

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.

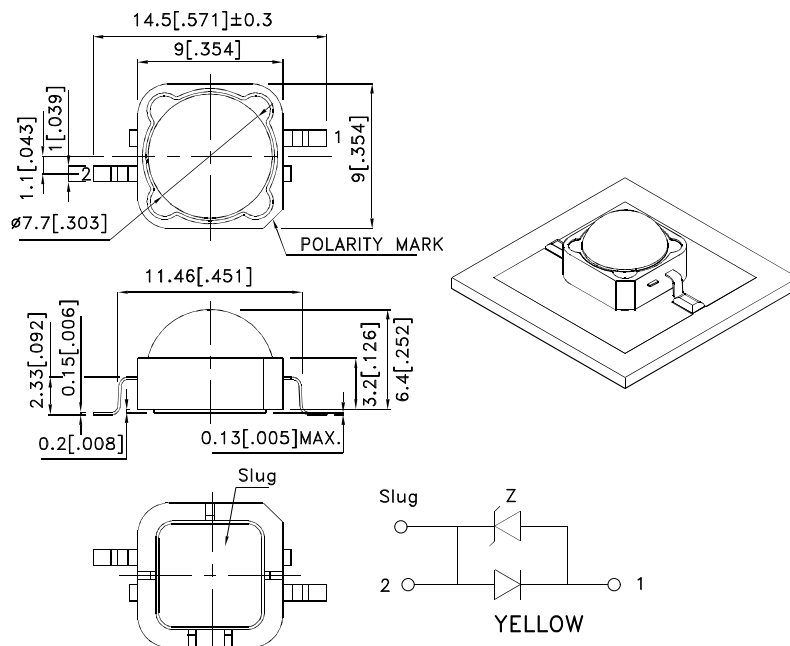
Application Note

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.

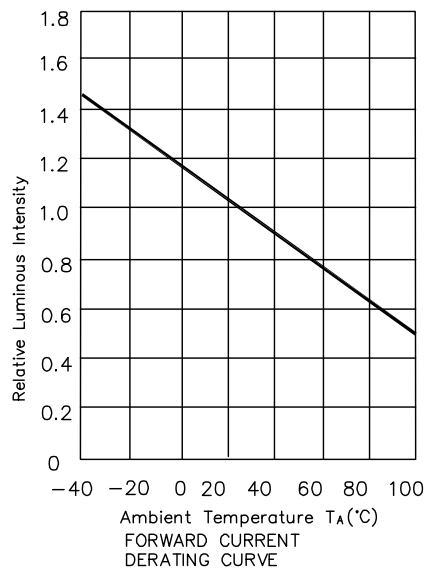
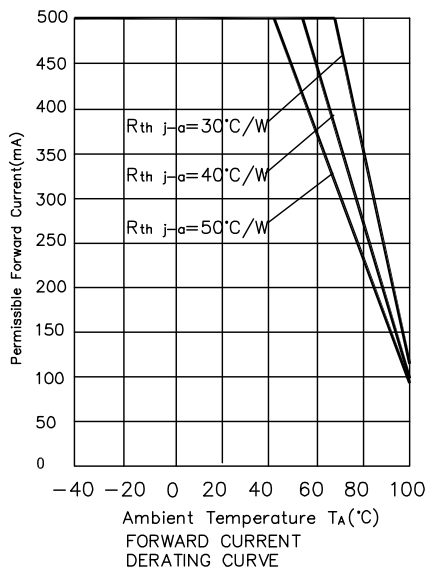
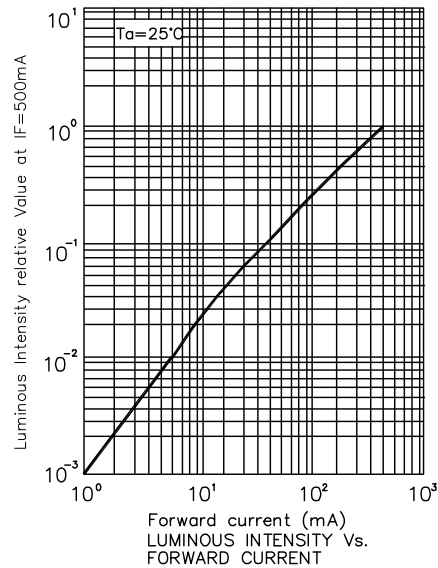
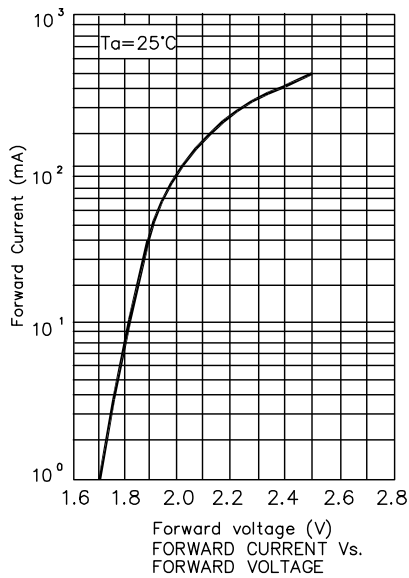
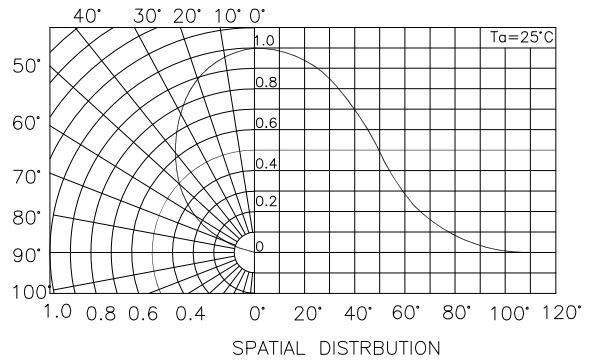
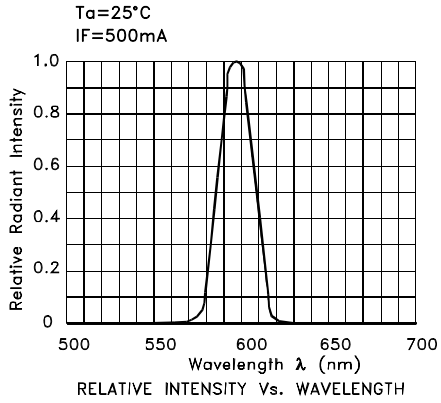
Electrical / Optical Characteristics at TA=25°C

