

PRELIMINARY SPEC

Part Number: AA1010SY28ZC

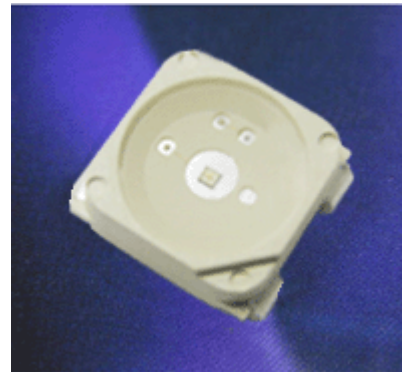
SUPER BRIGHT YELLOW



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Features

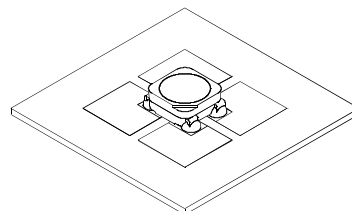
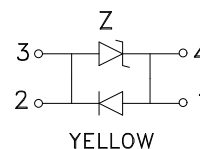
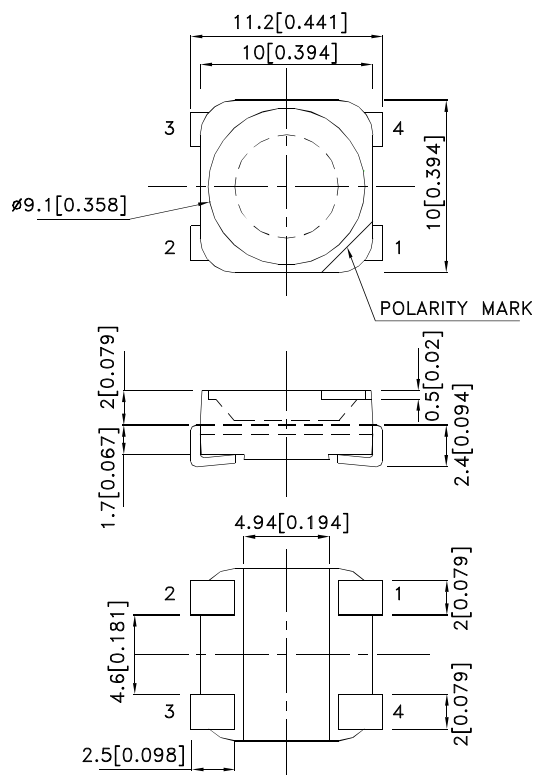
- PLCC-4 package.
- Single color.
- High luminance.
- High power, operating current @350mA.
- Suitable for all SMT assembly methods.
- Package : 500pcs / reel.
- Moisture sensitivity level : level 4.
- Patent pending.
- RoHS compliant.



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 $\pm 0.25 (0.01)$ 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 [2] Iv(cd)@ 350mA		Φ_v (lm) [2] @ 350mA		Viewing Angle [1]
			Min.	Typ.	Min.	Typ.	
AA1010SY28ZC	SUPER BRIGHT YELLOW (AlGaInP)	WATER CLEAR	5.7	9	12.5	23	120°

Notes:

1. $\theta_{1/2}$ 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 T_A=25°C

Parameter	Symbol	Value	Unit
Power dissipation	P _t	1.2	W
Junction temperature	T _J	110	°C
Operating Temperature	T _{op}	-40 To +85	°C
Storage Temperature	T _{stg}	-40 To +85	°C
DC Forward Current [1]	I _F	350	mA
Peak Forward Current [2]	I _{FM}	500	mA
Thermal resistance [1]	R _{th}	80	°C/W

Notes:

1. Results from mounting on PC board FR4 (pad size ≥ 100mm² per pad), mounted on pc board-metal core PCB is recommend for lowest thermal Resistance.
2. 1/10 Duty Cycle, 0.1ms Pulse Width.

