PRELIMINARY SPEC

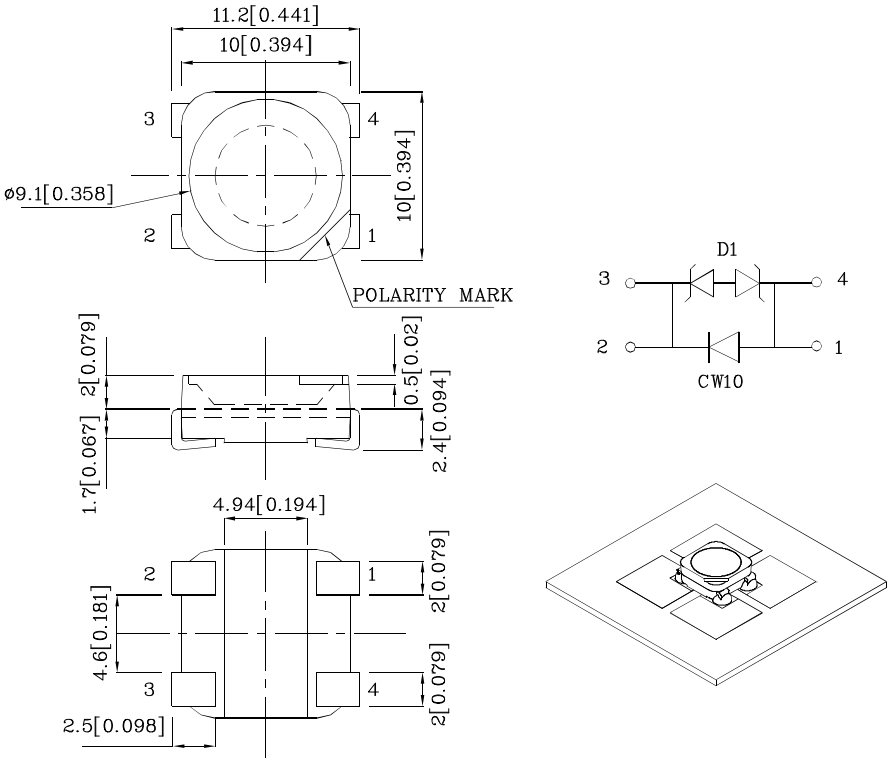
PATENT PENDING

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.

Outline Drawings



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25(0.01") unless otherwise noted.
3. The device has a single mounting surface. The device must be mounted according to the specifications.
4. Specifications are subject to change without notice.

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.

Application Notes

- Pressure or stress can damage the encapsulating material and affect the reliability of the LED.
  Precaution should be taken to avoid pressure on the LED encapsulating surface.
- 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.
- Handling Indications
  Use proper handling techniques to prevent damage to the LED surface. Minimize mechanical stress on the LED surface during processing and handling. Do not touch the emitting surface with sharp objects to avoid scratching or damaging the LED.

Figure 1

In general, LEDs should be handled by the sides of the package. Handling instruments should not touch the emitting surface of the LED package.

Figure 2

For automated pick-and-place machines, the pickup nozzle should be larger than the size of the LED reflector area to avoid placing excess pressure on the LED surface.

Part Number	Emitting Color	Emitting Material	Lens-color	Luminous Intensity (IF=350mA) [1] cd		Luminous Flux (IF=350mA) lm		Viewing Angle 2 θ 1/2 [2]
				min.	typ.	min.	typ.	
XZCW10X95W	White	AlGaInN	Water Clear	12	16	45	65	120°

