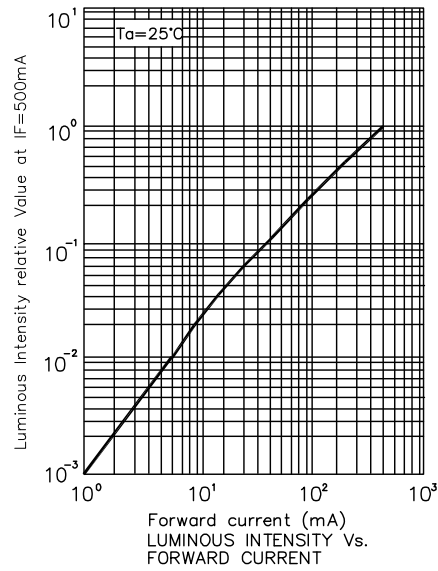
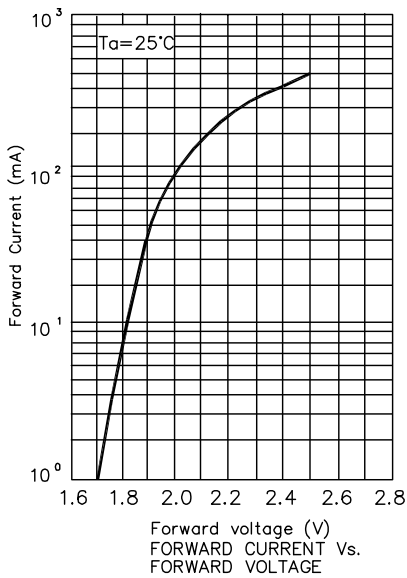
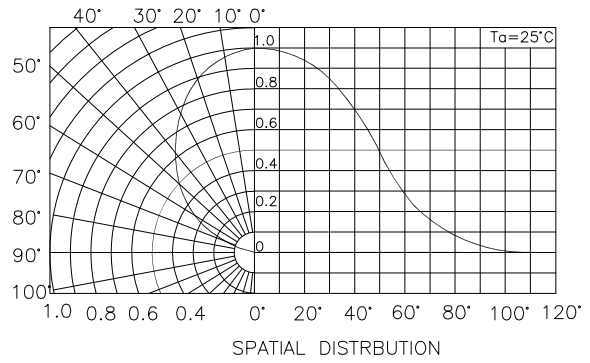
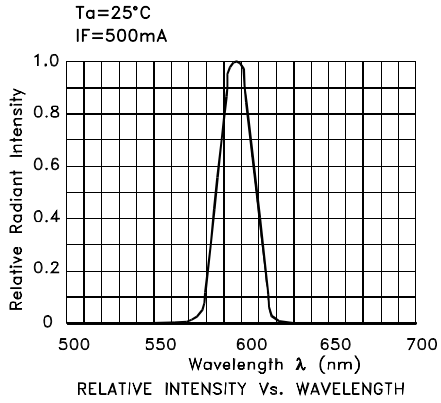
## Electrical / Optical Characteristics at TA=25°C

Parameter	Symbol	Value	Unit
Wavelength at peak emission IF=500mA [Typ.]	λpeak	598	nm
Dominant Wavelength IF=500mA [Typ.]	λ dom [1]	591	nm
Spectral bandwidth at 50%ΦREL MAX IF=500mA [Typ.]	Δλ	23	nm
Forward Voltage IF=500mA [Min.]	VF [2]	2.0	V
Forward Voltage IF=500mA [Typ.]		2.5	
Forward Voltage IF=500mA [Max.]		3.1	
Temperature coefficient of λpeak IF=500mA, -10°C ≤ T ≤ 100°C [Typ.]	TCλpeak	0.12	nm/°C
Temperature coefficient of λdom IF=500mA, -10°C ≤ T ≤ 100°C [Typ.]	TCλdom	0.07	nm/°C
IF=500mA, -10°C ≤ T ≤ 100°C [Typ.]	TCv	-2.6	mV/°C

