

PRELIMINARY SPEC

XPower

Part Number : KA-1010SYC28 SUPER BRIGHT YELLOW

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.
- RoHS COMPLIANT.

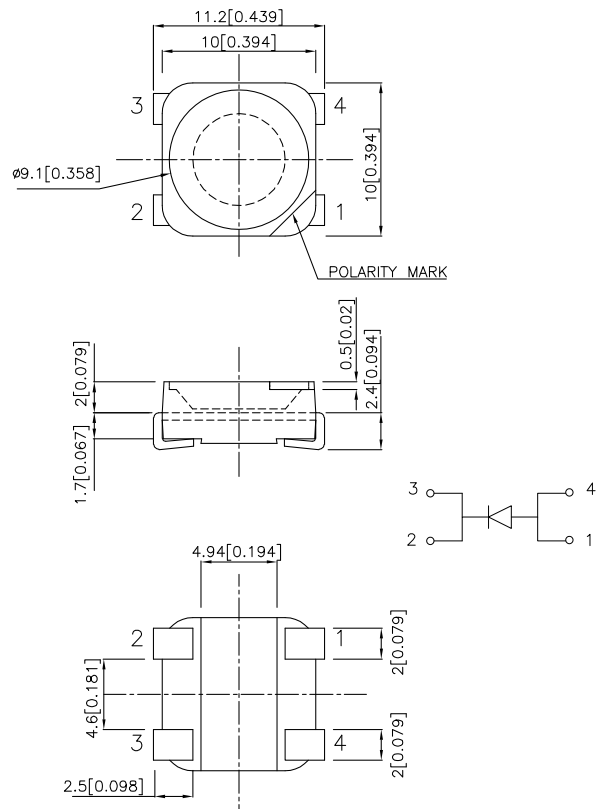
Applications

- 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

PATENT PENDING



Outline Drawings



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.

Selection Guide

Part No.	Dice	Lens Type	luminous Intensity Iv(cd)@ 350 mA [1]		Φv (lm) @ 350mA		Viewing Angle [2]
			Min.	Typ.	Min.	Typ.	2θ1/2
KA-1010SYC28	SUPER BRIGHT YELLOW (InGaAlP)	WATER CLEAR	5.7	9	11	21	120°

Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	Value	Unit
Power dissipation	Pt	1.2	W
Reverse Voltage	VR	5	V
Junction temperature	TJ	110	°C
Operating Temperature	Top	-40 To +85	°C
Storage Temperature	Tstg	-40 To +85	°C
DC Forward Current[1]	IF	350	mA
Peak Forward Current [3]	IFM	500	mA
Thermal resistance [1]	Rth	80	°C/W