Absolute Maximum Ratings at T_A=25°C

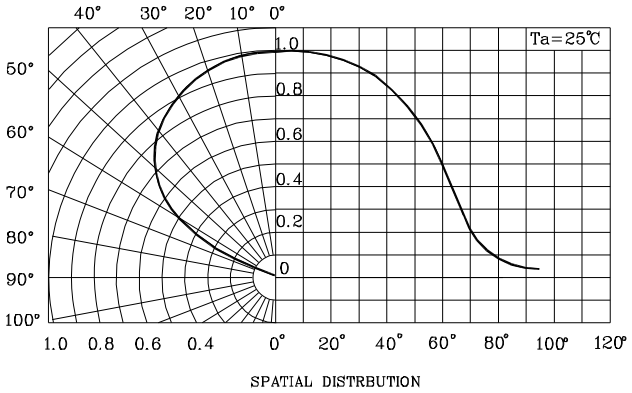
Parameter	Symbol	Value	Unit
Power Dissipation	P_t	1.25	W
Junction Temperature	T_J	110	°C
Reverse Voltage	V_R	5	V
Operating Temperature	Top	-40 To +85	°C
Storage Temperature	Tstg	-40 To +85	°C
DC Forward Current[1]	I_F	350	mA
Peak Forward Current [3]	I_{FM}	500	mA
Thermal Resistance [1]	R_{th}	9	°C/W
Electrostatic Discharge Threshold (HBM)		8000	V

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.θ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
3.1/10 Duty Cycle, 0.1ms Pulse Width.

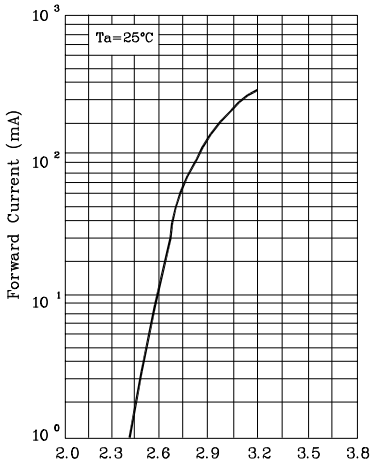
Electrical / Optical Characteristics at T_A=25°C

Parameter	Symbol	Value	Unit
Chromaticity Coordinate x acc.to CIE1931 I_F=350mA [Typ.]	x	0.31	-
Chromaticity Coordinate y acc.to CIE1931 I_F=350mA [Typ.]	y	0.31	-
Reverse Current V_R=5V [Max.]	I_R	10	uA
Forward Voltage I_F=350mA [Min.]	V_F	2.8	V
Forward Voltage I_F=350mA [Typ.]		3.2	
Forward Voltage I_F=350mA [Max.]		3.6	
Temperature Coefficient Of x I_F=350mA, -10 ° C≤ T≤100 ° C [Typ.]	TC x	-0.6	10^{-3}/° C
Temperature Coefficient Of y I_F=350mA, -10 ° C≤ T≤100 ° C [Typ.]	TCy	-0.2	10^{-3}/° C
Temperature Coefficient Of V_F I_F=350mA, -10 ° C≤ T≤100 ° C [Typ.]	TC_V	-3.2	mV/° C

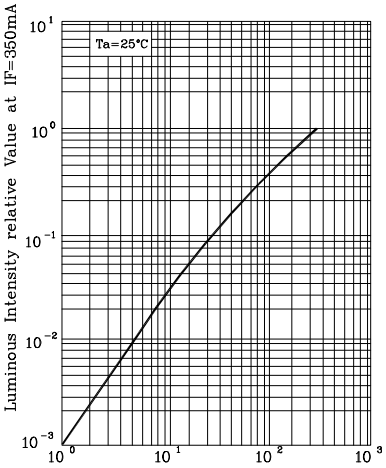
XZCW10X95W



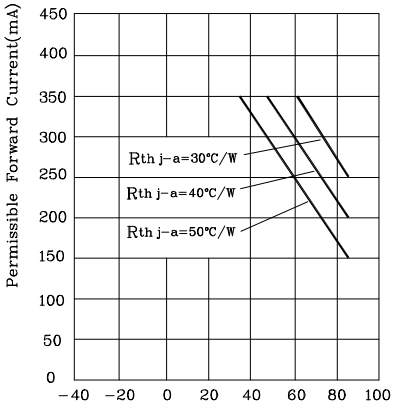
SPATIAL DISTRBUTION



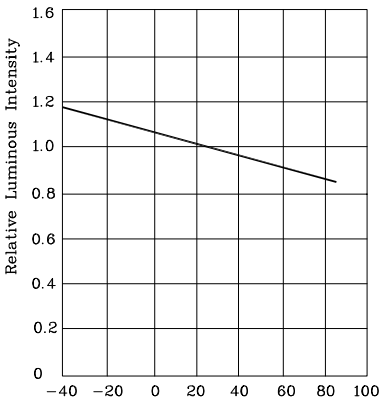
Forward voltage (V)
FORWARD CURRENT Vs.
FORWARD VOLTAGE