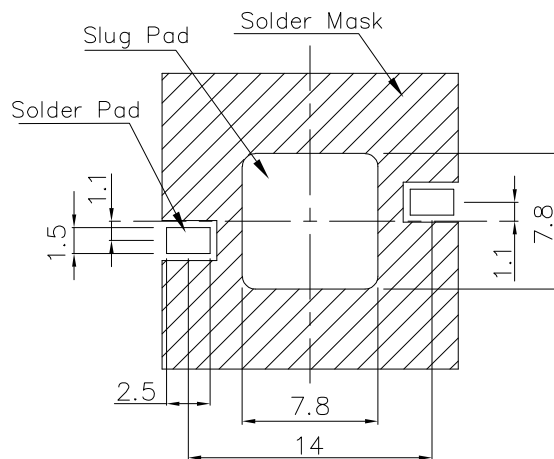
Notes:

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

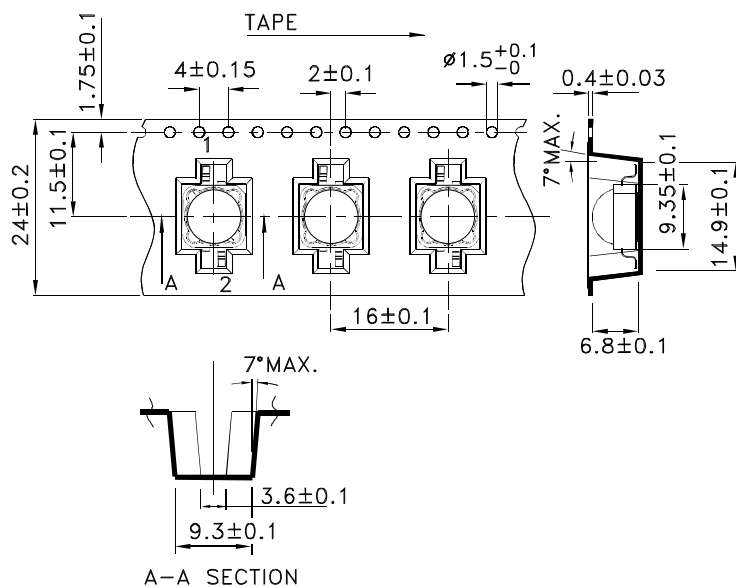
## AAD1-9090SY9ZC/2



**AAD1-9090SY9ZC/2**  
**Recommended Soldering Pattern**  
 (Units : mm; Tolerance:  $\pm 0.1$ )

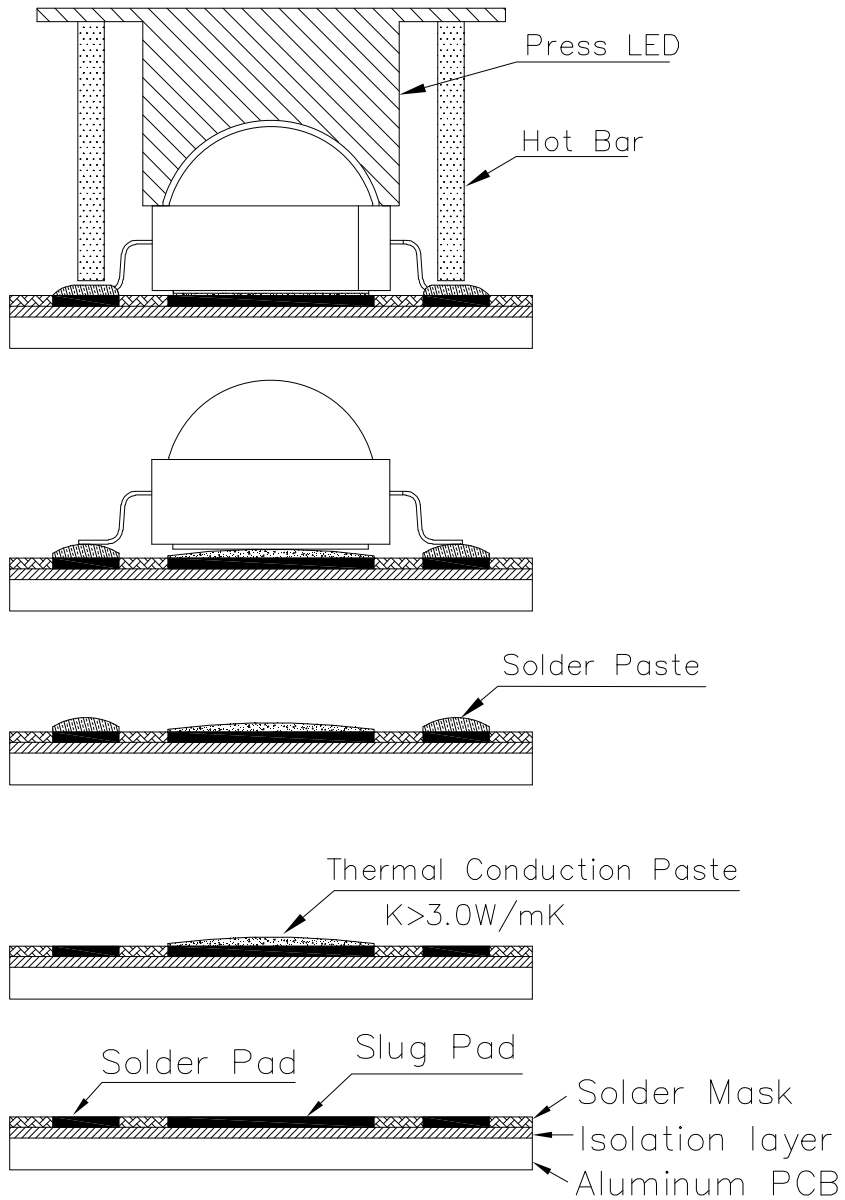


**Tape Specifications**  
 (Units : mm)



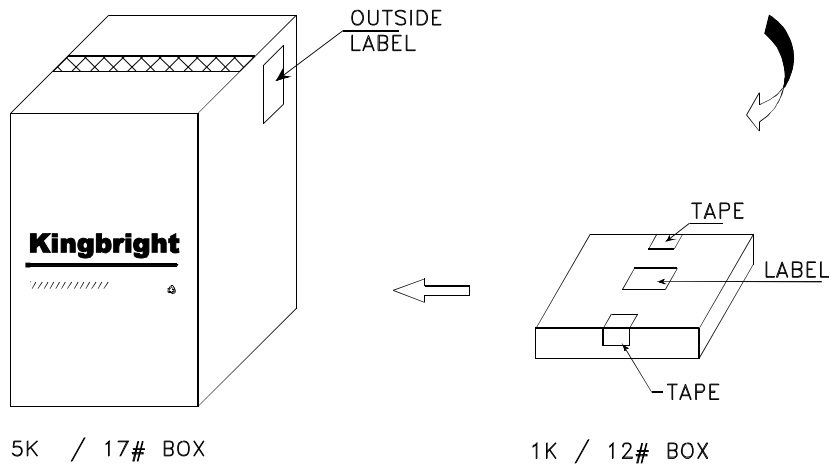
