



PRELIMINARY SPEC



ATTENTION  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES



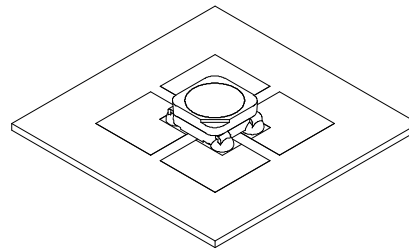
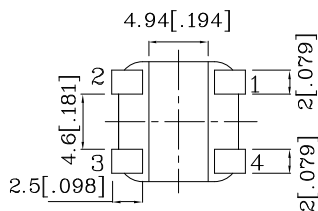
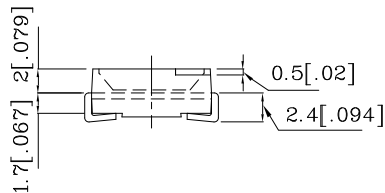
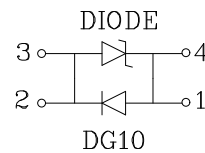
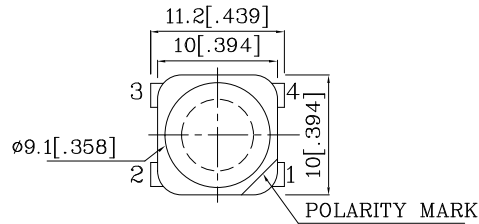
Features

- 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.
- RoHS COMPLIANT.

PATENT PENDING



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) [1]		Luminous Flux (IF=350mA)		Viewing Angle 2 θ 1/2 [2]
				cd		lm		
				min.	typ.	min.	typ.	
XZDG10X95W	Green	AlInGaN	Water Clear	12	20	39	65	120°

### Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	Value	Unit
Power Dissipation	Pt	1.2	W
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	9	°C/W
Electrostatic Discharge Threshold (HBM)		8000	V

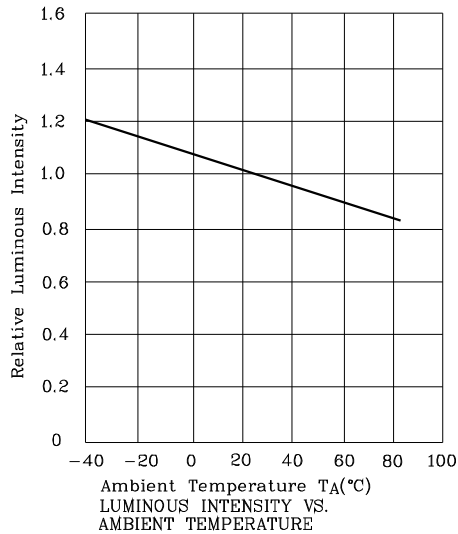
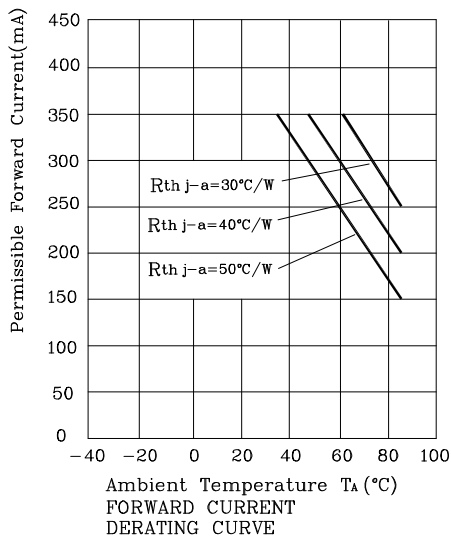
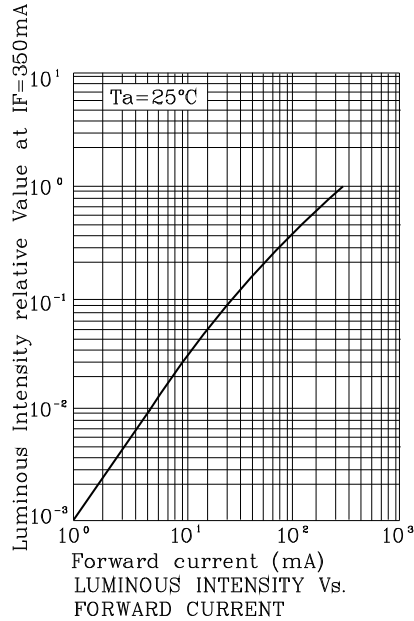
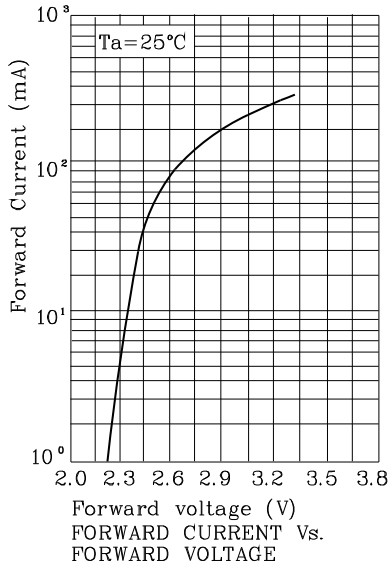
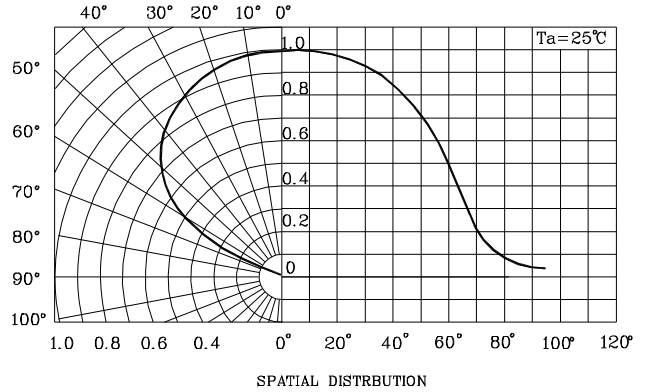
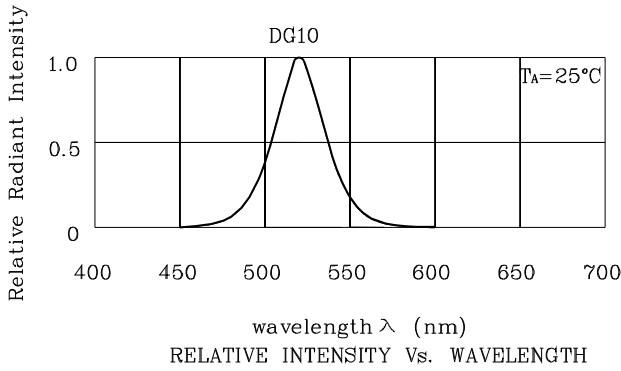
Notes:

- Results from mounting on PC board FR4(pad size ≥ 100mm<sup>2</sup> 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.
- 1/10 Duty Cycle, 0.1ms Pulse Width.

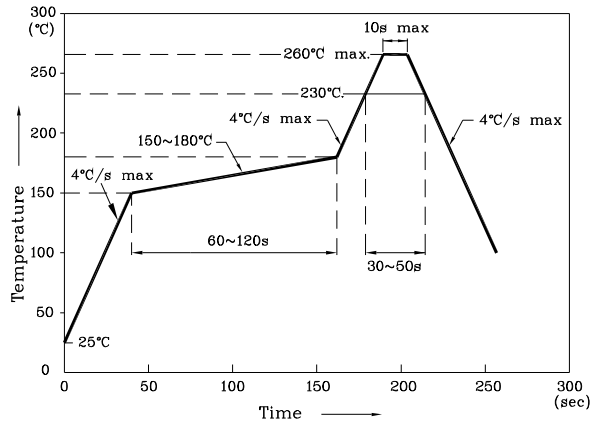
### Electrical / Optical Characteristics at TA=25°C

Parameter	Symbol	Value	Unit
Wavelength At peak Emission IF=350mA [Typ.]	λ peak	520	nm
Dominate Wavelength IF=350mA [Typ.]	λ dom	530	nm
Spectral Bandwidth at 50%Φ REL MAX IF=350mA [Typ.]	Δλ	35	nm
Forward Voltage IF=350mA [Min.]	VF	2.7	V
Forward Voltage IF=350mA [Typ.]		3.3	
Forward Voltage IF=350mA [Max.]		3.8	
Temperature Coefficient Of Ipeak IF=350mA, -10°C ≤ T ≤ 100°C [Typ.]	TC λ peak	0.16	nm/°C
Temperature Coefficient Of Idom IF=350mA, -10°C ≤ T ≤ 100°C [Typ.]	TC λ dom	0.14	nm/°C
Temperature Coefficient Of VF IF=350mA, -10°C ≤ T ≤ 100°C [Typ.]	TCv	-2.26	mV/°C

XZDG10X95W



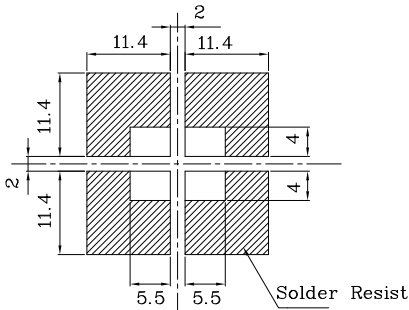
Reflow Soldering Profile For Lead-free SMT Process.