Forward current (mA)
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



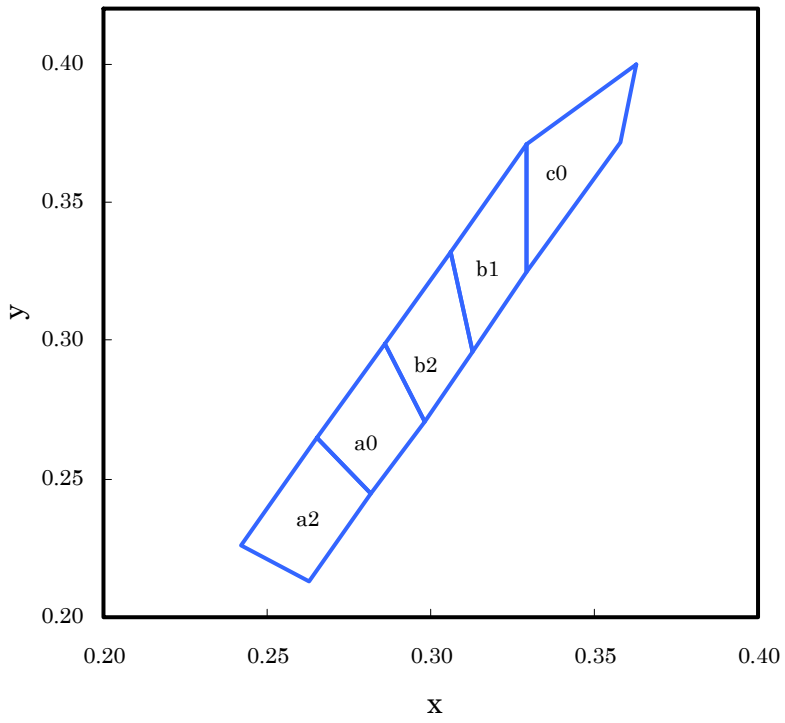
Ambient Temperature T_A (℃)
FORWARD CURRENT
DERATING CURVE



Ambient Temperature T_A (℃)
LUMINOUS INTENSITY VS.
AMBIENT TEMPERATURE

XZCW10X95W

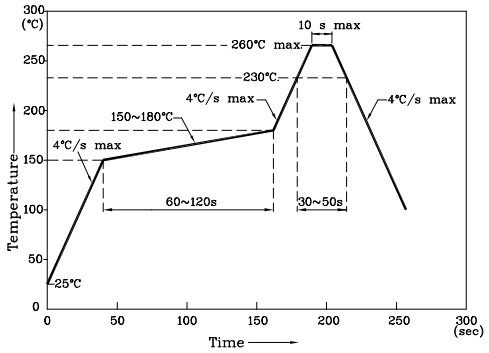
White CIE



	x	y		x	y		x	y
a2	0.263	0.213	a0	0.282	0.245	b2	0.298	0.271
	0.282	0.245		0.298	0.271		0.313	0.296
	0.265	0.265		0.286	0.299		0.306	0.332
	0.242	0.226		0.265	0.265		0.286	0.299
b1	0.313	0.296	c0	0.329	0.325			
	0.329	0.325		0.358	0.372			
	0.329	0.371		0.363	0.400			
	0.306	0.332		0.329	0.371			

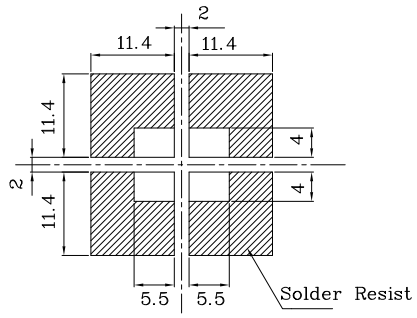
Reflow soldering is recommended and the soldering profile is shown below.
Other soldering methods are not recommended as they might cause damage to the product.

Reflow Soldering Profile For Lead-free SMT Process.