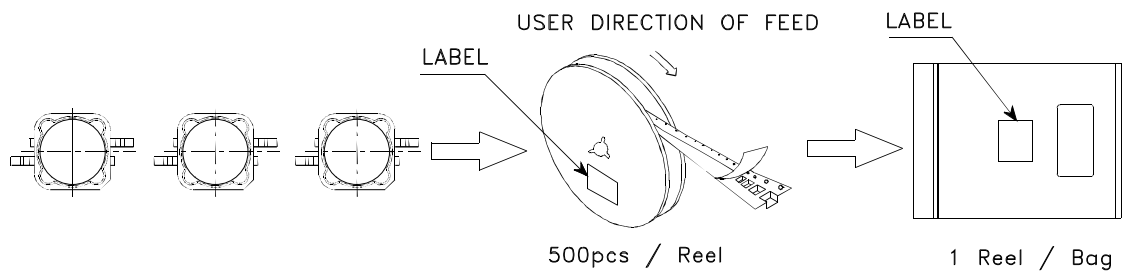
## AAD1-9090SY9ZC/2


### Recommended Solder Steps



**PACKING & LABEL SPECIFICATIONS**

**AAD1-9090SY9ZC/2**



<h1>Kingbright</h1>	
P/NO: AAD1-9090xxx	
QTY: 500 pcs	Q.C. <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Q C XX XX XXXX PASSED</span>
S/N: XXXX	
CODE: XXX	
LOT NO:	
 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
RoHS Compliant	