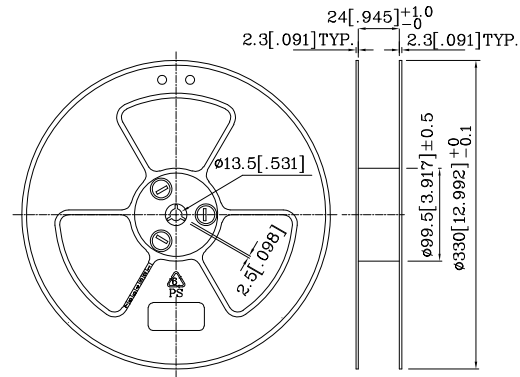
Notes:

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.

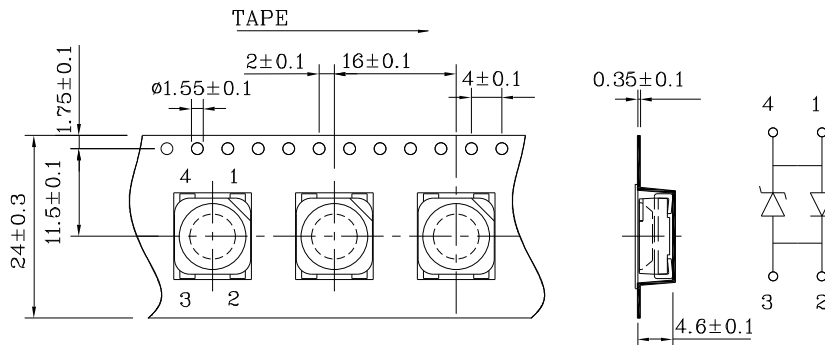
❖ Recommended Soldering Pattern  
(Units: mm ; Tolerance: ± 0.1)



❖ Reel Dimension



❖ Tape Specification (Units : mm)



Remarks:

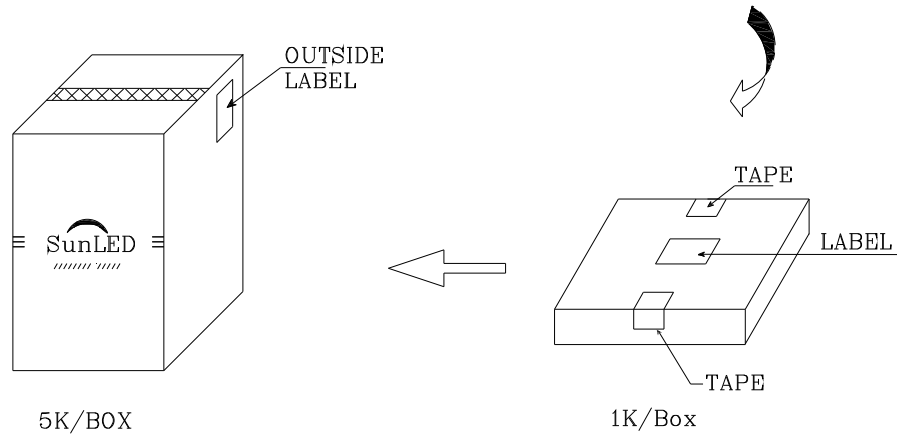
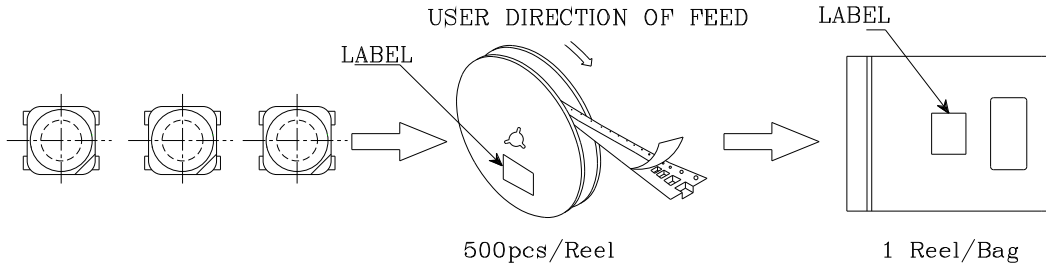

If special sorting is required (e.g. binning based on forward voltage, luminous intensity/ luminous flux or wavelength), the typical accuracy of the sorting process is as follows:


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**

**XZDG10X95W**

Q.C.	
Q C	
XX	XX XXXX
PASSED	
P/NO : XZxxx95x	
QTY : 500 pcs	CODE: XXX
S/N : XX	
LOT NO :	
 XXXXXXXXXXXXXXXXXXXXXXXXXX	
RoHS Compliant	