

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.

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.

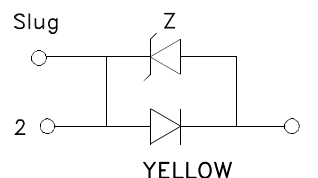
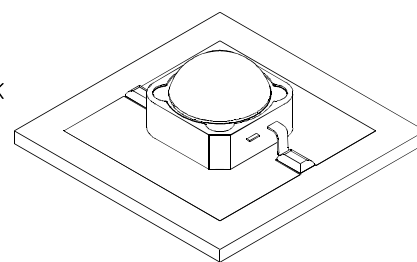
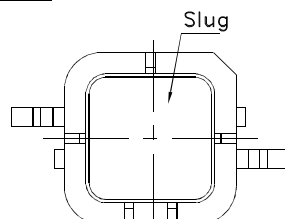
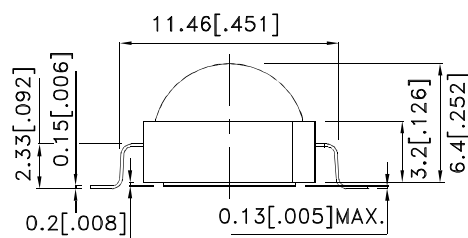
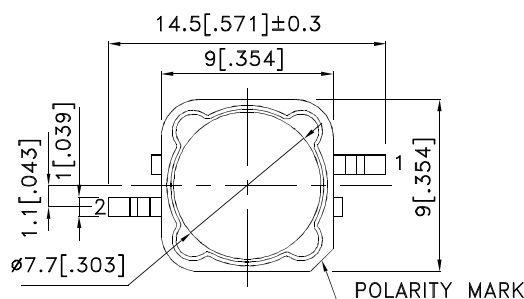
All devices, equipment and machinery must be electrically grounded.



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 Iv(cd)@ 350 mA [2]		Φv (lm) @350mA [2]		Viewing Angle [1]
			Min.	Typ.	Min.	Typ.	2θ1/2
AAD1-9090SY28ZC	Super Bright Yellow(AlGaInP)	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.

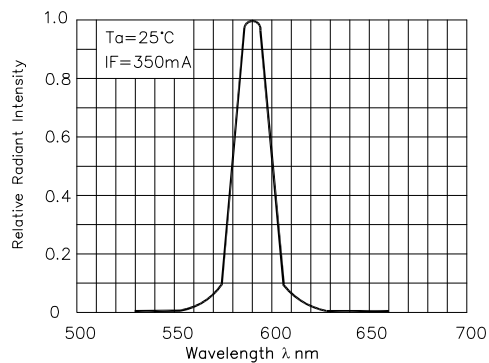
Electrical / Optical Characteristics at TA=25°C

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

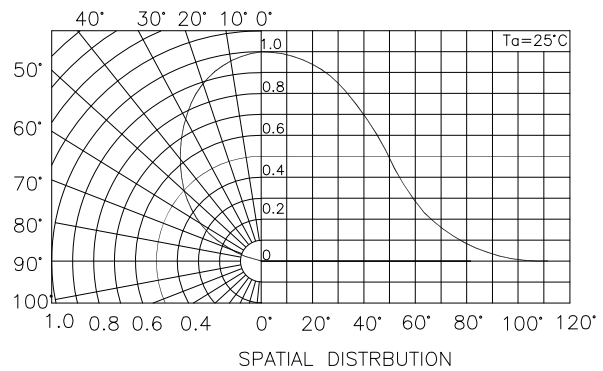
Notes:

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

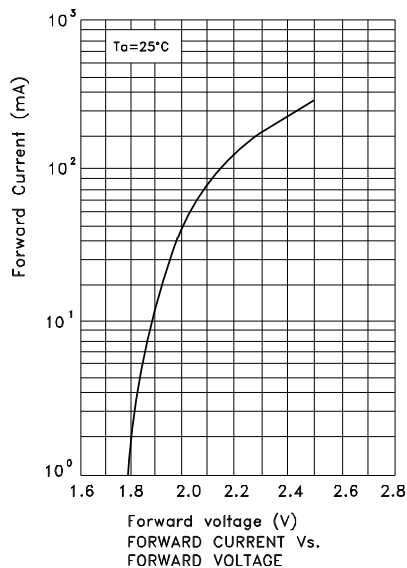
AAD1-9090SY28ZC



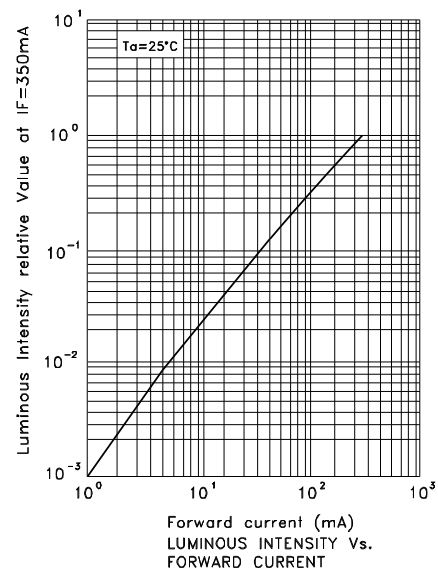
RELATIVE INTENSITY Vs. WAVELENGTH



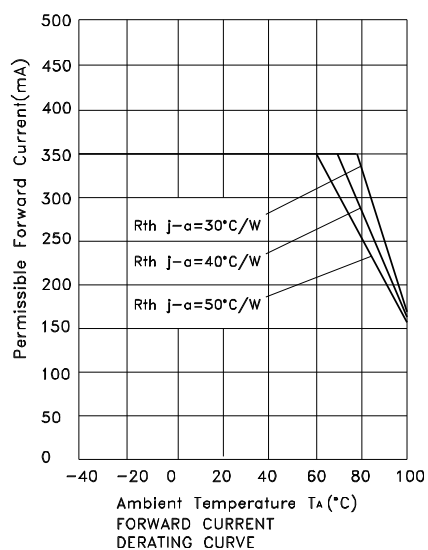
SPATIAL DISTRIBUTION



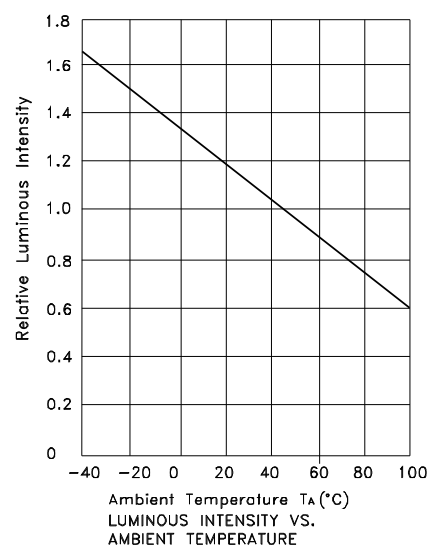
FORWARD CURRENT Vs. FORWARD VOLTAGE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