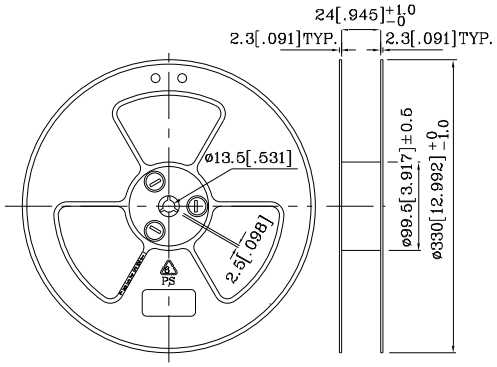


NOTES:
1. Maximum soldering temperature should not exceed 260°c.
2. Recommended reflow temperature: 145°c-260°c.
3. Do not put stress to the epoxy resin during high temperatures conditions.

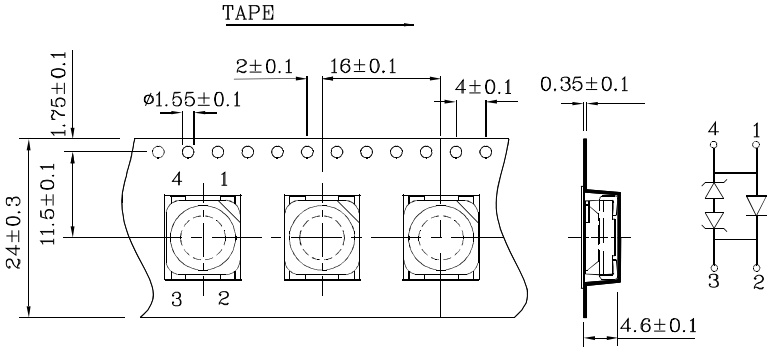
❖ Recommended Soldering Pattern (Units: mm ; Tolerance:± 0.1)



❖ Reel Dimension



❖ Tape Specification (Units : mm)



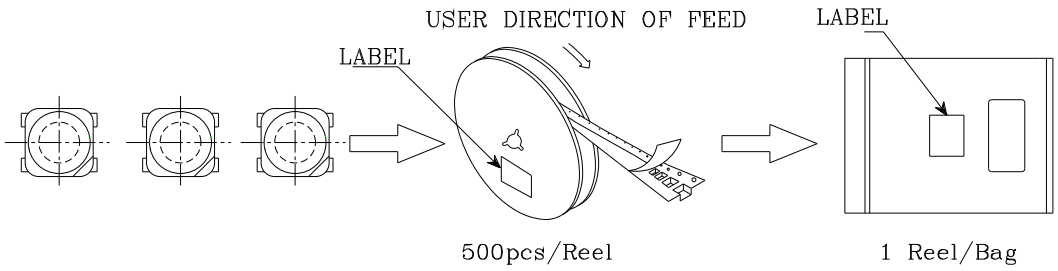
Remarks:

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

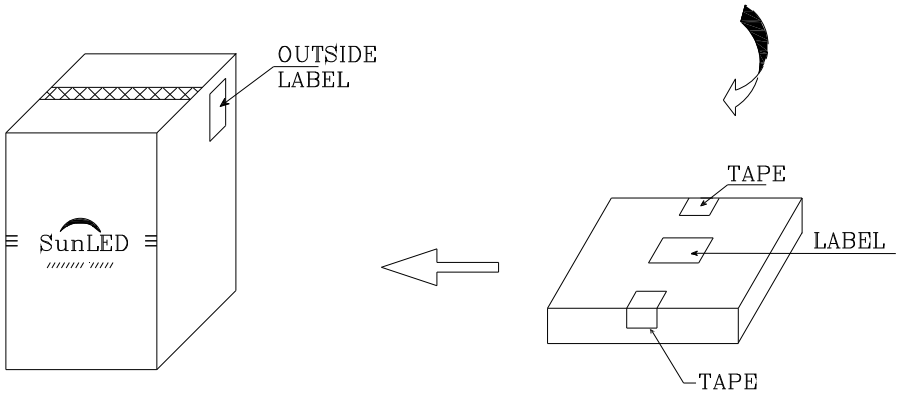
1. Measurement tolerance of the chromaticity coordinates is ±0.01 .
2. Luminous Intensity / Luminous Flux: +/-15%
3. Forward Voltage: +/-0.1V

Note: Accuracy may depend on the sorting parameters.

PACKING & LABEL SPECIFICATIONS **XZCW10X95W**



500pcs/Reel 1 Reel/Bag



5K/BOX 1K/Box