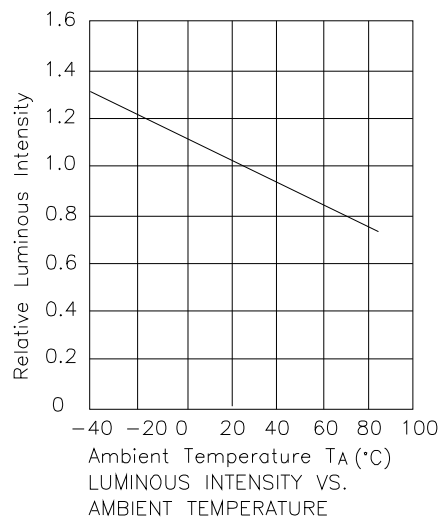
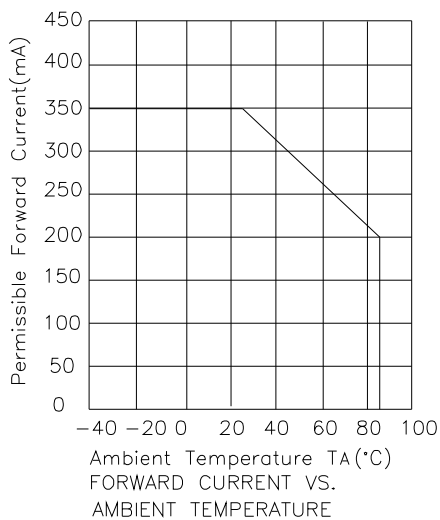
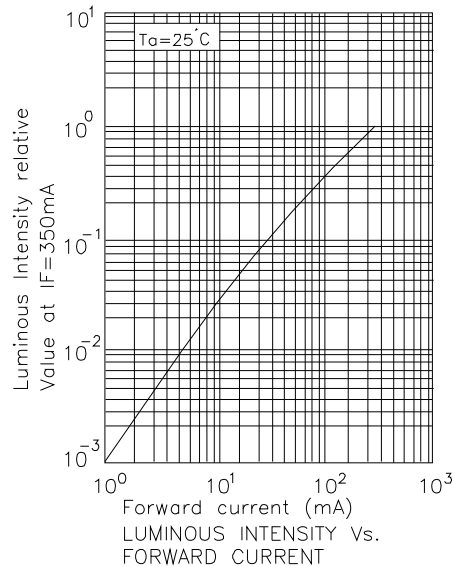
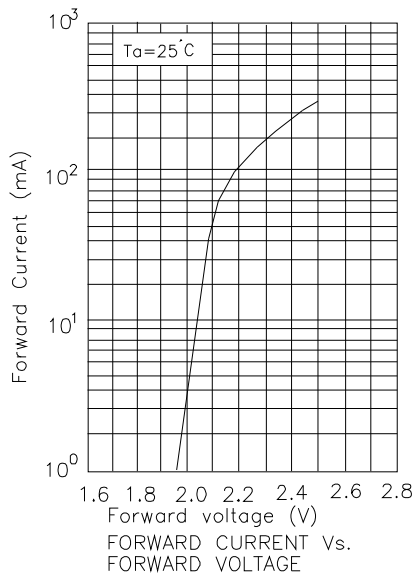
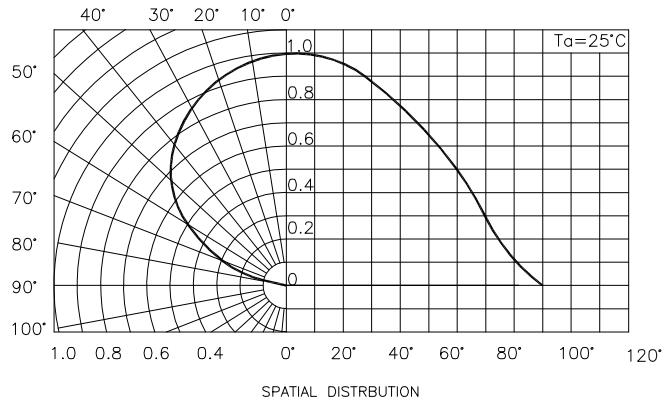
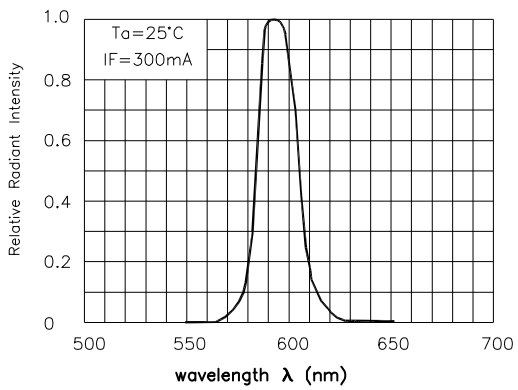
Notes:

- 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.
- θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
- 1/10 Duty Cycle, 0.1ms Pulse Width.

