

PRELIMINARY SPEC

Part Number: AAD1-9090SY28ZC

Super Bright Yellow

Features

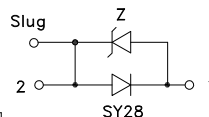
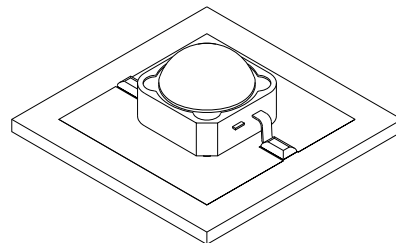
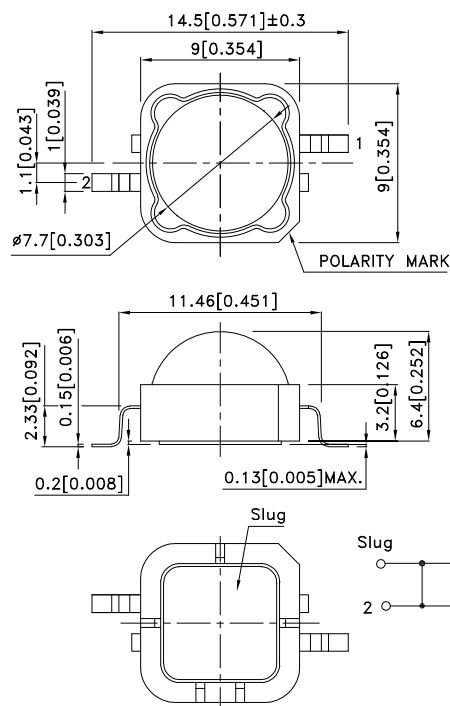
- SUPER HIGH FLUX OUTPUT AND HIGH LUMINANCE.
- DESIGNED FOR HIGH CURRENT OPERATION.
- LOW THERMAL RESISTANCE.
- LOW VOLTAGE DC OPERATED.
- SUPERIOR ESD PROTECTION.
- PACKAGE: 500PCS/REEL.
- NOT REFLOW COMPATIBLE.
- THE COMPONENT IS INTERNALLY PROTECTED WITH SILICONE GEL.
- RoHS COMPLIANT.



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.

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 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 v(cd)@ 350 mA [2] | | Φ_v (lm) @350mA [2] | | Viewing Angle [1] |
|-----------------|-------------------------------|-------------|---|------|-----------------------------|------|----------------------|
| | | | Min. | Typ. | Min. | Typ. | 2 θ 1/2 |
| AAD1-9090SY28ZC | SUPER BRIGHT YELLOW (InGaAlP) | WATER CLEAR | 8 | 11.5 | 25 | 32 | 100° |

Notes:

1. θ 1/2 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 | P _t | 0.9 | W |
| Junction temperature | T _J | 110 | °C |
| Operating Temperature | T _{op} | -40 To +100 | °C |
| Storage Temperature | T _{stg} | -40 To +100 | °C |
| DC Forward Current[1] | I _F | 350 | mA |
| Peak Forward Current [2] | I _{FM} | 500 | mA |
| Thermal resistance [1] | R _{th j-slug} | 12 | °C/W |
| Electrostatic Discharge Threshold (HBM) | | 8000 | V |
| Iron Soldering [3] | 350°C For 3 Seconds | | |

Notes:

1. Metal Core PCB is mounted on the heat Fins.
2. 1/10 Duty Cycle, 0.1ms Pulse Width.
3. 1.29mm below package base.

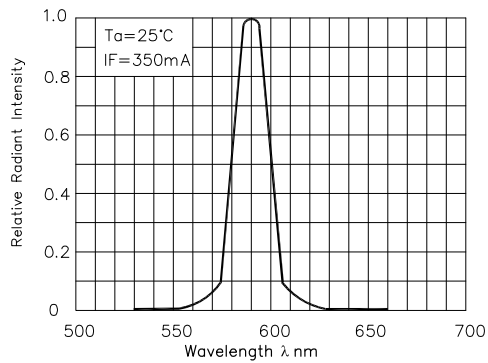
Electrical / Optical Characteristics at TA=25°C

| Parameter | Symbol | Value | Unit |
|--|---------------------|-------|-------|
| Wavelength at peak emission I _F =350mA [Typ.] | λ_{peak} | 590 | nm |
| Dominant Wavelength I _F =350mA [Typ.] | λ_{dom} [1] | 588 | nm |
| Spectral bandwidth at 50% $\Phi_{REL MAX}$ I _F =350mA [Typ.] | $\Delta\lambda$ | 20 | nm |
| Forward Voltage I _F =350mA [Min.] | V _F [2] | 2.0 | V |
| Forward Voltage I _F =350mA [Typ.] | | 2.5 | |
| Forward Voltage I _F =350mA [Max.] | | 3.0 | |
| Temperature coefficient of λ_{peak} I _F =350mA, -10°C ≤ T ≤ 100°C [Typ.] | TC λ_{peak} | 0.09 | nm/°C |
| Temperature coefficient of λ_{dom} I _F =350mA, -10°C ≤ T ≤ 100°C [Typ.] | TC λ_{dom} | 0.06 | nm/°C |
| Temperature coefficient of V _F I _F =350mA, -10°C ≤ T ≤ 100°C [Typ.] | TC _V | -3.2 | mV/°C |

