

PRELIMINARY SPEC

Part Number: AAD1-9090SY28ZC

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.



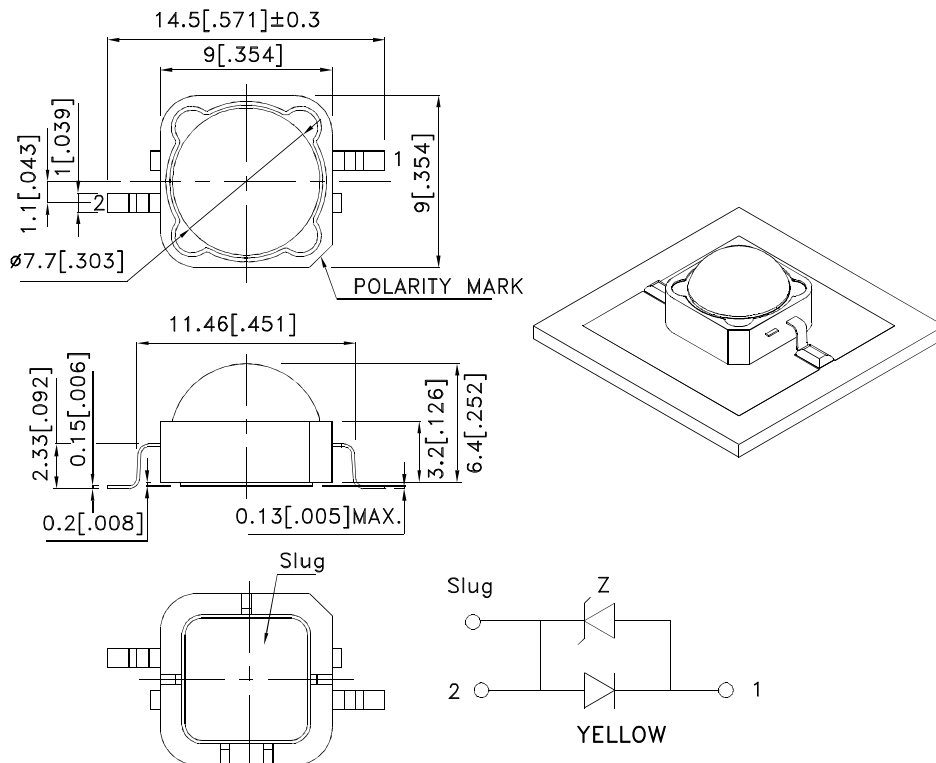
Applications

- 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)@ 350 mA [2] | | Φv (lm) @350mA [2] | | Viewing Angle [1] |
|-----------------|------------------------------|-------------|--|------|-----------------------|------|----------------------|
| | | | Min. | Typ. | Min. | Typ. | 2θ1/2 |
| AAD1-9090SY28ZC | Super Bright Yellow(AIGalnP) | WATER CLEAR | 8 | 11.5 | 25 | 32 | 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 | 0.9 | 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 | 350 | mA |
| Peak Forward Current [2] | IFM | 500 | 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.

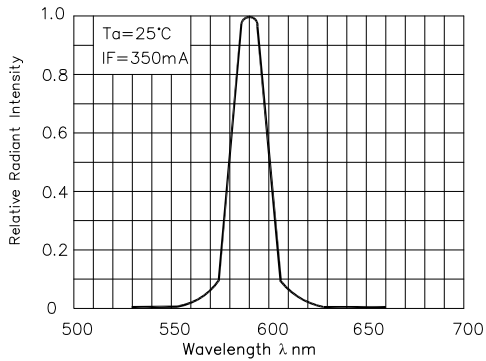
Electrical / Optical Characteristics at TA=25°C

| Parameter | Symbol | Value | Unit |
|--|-----------|-------|-------|
| Wavelength at peak emission IF=350mA [Typ.] | λpeak | 590 | nm |
| Dominant Wavelength IF=350mA [Typ.] | λ dom [1] | 588 | nm |
| Spectral bandwidth at 50%ΦREL MAX IF=350mA [Typ.] | Δλ | 20 | nm |
| Forward Voltage IF=350mA [Min.] | VF [2] | 2.0 | V |
| Forward Voltage IF=350mA [Typ.] | | 2.5 | |
| Forward Voltage IF=350mA [Max.] | | 3.0 | |
| Temperature coefficient of λpeak IF=350mA, -10°C ≤ T ≤ 100°C [Typ.] | TCλpeak | 0.09 | nm/°C |
| Temperature coefficient of λdom IF=350mA, -10°C ≤ T ≤ 100°C [Typ.] | TCλdom | 0.06 | nm/°C |
| Temperature coefficient of VF IF=350mA, -10°C ≤ T ≤ 100°C [Typ.] | TCV | -3.2 | mV/°C |