Electrical / Optical Characteristics at TA=25°C

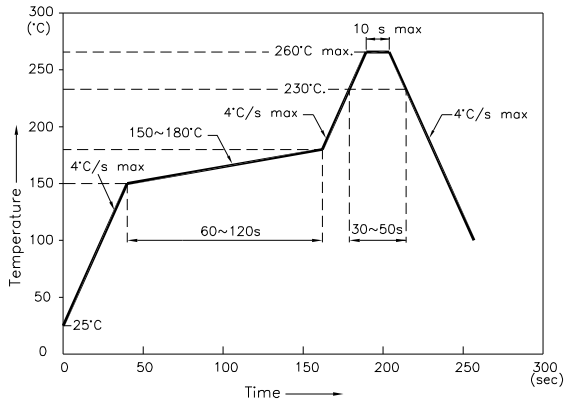
Parameter	Symbol	Value	Unit
Wavelength at peak emission IF=350mA [Typ.]	λpeak	590	nm
Dominant Wavelength IF=350mA [Typ.]	λdom	588	nm
Spectral bandwidth at 50%ΦREL MAX IF=350mA [Typ.]	Δλ	20	nm
Viewing angle at 50%ΦV [Typ.]	θ	120	°
Forward Voltage IF=350mA [Min.]	VF	2.0	V
Forward Voltage IF=350mA [Typ.]		2.5	
Forward Voltage IF=350mA [Max.]		3.0	
Reverse Current (VR=5V) [Typ.]	IR	10	μA
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

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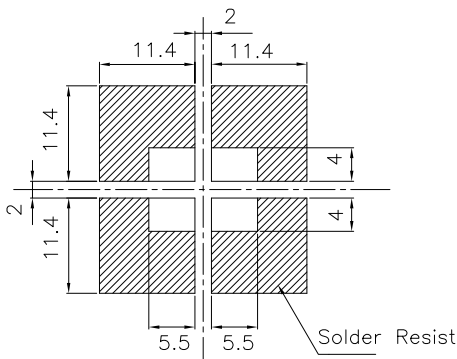
Reflow Soldering Profile For Lead-free SMT Process.



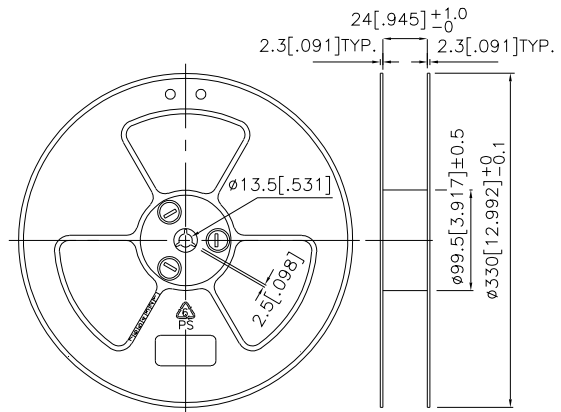
NOTES:

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.

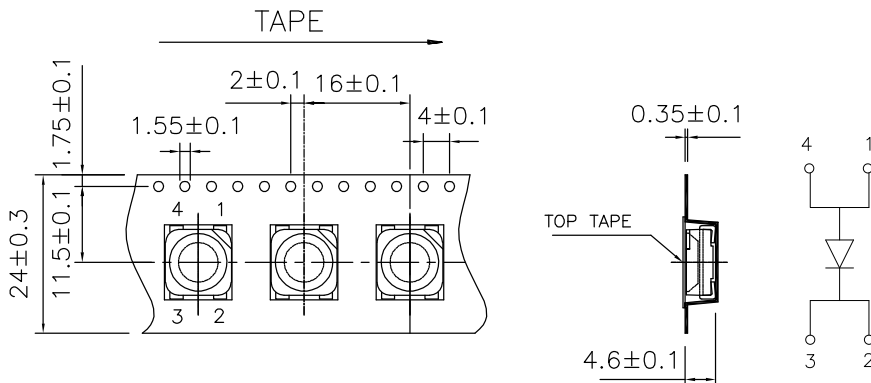
Recommended Soldering Pattern (Units : mm)



Reel Dimension



Tape Specifications (Units : mm)



Remarks:

If special sorting is required (e.g. binning based on forward voltage, Luminous intensity/ luminous flux, or wavelength), the typical accuracy of the sorting process is as follows:

1. Wavelength: +/-1nm
2. Luminous Intensity/ Luminous Flux: +/-15%
3. Forward Voltage: +/-0.1V

Note: Accuracy may depend on the sorting parameters.