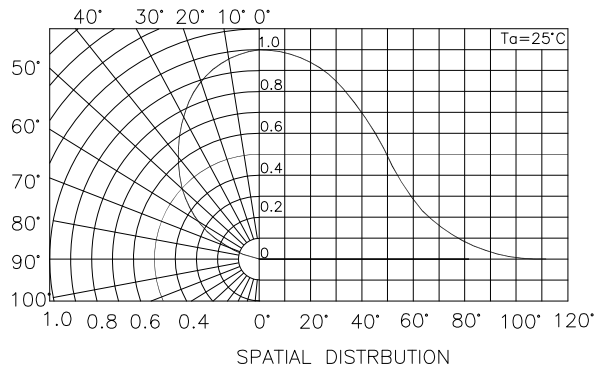
Notes:

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

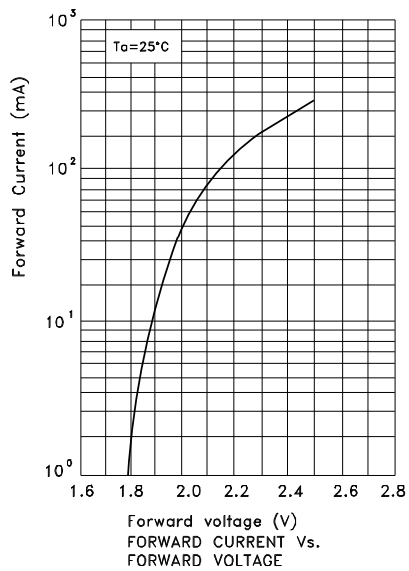
AAD1-9090SY28ZC



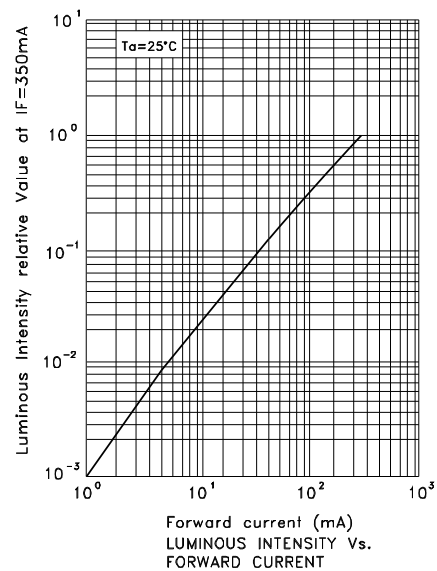
RELATIVE INTENSITY Vs. WAVELENGTH



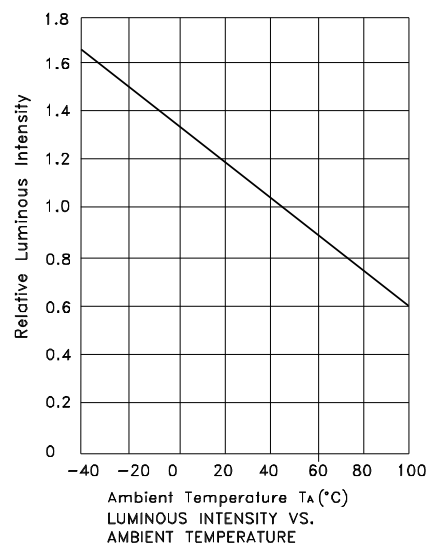
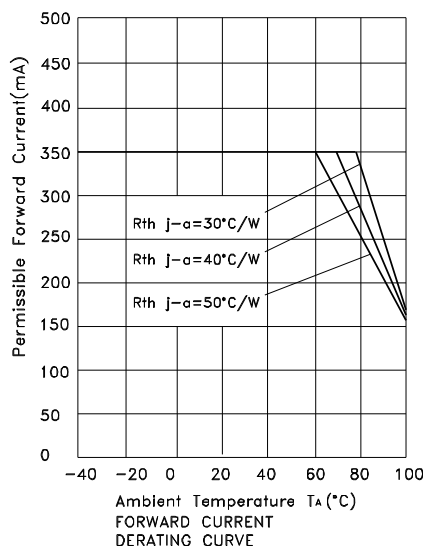
SPATIAL DISTRIBUTION