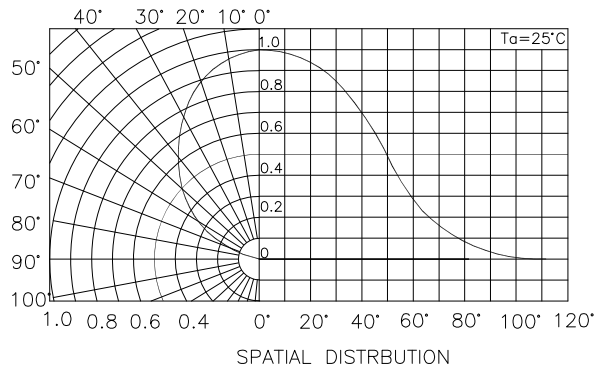
Notes:

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

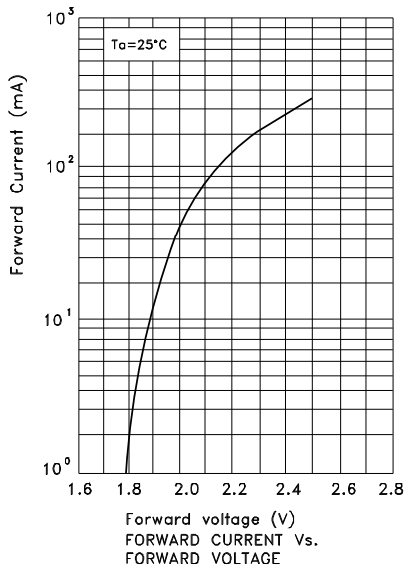
AAD1-9090SY28ZC



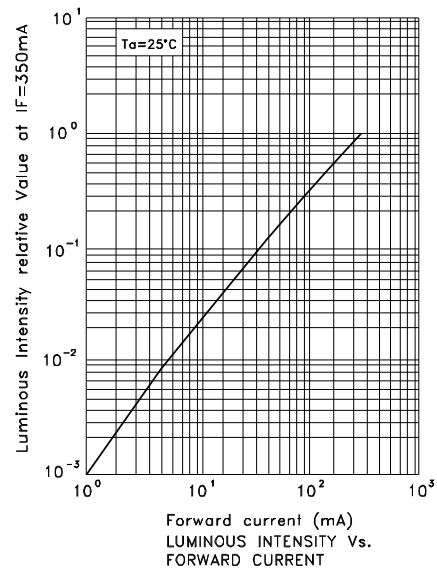
RELATIVE INTENSITY Vs. WAVELENGTH



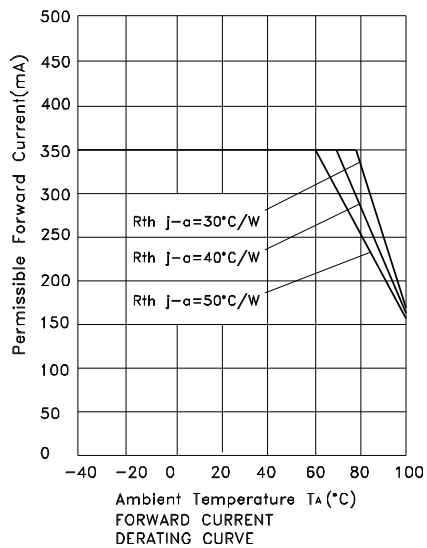
SPATIAL DISTRIBUTION



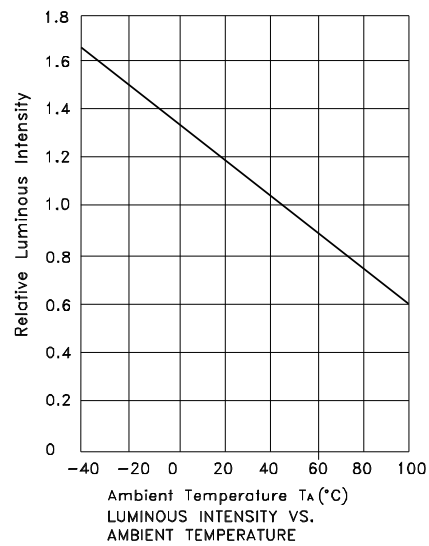