FORWARD CURRENT DERATING CURVE

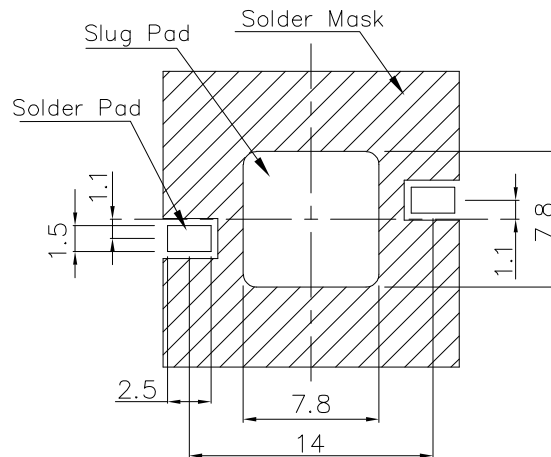


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

AAD1-9090SY28ZC

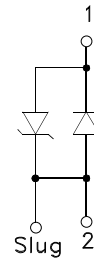
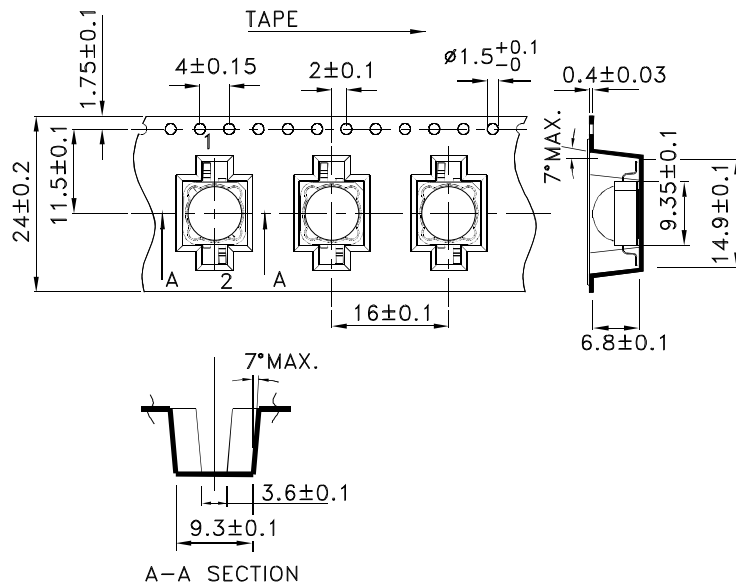
Recommended Soldering Pattern

(Units : mm; Tolerance: ± 0.1)



