

Part Number: KAD1-1010SY28Z1S

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 : 300pcs / reel.
- Moisture sensitivity level : level 4.
- 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.

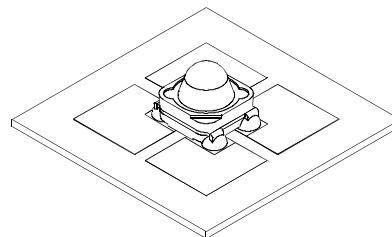
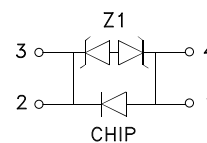
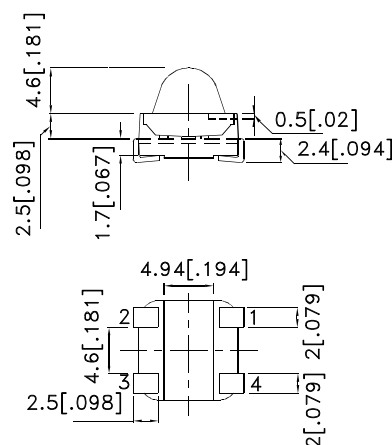
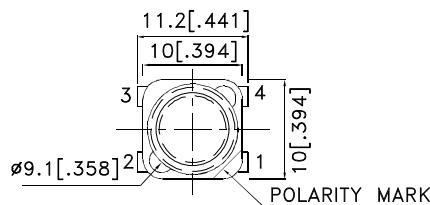
All devices, equipment and machinery must be electrically grounded.



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 $\pm 0.25(0.01)$ unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior 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)@ 350 mA		Φv (lm) [2] @350mA		Viewing Angle [1]
			Min.	Typ.	Min.	Typ.	
KAD1-1010SY28Z1S	Super Bright Yellow (AlGaInP)	WATER CLEAR	32	50	24	35	2θ1/2

Notes:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
2. Luminous intensity/ luminous Flux: +/-15%.

Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	Value	Unit
Power dissipation	Pd	1.05	W
Junction temperature	TJ	110	°C
Reverse Voltage	VR	5	V
Operating Temperature	Top	-40 To +85	°C
Storage Temperature	Tstg	-40 To +85	°C
DC Forward Current[1]	IF	350	mA
Peak Forward Current [2]	IFM	500	mA
Thermal resistance [1]	Rth	80	°C/W

Notes:

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

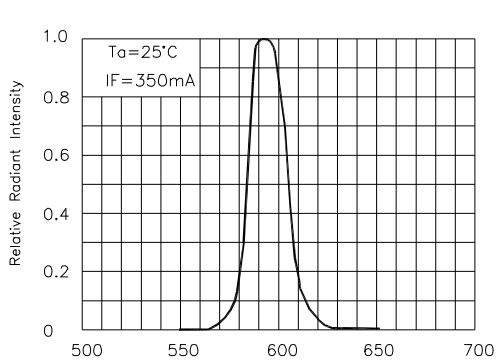
Electrical / Optical Characteristics at TA=25°C

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
Reverse Current VR=5V [Max.]	IR	10	uA
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	0.15	nm/°C
Temperature coefficient of λdom IF=350mA, -10°C≤T≤100°C [Typ.]	TCλdom	0.13	nm/°C
Temperature coefficient of VF IF=350mA, -10°C≤T≤100°C [Typ.]	TCv	-2.0	mV/°C

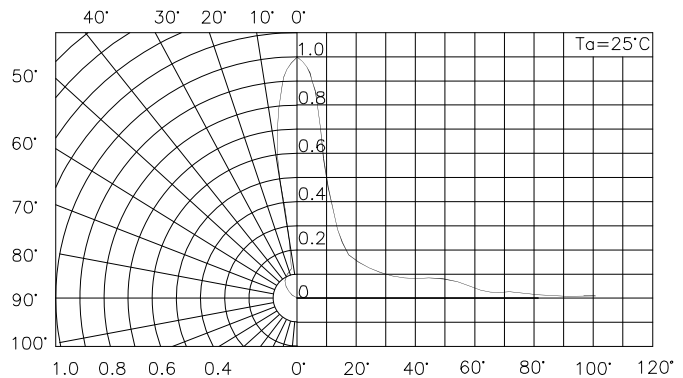
Notes:

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

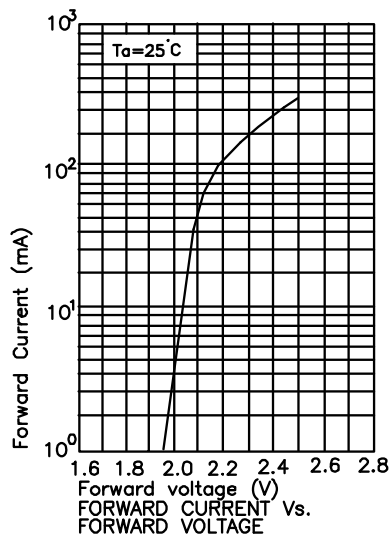
KAD1-1010SY28Z1S



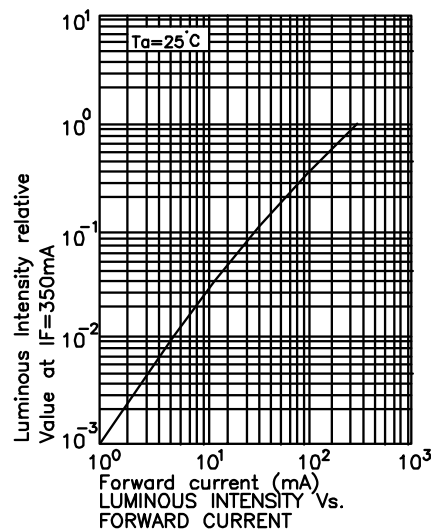
RELATIVE INTENSITY Vs. WAVELENGTH



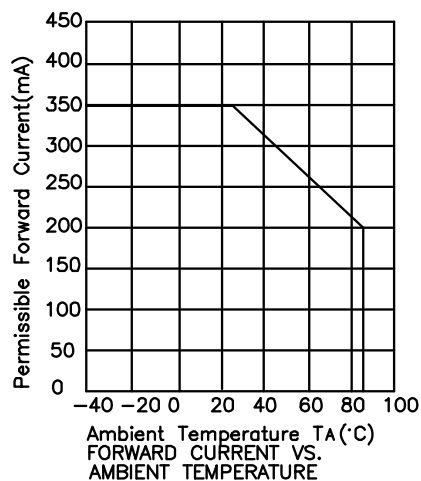
SPATIAL DISTRIBUTION



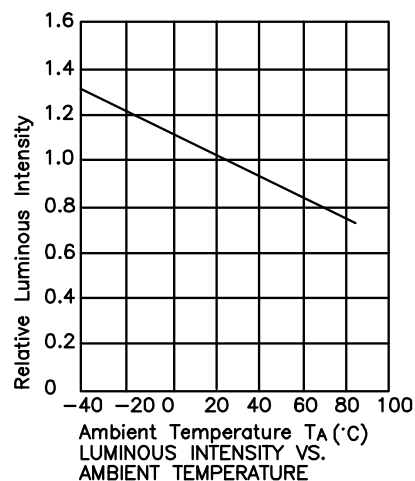
FORWARD CURRENT Vs. FORWARD VOLTAGE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



FORWARD CURRENT Vs. AMBIENT TEMPERATURE

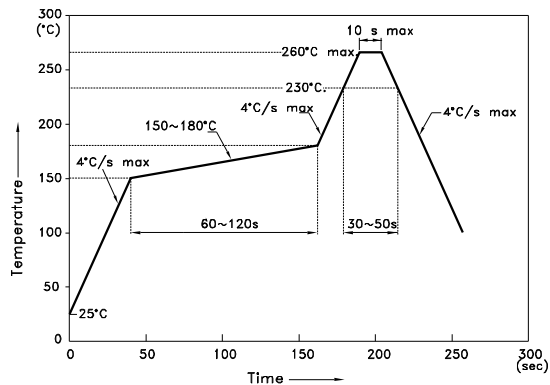


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

KAD1-1010SY28Z1S

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.

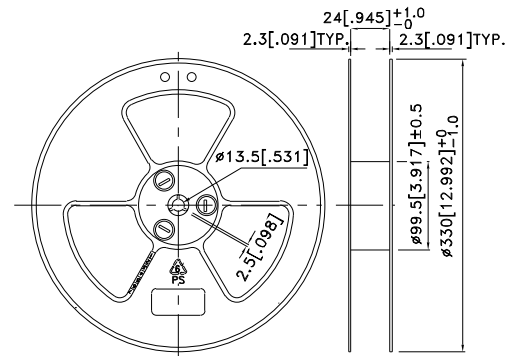
Reflow Soldering Profile For Lead-free SMT Process.



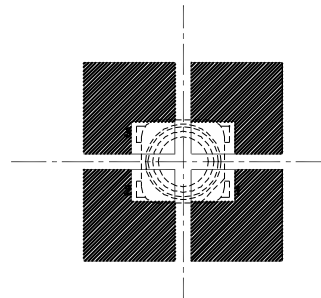
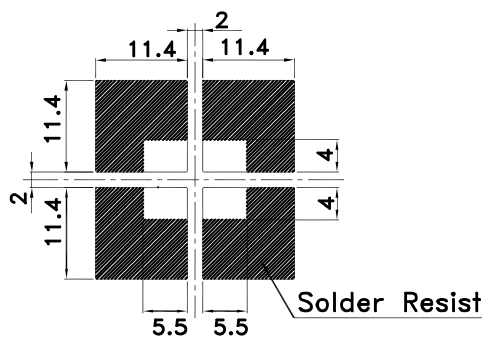
NOTES:

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.

Reel Dimension



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



Tape Specifications (Units : mm)

