

PRELIMINARY SPEC



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

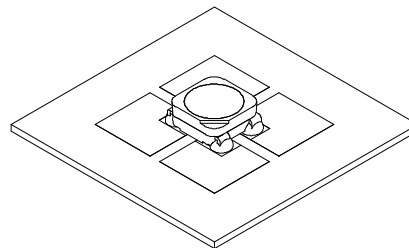
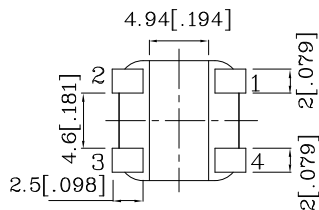
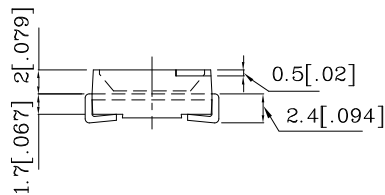
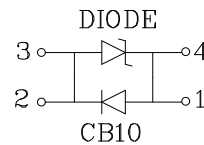
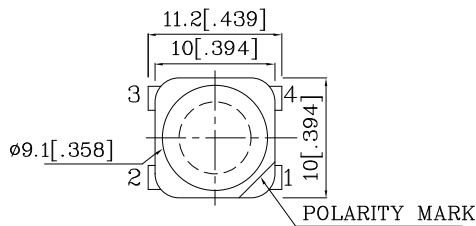
PATENT PENDING

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.



Outline Drawings



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25(0.01)$ 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) cd [1]		Luminous Flux (IF=350mA) lm		Viewing Angle 2 θ 1/2 [2]
				min.	typ.	min.	typ.	
XZCB10X95W	Blue	InGaAlN	Water Clear	3.3	4.5	12.5	18	120°

Parameter	Symbol	Value	Unit
Power Dissipation	P _t	1.25	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 [3]	I _{FM}	500	mA
Thermal Resistance [1]	R _{th}	9	°C/W
Electrostatic Discharge Threshold (HBM)		8000	V

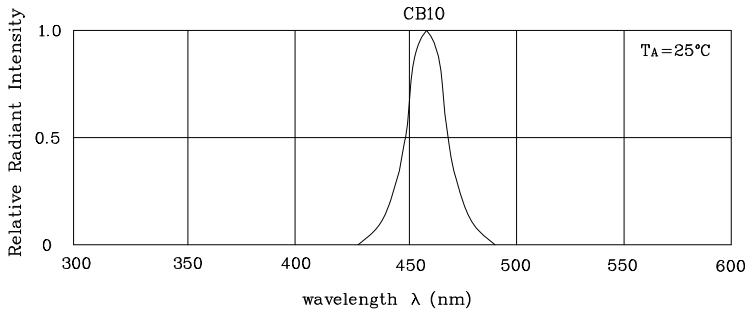
Notes:

- 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.
- 2.0 1/2 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.

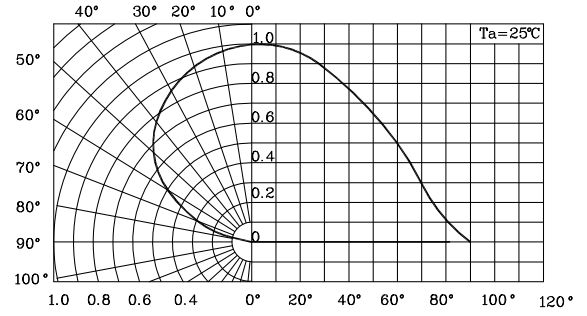
Electrical / Optical Characteristics at T_A=25°C

Parameter	Symbol	Value	Unit
Wavelength At peak Emission I _F =350mA [Typ.]	λ peak	452	nm
Dominate Wavelength I _F =350mA [Typ.]	λ dom	458	nm
Spectral Bandwidth at 50%Φ _{REL MAX} I _F =350mA [Typ.]	Δλ	20	nm
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 I _{peak} I _F =350mA, -10°C ≤ T ≤ 100°C [Typ.]	TC λ peak	0.2	nm/°C
Temperature Coefficient Of I _{dom} I _F =350mA, -10°C ≤ T ≤ 100°C [Typ.]	TC λ dom	0.1	nm/°C
Temperature Coefficient Of V _F I _F =350mA, -10°C ≤ T ≤ 100°C [Typ.]	TC _v	-3.2	mV/°C