FORWARD CURRENT Vs. FORWARD VOLTAGE



LUMINOUS INTENSITY Vs. FORWARD CURRENT

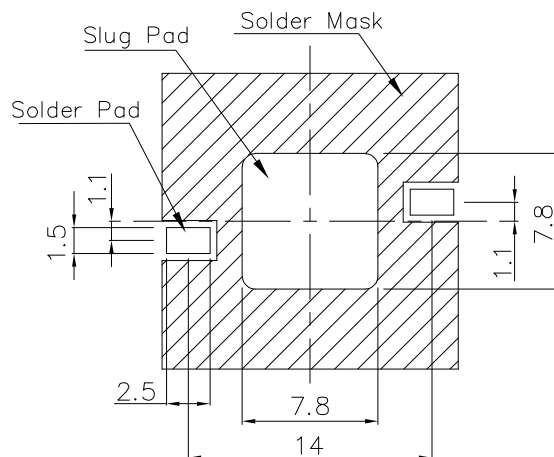


FORWARD CURRENT DERATING CURVE

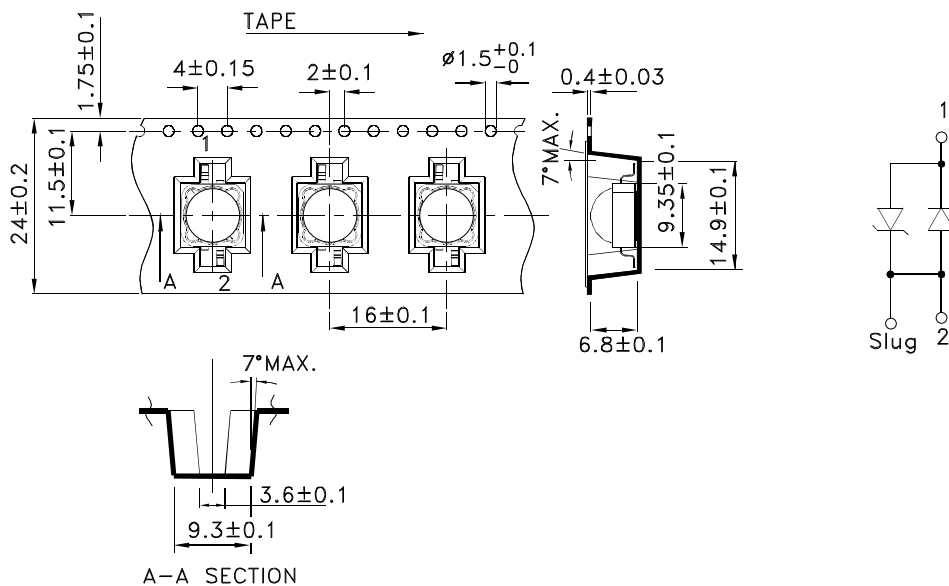


LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE

AAD1-9090SY28ZC
Recommended Soldering Pattern
 (Units : mm; Tolerance: ± 0.1)

