

PRELIMINARY SPEC

Part Number: KAD1-1010SYC28

Super Bright Yellow

### Features

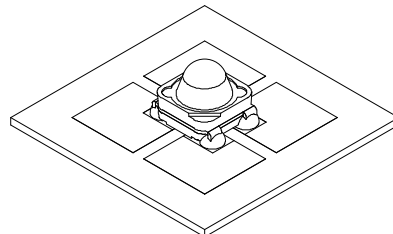
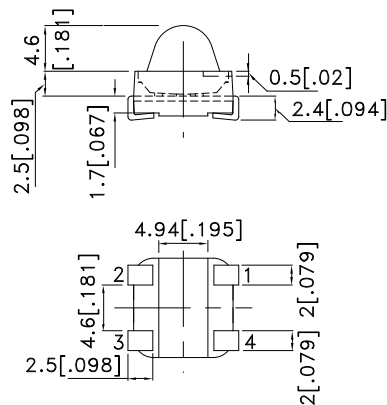
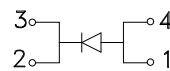
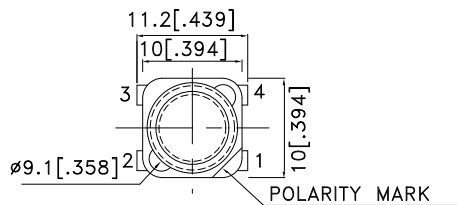
- \*PLCC-4 PACKAGE.
- \*SINGLE COLOR.
- \*HIGH LUMINANCE.
- \*HIGH POWER, OPERATING CURRENT @350mA.
- \*SUITABLE FOR ALL SMT ASSEMBLY METHODS.
- \*PACKAGE : 300PCS / REEL.
- \*MOISTURE SENSITIVITY LEVEL : LEVEL 4.
- \*RoHS COMPLIANT.



### 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)@ 350 mA		$\Phi_v$ (lm) [2] @350mA		Viewing Angle [1]
			Min.	Typ.	Min.	Typ.	2 $\theta$ 1/2
KAD1-1010SYC28	SUPER BRIGHT YELLOW (InGaAlP)	WATER CLEAR	40	80	20	29.33	20°

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<sub>A</sub>=25°C

Parameter	Symbol	Value	Unit
Power dissipation	P <sub>t</sub>	1.2	W
Reverse Voltage	V <sub>R</sub>	5	V
Junction temperature	T <sub>J</sub>	110	°C
Operating Temperature	T <sub>op</sub>	-40 To +85	°C
Storage Temperature	T <sub>stg</sub>	-40 To +85	°C
DC Forward Current[1]	I <sub>F</sub>	350	mA
Peak Forward Current [2]	I <sub>FM</sub>	500	mA
Thermal resistance [1]	R <sub>th</sub>	80	°C/W

Notes:

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

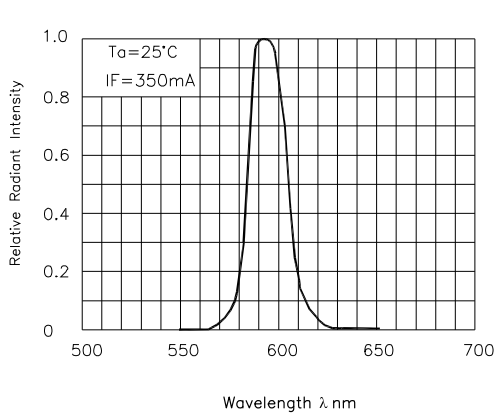
## Electrical / Optical Characteristics at T<sub>A</sub>=25°C

Parameter	Symbol	Value	Unit
Wavelength at peak emission I <sub>F</sub> =350mA [Typ.]	$\lambda_{peak}$	590	nm
Dominant Wavelength I <sub>F</sub> =350mA [Typ.]	$\lambda_{dom}$ [1]	588	nm
Spectral bandwidth at 50% $\Phi_{REL MAX}$ I <sub>F</sub> =350mA [Typ.]	$\Delta\lambda$	20	nm
Forward Voltage I <sub>F</sub> =350mA [Min.]	V <sub>F</sub> [2]	2.0	V
Forward Voltage I <sub>F</sub> =350mA [Typ.]		2.5	
Forward Voltage I <sub>F</sub> =350mA [Max.]		3.0	
Reverse Current (V <sub>R</sub> =5V) [Max.]	I <sub>R</sub>	10	$\mu$ A
Temperature coefficient of $\lambda_{peak}$ I <sub>F</sub> =350mA, -10°C $\leq$ T $\leq$ 100°C [Typ.]	TC $\lambda_{peak}$	0.15	nm/°C
Temperature coefficient of $\lambda_{dom}$ I <sub>F</sub> =350mA, -10°C $\leq$ T $\leq$ 100°C [Typ.]	TC $\lambda_{dom}$	0.13	nm/°C
Temperature coefficient of V <sub>F</sub> I <sub>F</sub> =350mA, -10°C $\leq$ T $\leq$ 100°C [Typ.]	TC <sub>V</sub>	-2.0	mV/°C