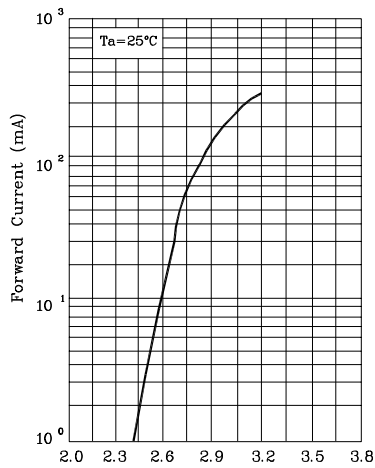
XZCB10X95W



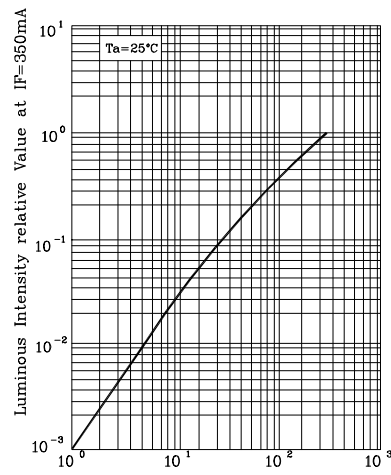
RELATIVE INTENSITY Vs. WAVELENGTH



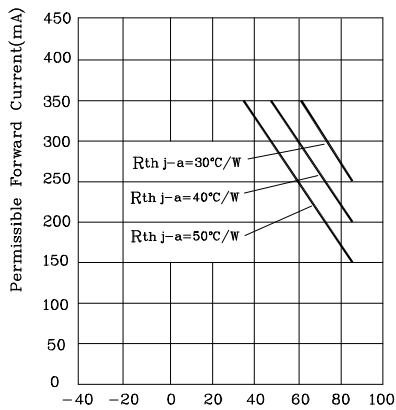
SPATIAL DISTRIBUTION



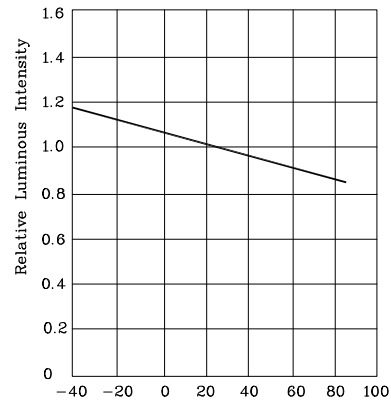
FORWARD CURRENT Vs. FORWARD VOLTAGE



LUMINOUS INTENSITY Vs. FORWARD CURRENT

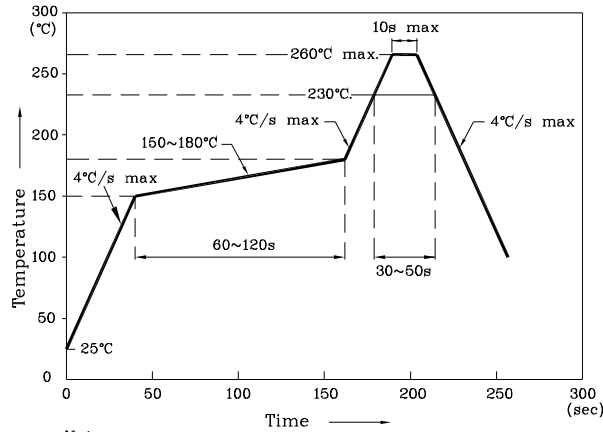


FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

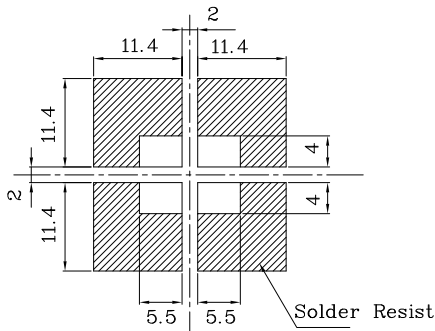
Reflow Soldering Profile For Lead-free SMT Process.



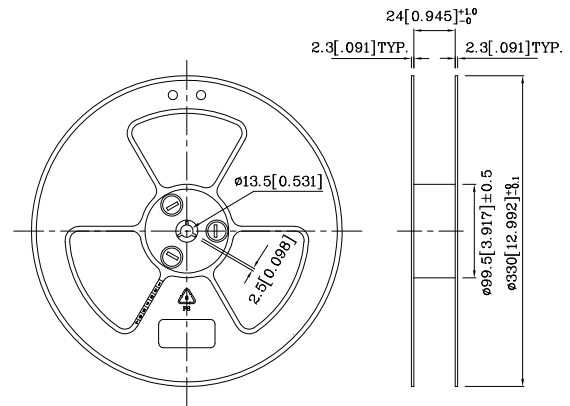
Notes:

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.