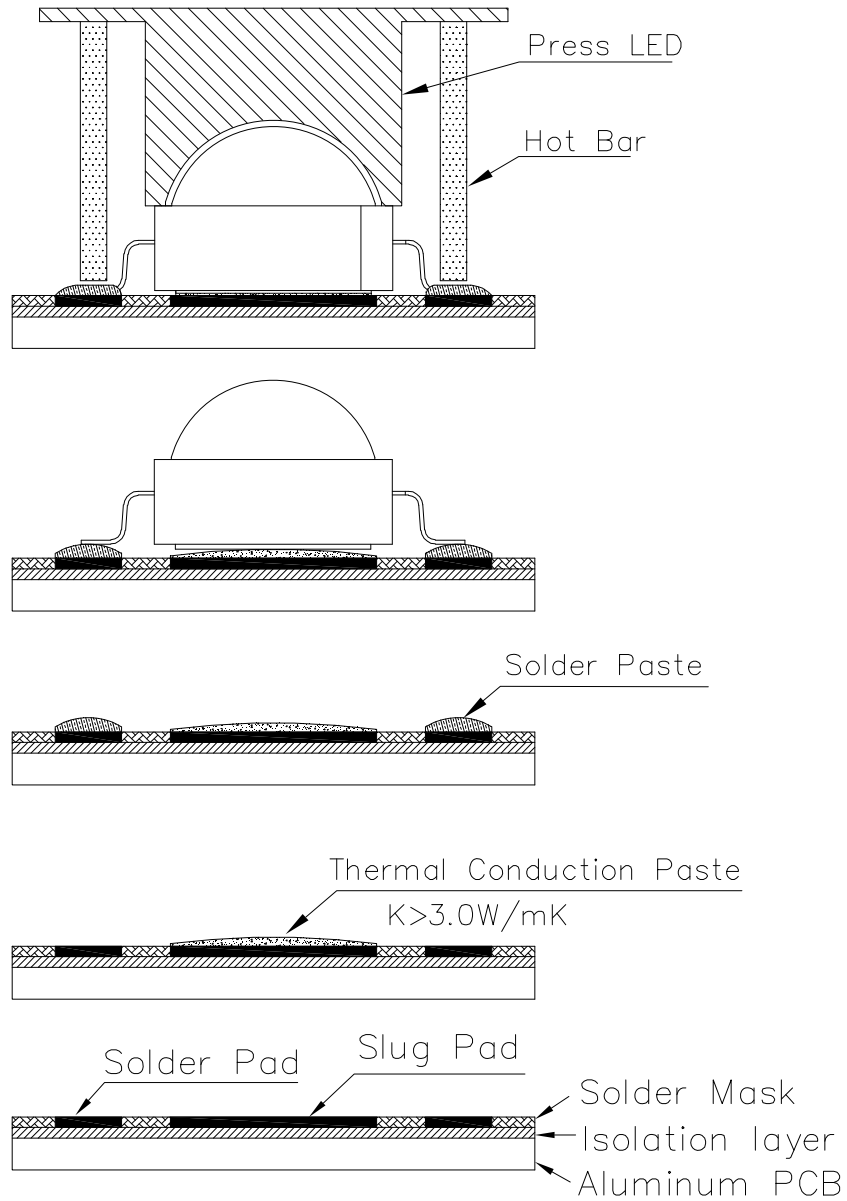
Tape Specifications

(Units : mm)



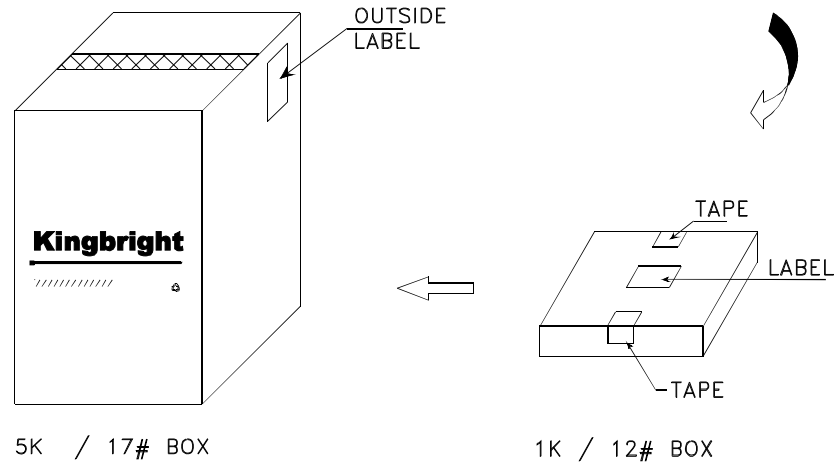
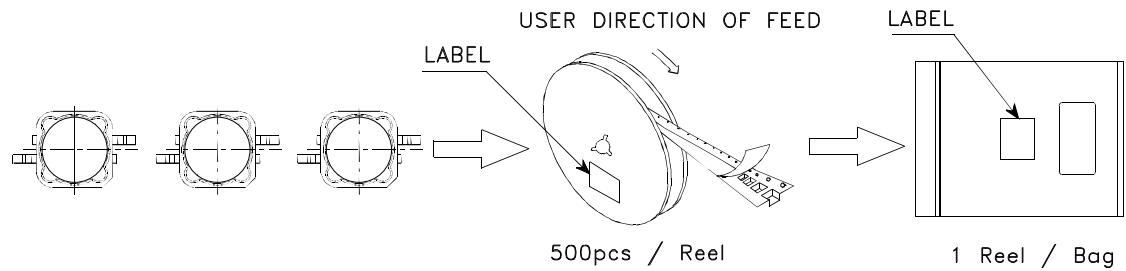
AAD1-9090SY28ZC

Recommended Solder Steps



PACKING & LABEL SPECIFICATIONS

AAD1-9090SY28ZC



Kingbright				
P/NO: AAD1-9090xxx				
QTY: 500 pcs	Q.C. <table border="1"><tr><td>Q C</td></tr><tr><td>XX XX XXXX</td></tr><tr><td>PASSED</td></tr></table>	Q C	XX XX XXXX	PASSED
Q C				
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S/N: XXXX				
CODE: XXX				
LOT NO:				
 XXXXXXXXXXXXXXXXXXXXXXXXXXXX				
RoHS Compliant				

Mouser Electronics

Authorized Distributor

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