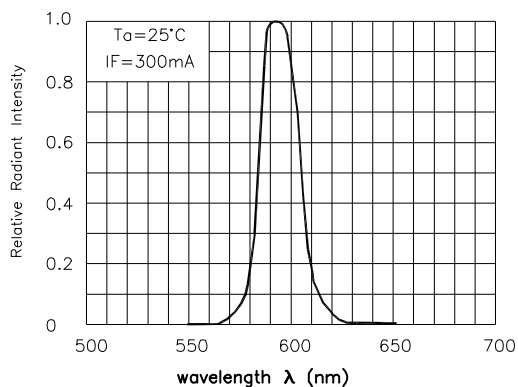
Electrical / Optical Characteristics at T_A=25°C

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}	0.15	nm/°C
Temperature coefficient of λ_{dom} I _F =350mA, -10°C ≤ T ≤ 100°C [Typ.]	TC λ_{dom}	0.13	nm/°C
Temperature coefficient of V _F I _F =350mA, -10°C ≤ T ≤ 100°C [Typ.]	TC _V	-2.0	mV/°C

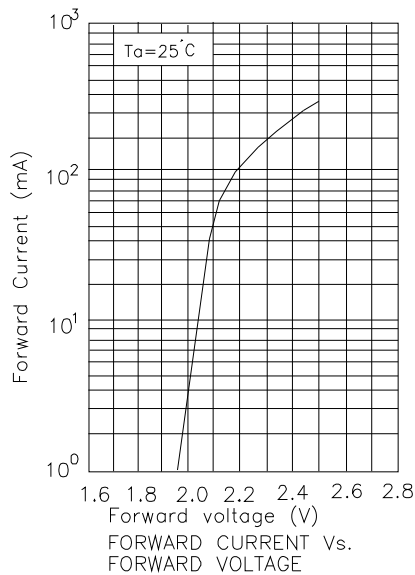
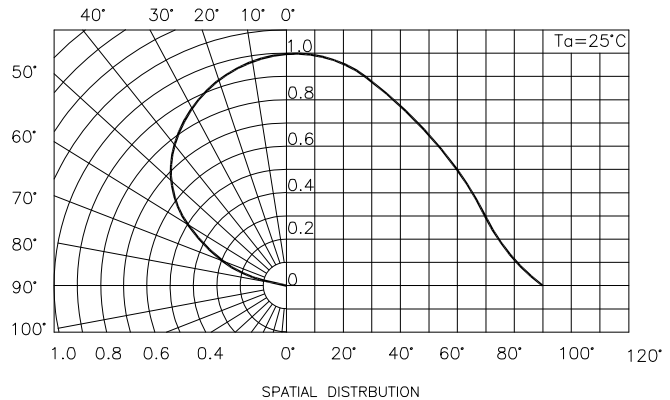
Notes:

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

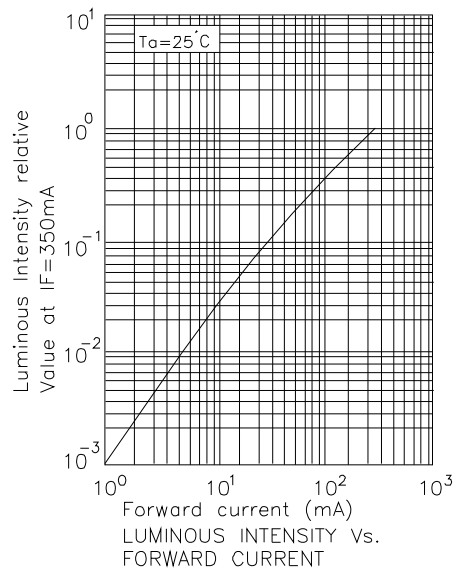
AA1010SY28ZC



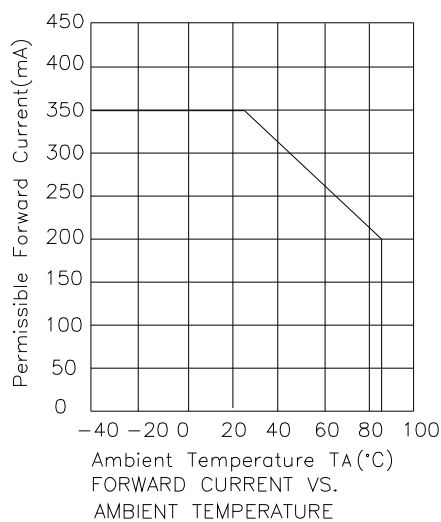
RELATIVE INTENSITY Vs. WAVELENGTH



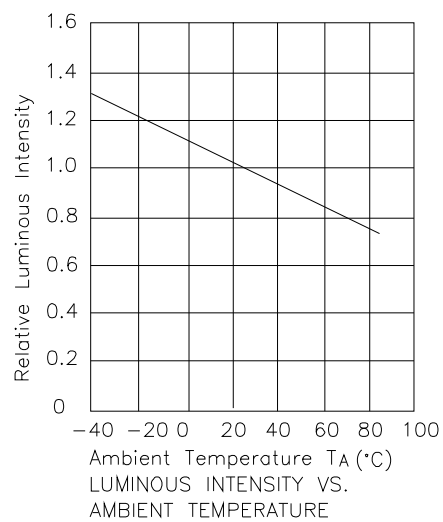
FORWARD CURRENT Vs. FORWARD VOLTAGE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



FORWARD CURRENT Vs. AMBIENT TEMPERATURE



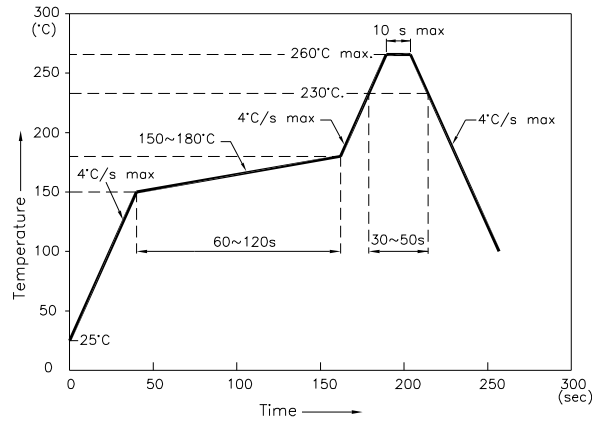
LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

AA1010SY28ZC

Reflow soldering is recommended and the soldering profile is shown below.

Other soldering methods are not recommended as they might cause damage to the product.

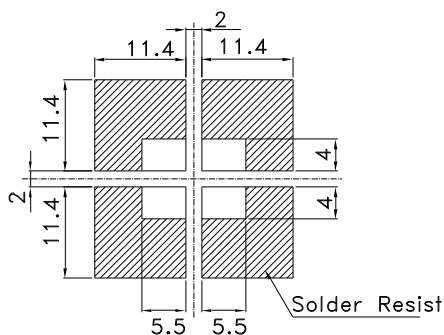
Reflow Soldering Profile For Lead-free SMT Process.



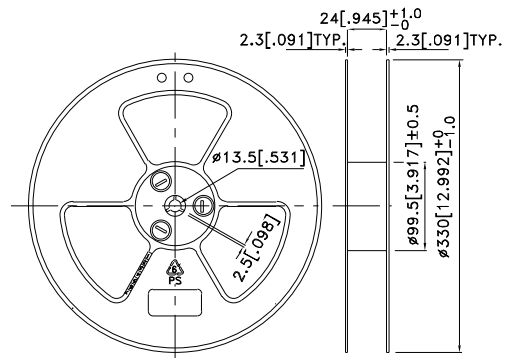
NOTES:

1. We recommend the reflow temperature 245°C (+/-5°C). The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

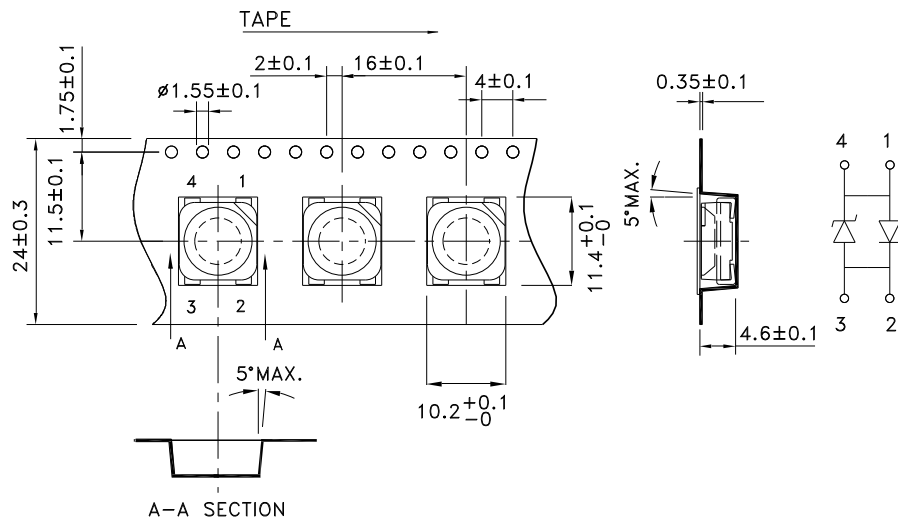
Recommended Soldering Pattern (Units : mm; Tolerance: ±0.1)



Reel Dimension

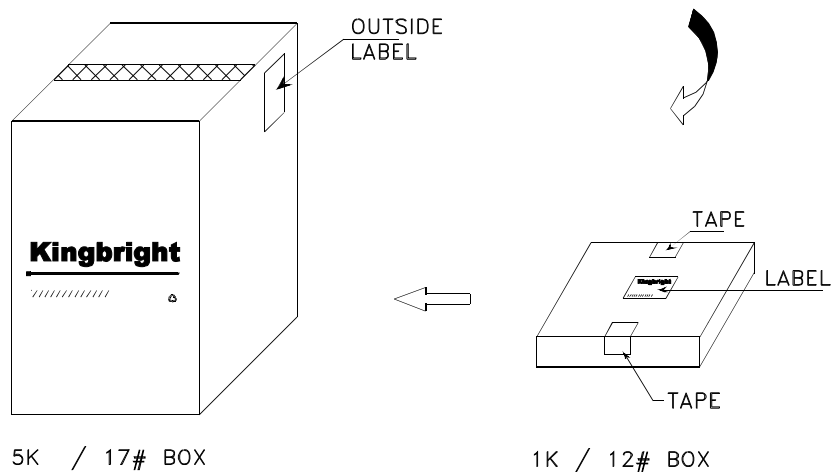
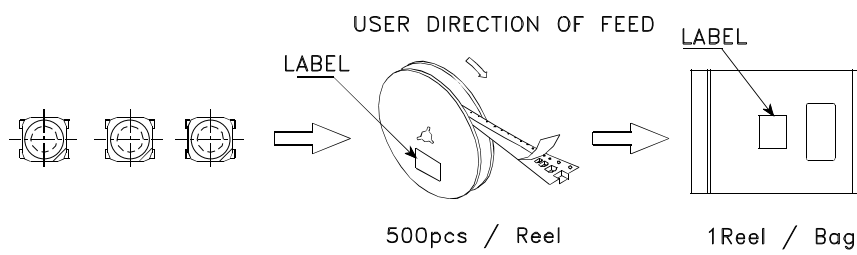


Tape Specifications (Units : mm)



PACKING & LABEL SPECIFICATIONS

AA1010SY28ZC



Kingbright	
P/NO: AA1010XXX	
QTY: 500 pcs	Q.C. Q C xx-xx-xxxx PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:	
 XXXXXXXXXXXXXXXXXXXXXXXXXXXX	
RoHS Compliant	