FORWARD CURRENT Vs. FORWARD VOLTAGE



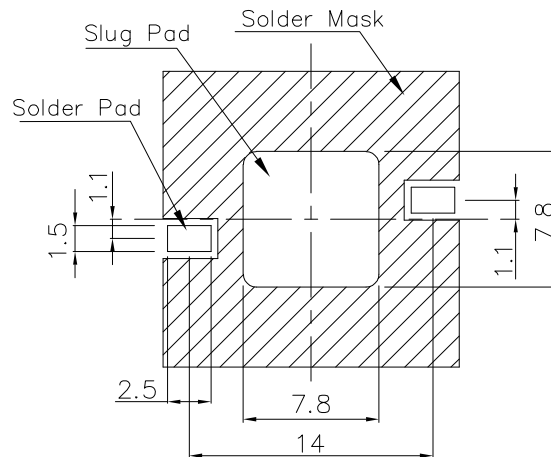
LUMINOUS INTENSITY Vs. FORWARD CURRENT



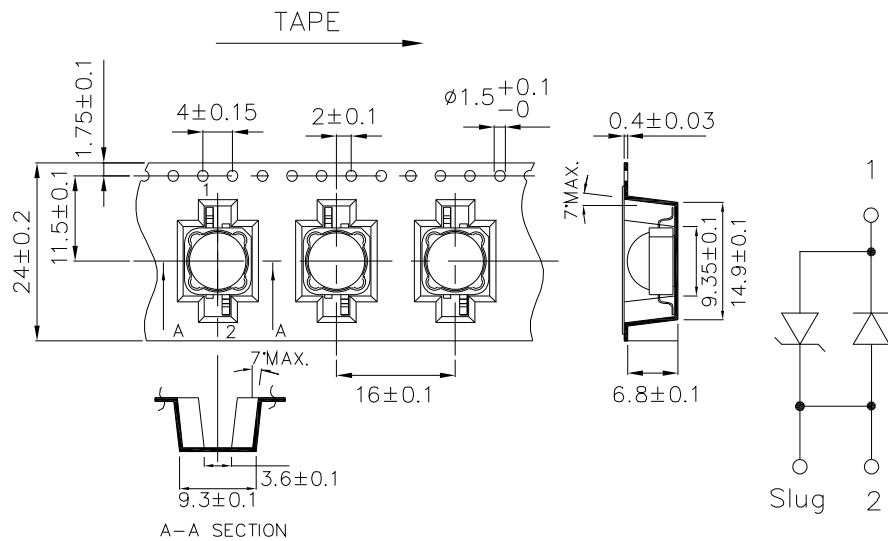
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Recommended Soldering Pattern

(Units : mm; Tolerance: ± 0.1)