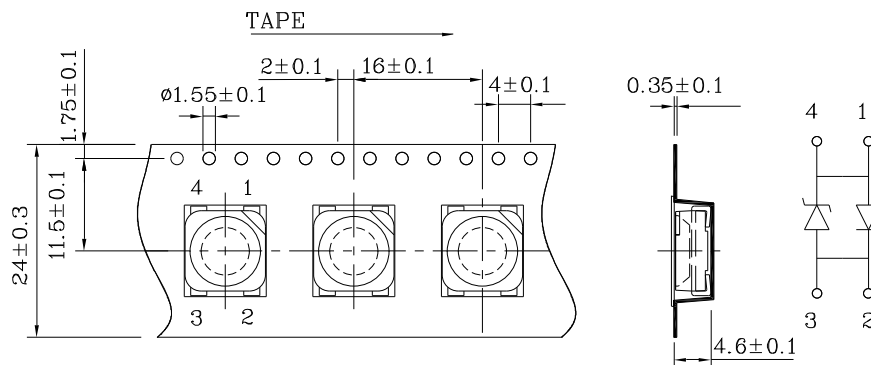
❖ Recommended Soldering Pattern
(Units: mm ; Tolerance: ± 0.1)



Reel Dimension



❖ Tape Specification (Units : mm)



Remarks:

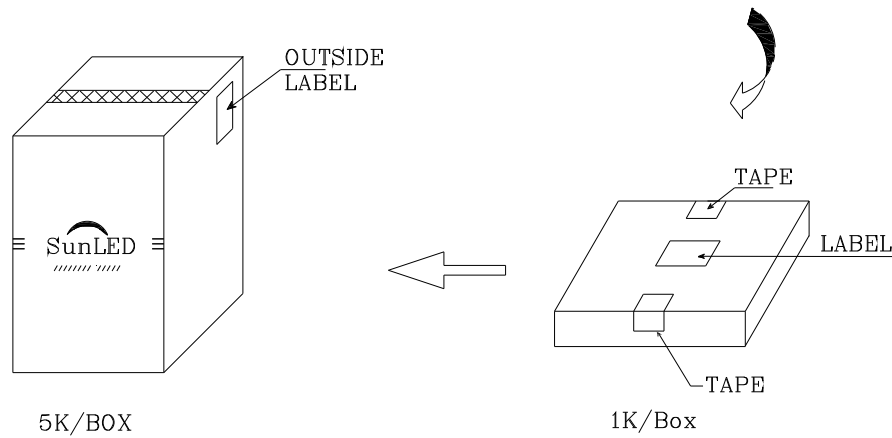
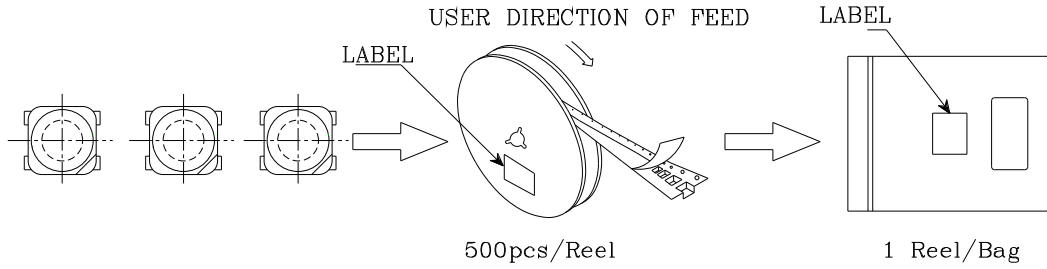

If special sorting is required (e.g. binning based on forward voltage, luminous intensity/ luminous flux or wavelength), the typical accuracy of the sorting process is as follows:



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

Note: Accuracy may depend on the sorting parameters.

PACKING & LABEL SPECIFICATIONS

XZCB10X95W

	
P/NO : XZxxx95x	
QTY : 500 pcs	CODE: XXX
S/N : XX	
LOT NO :	
 XXXXXXXXXXXXXXXXXXXXXXXXXX	
RoHS Compliant	