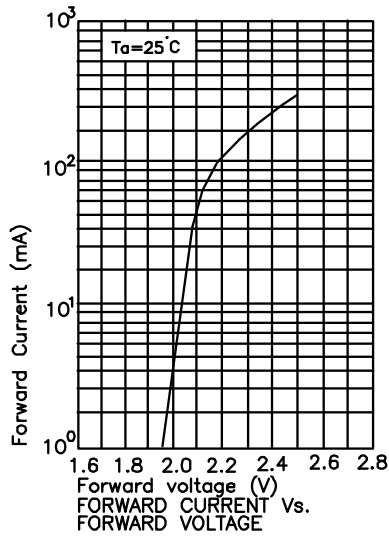
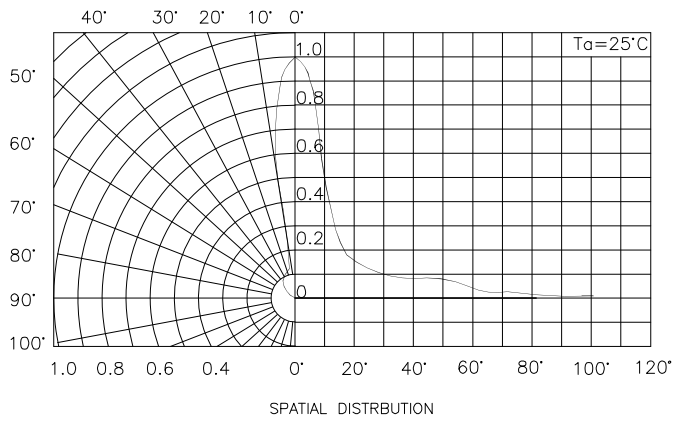
Notes:

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

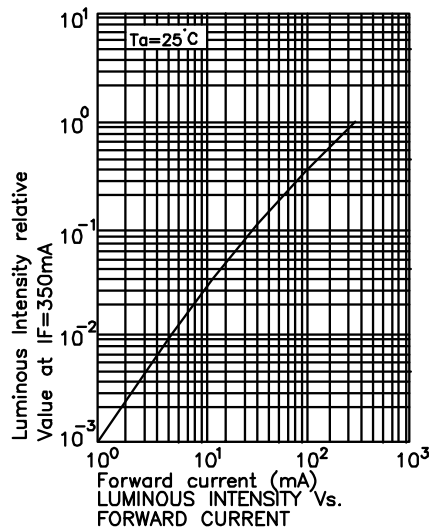
## KAD1-1010SYC28



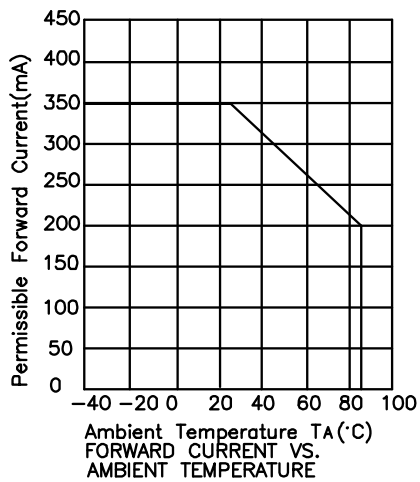
RELATIVE INTENSITY Vs. WAVELENGTH



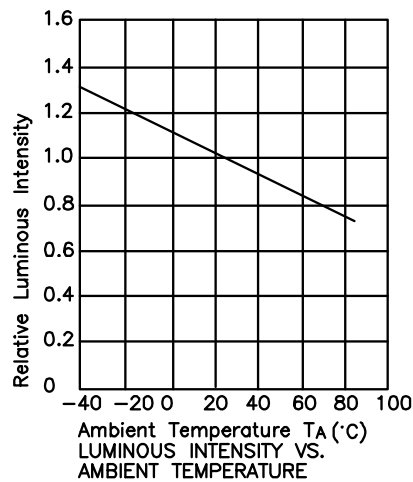
FORWARD CURRENT Vs. FORWARD VOLTAGE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



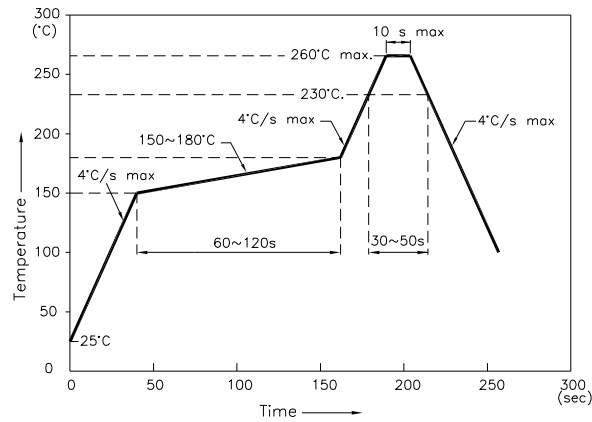
FORWARD CURRENT Vs. AMBIENT TEMPERATURE



LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

## KAD1-1010SYC28

Reflow Soldering Profile For Lead-free SMT Process.

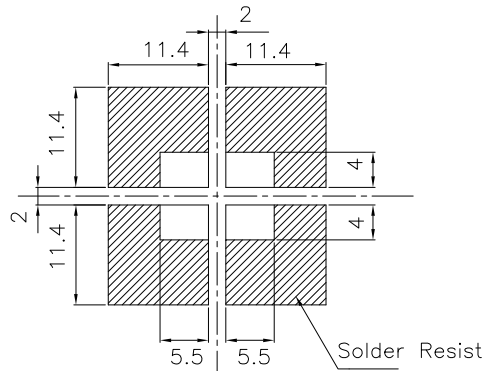


**NOTES:**

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)



### Tape Specifications

(Units : mm)