| 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 |

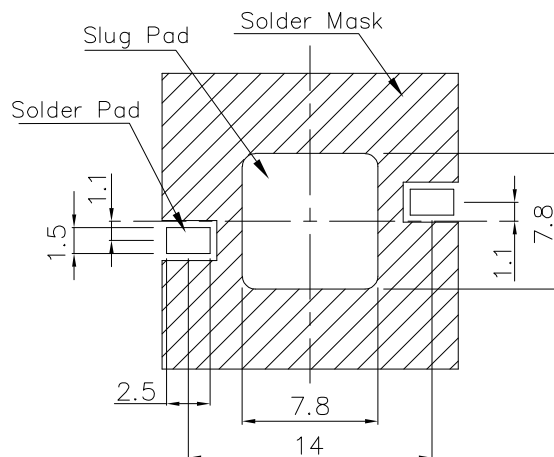
Notes:

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

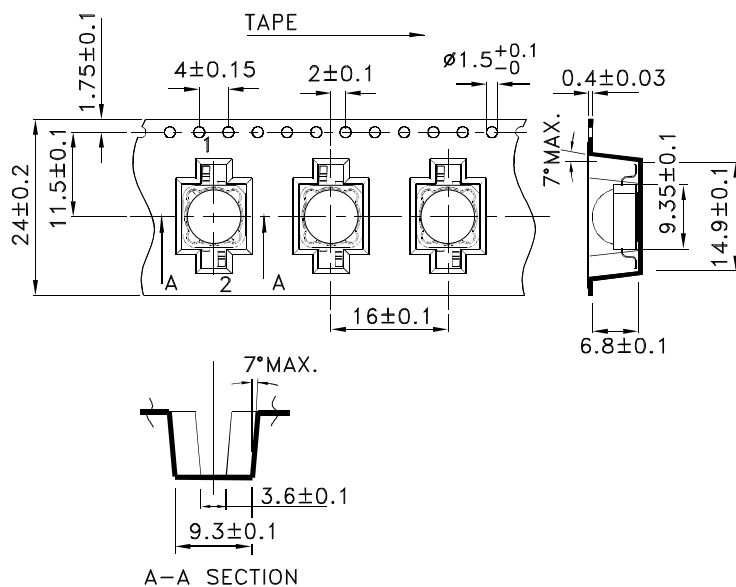
AAD1-9090SY9ZC/2



AAD1-9090SY9ZC/2
Recommended Soldering Pattern
 (Units : mm; Tolerance: ± 0.1)