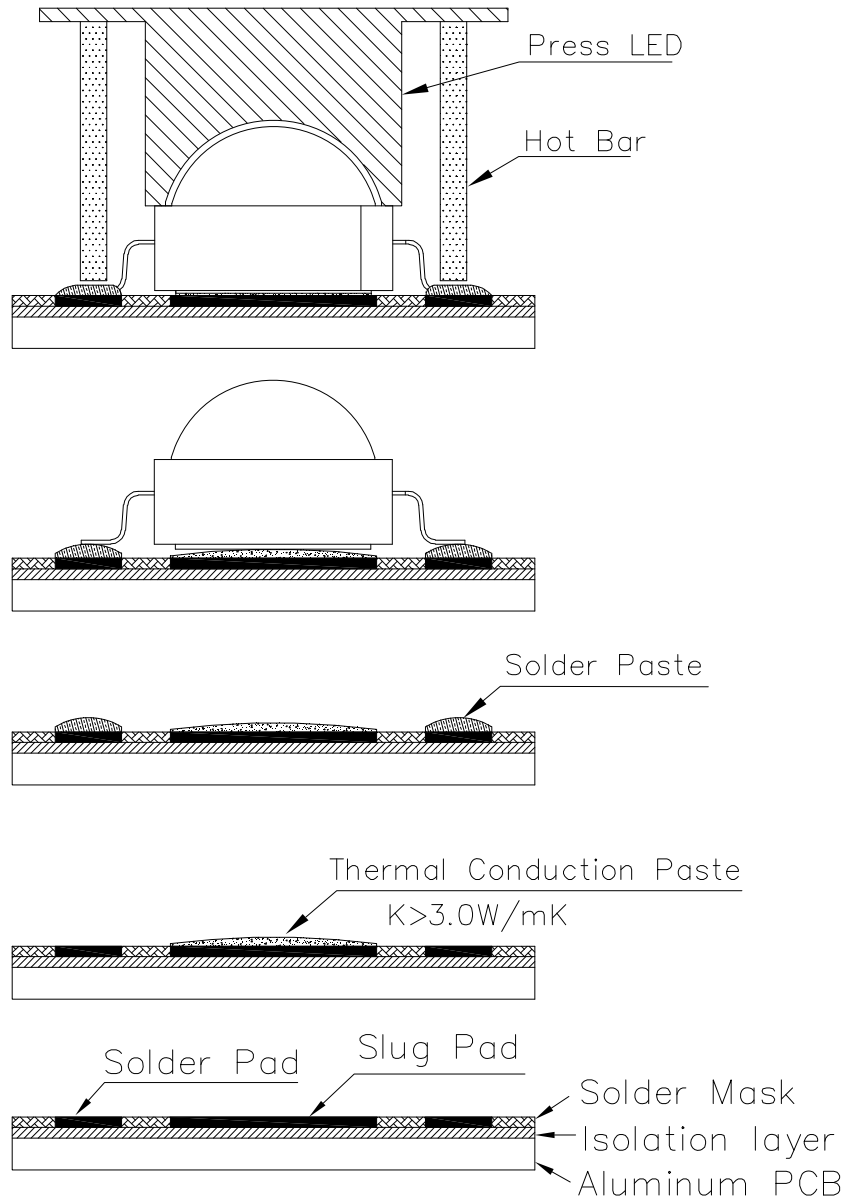


Tape Specifications
 (Units : mm)



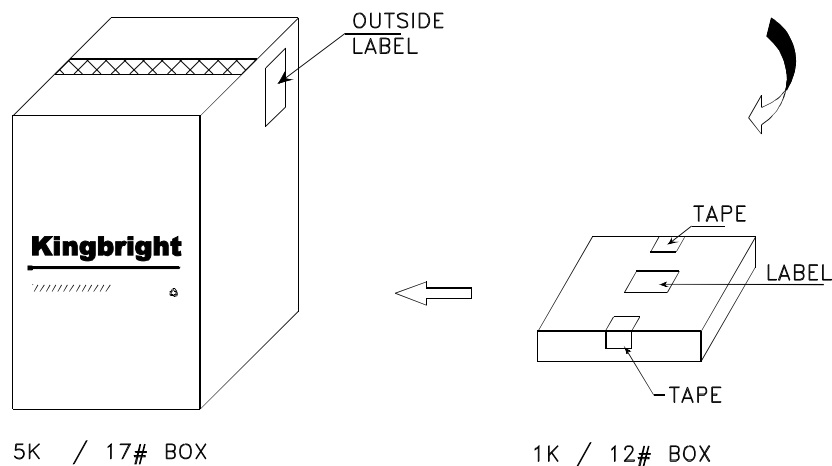
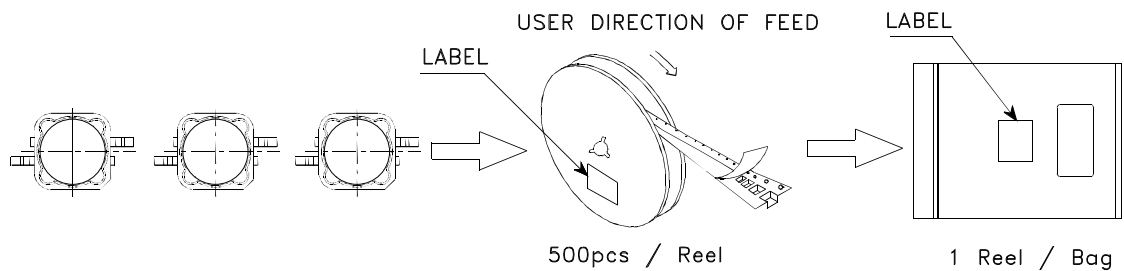
AAD1-9090SY28ZC


Recommended Solder Steps



PACKING & LABEL SPECIFICATIONS

AAD1-9090SY28ZC



| | |
|--|--|
| Kingbright | |
| 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 | |