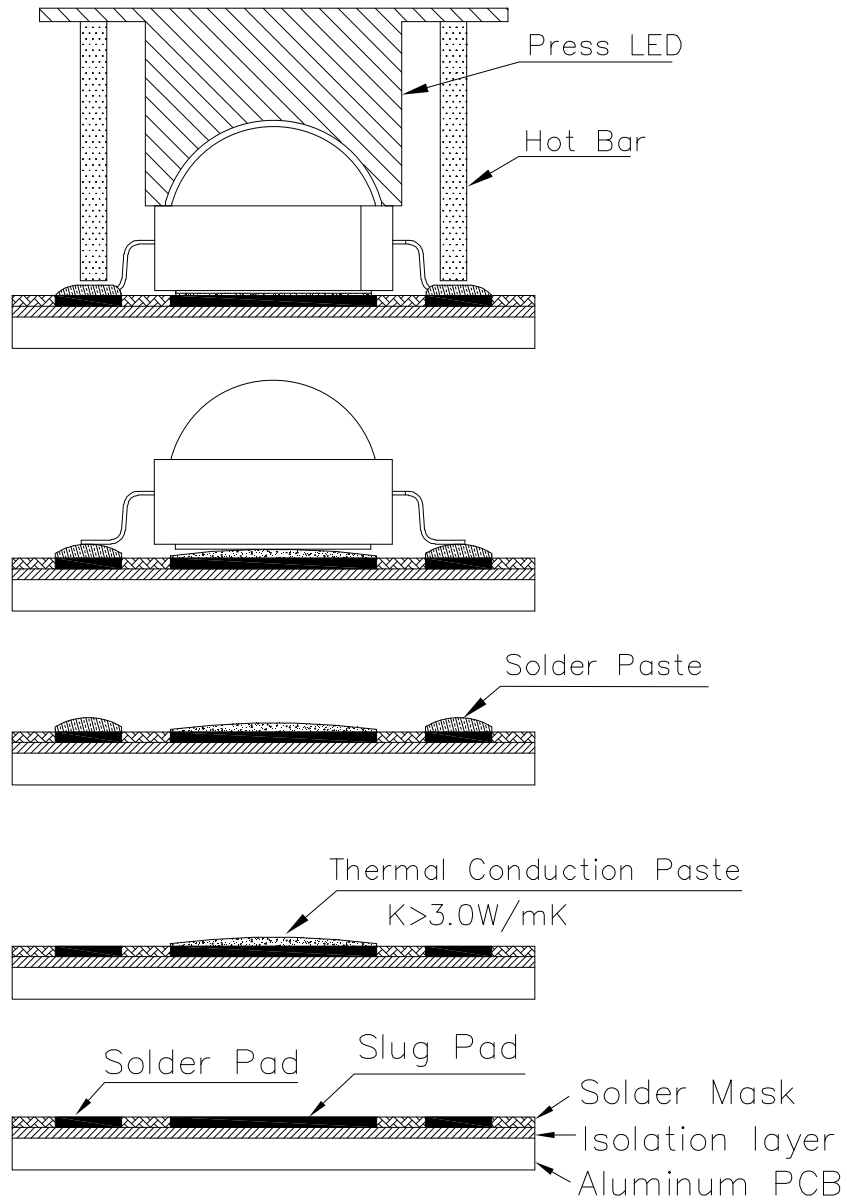


Tape Specifications (Units : mm)



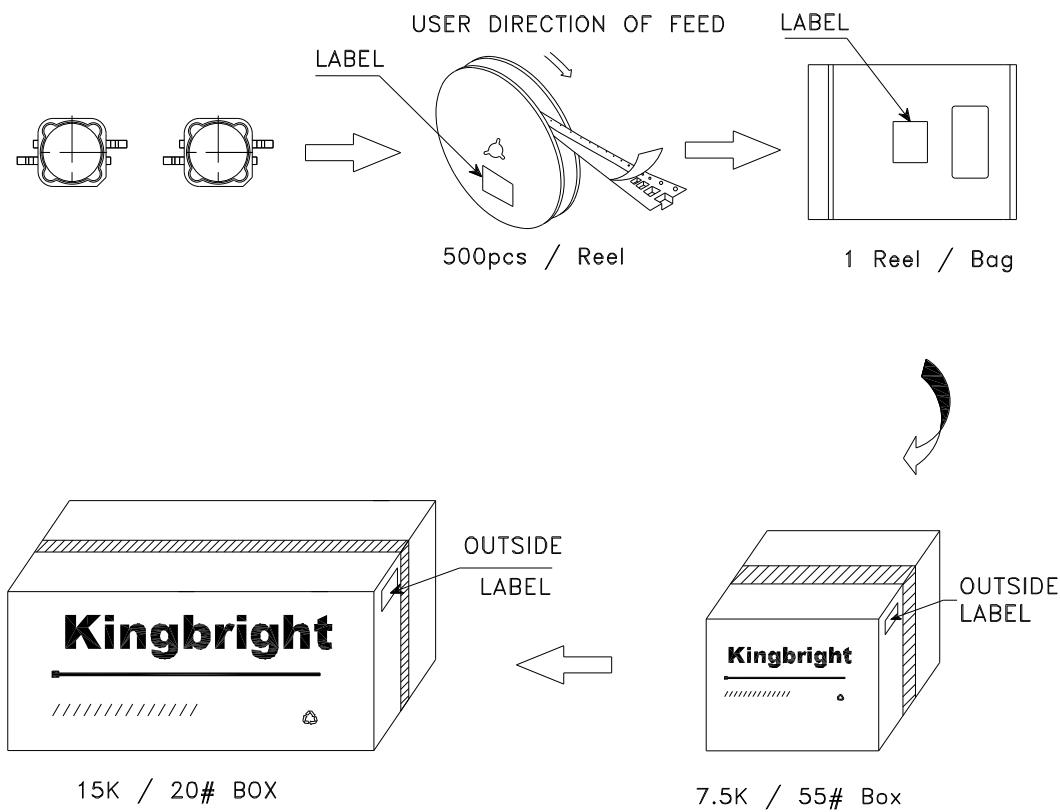
AAD1-9090SY28ZC


Recommended Solder Steps



PACKING & LABEL SPECIFICATIONS

AAD1-9090SY28ZC



| | |
|--|--|
| Kingbright | |
| P/NO: AAD1-9090xxx | |
| QTY: 500 pcs | Q.C. <div>QC xx xx xxxx PASSED</div> |
| S/N: XXXX | |
| CODE: XXX | |
| LOT NO: | |
|  xxxxxxxxxxxxxxxxxxxxxxxx | |
| RoHS Compliant | |