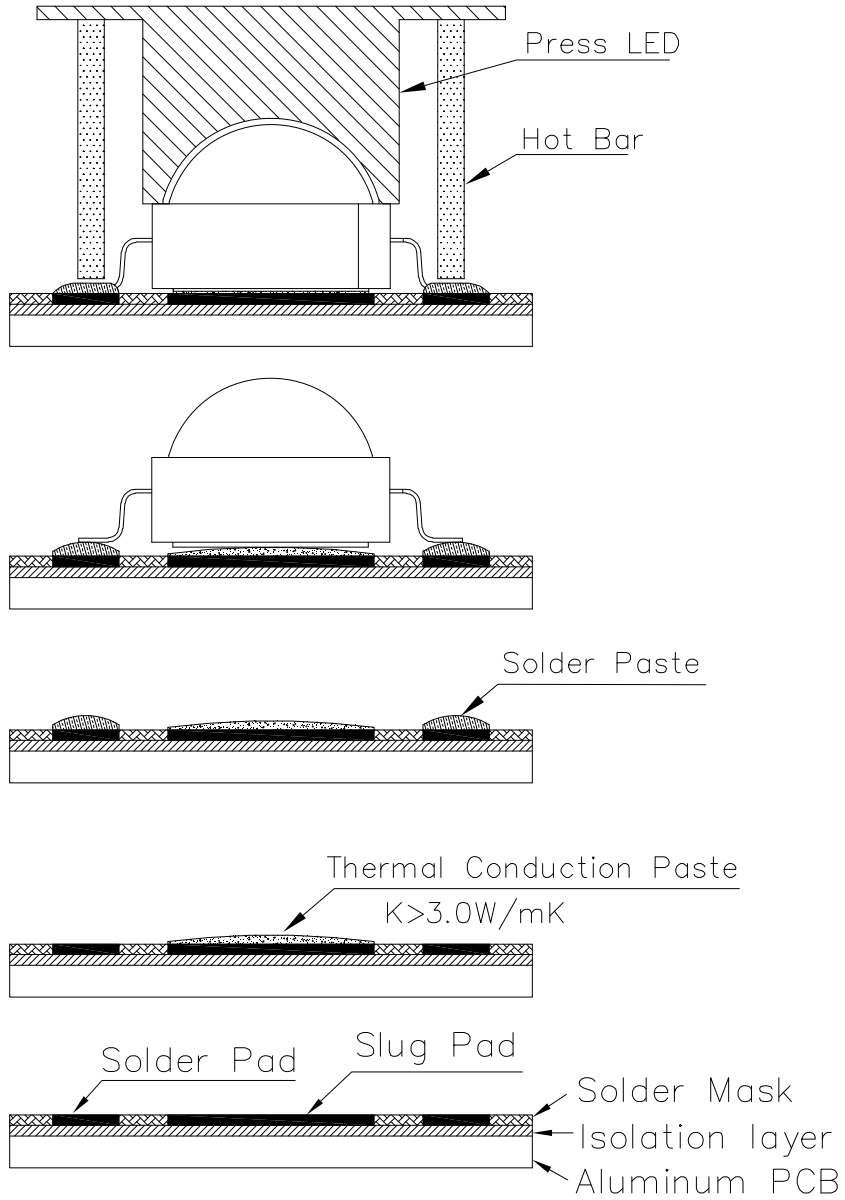


Tape Specifications
 (Units : mm)



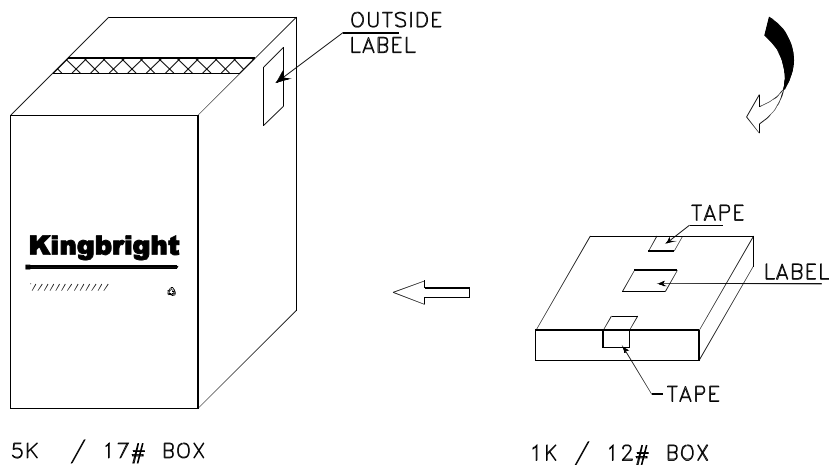
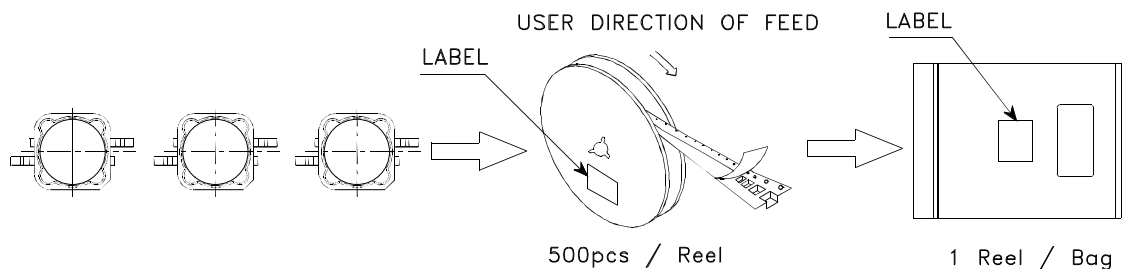
AAD1-9090SY9ZC/2


Recommended Solder Steps



PACKING & LABEL SPECIFICATIONS

AAD1-9090SY9ZC/2



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