Part Number: XZCB25X109S

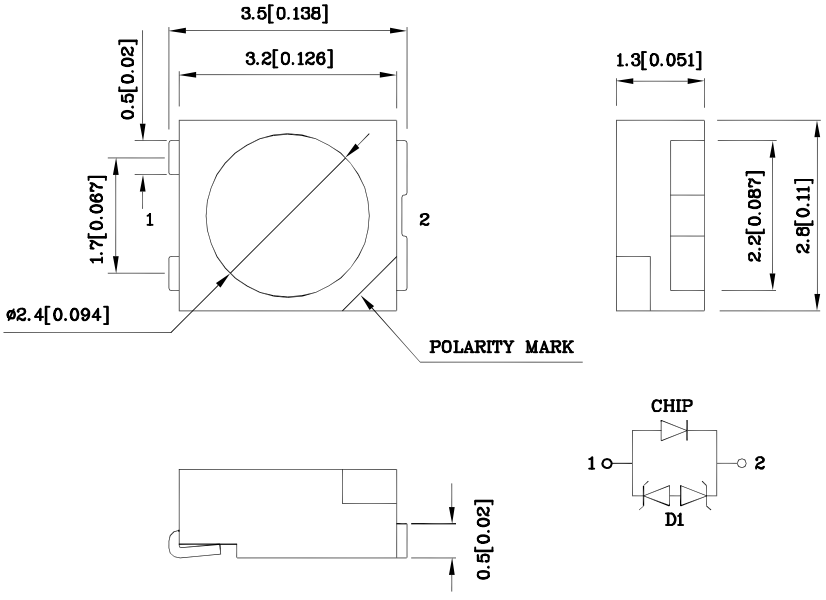
3.5x2.8 mm SMD CHIP LED LAMP

Features

- Ideal for indication light on hand held products
- Long life and robust package
- Variety of lens types and color choices available
- Package: 1500pcs / reel
- Moisture sensitivity level : level 2a
- RoHS compliant

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Package Schematics

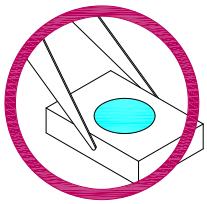


Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Specifications are subject to change without notice.

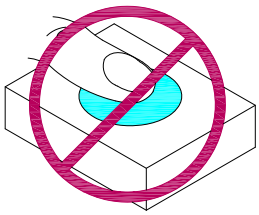
Handling Precautions

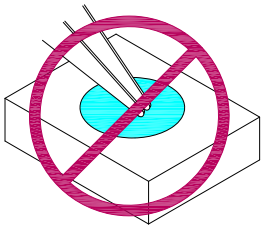
Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force.
As a result, special handling precautions need to be observed during assembly using silicone encapsulated LED products. Failure to comply might lead to damage and premature failure of the LED.

1. Handle the component along the side surfaces by using forceps or appropriate tools.

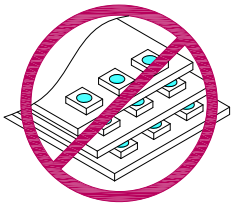


2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.

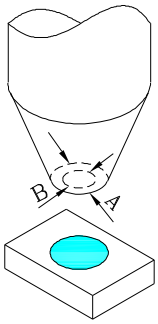




3. Do not stack together assembled PCBs containing exposed LEDs. Impact may scratch the silicone lens or damage the internal circuitry.



4.1. The outer diameter of the SMD pickup nozzle should not exceed the size of the LED to prevent air leaks. The inner diameter of the nozzle should be as large as possible.
4.2. A pliable material is suggested for the nozzle tip to avoid scratching or damaging the LED surface during pickup.
4.3. The dimensions of the component must be accurately programmed in the pick-and-place machine to insure precise pickup and avoid damage during production.



5. As silicone encapsulation is permeable to gases, some corrosive substances such as H_2S might corrode silver plating of leadframe. Special care should be taken if an LED with silicone encapsulation is to be used near such substances.

Part Number	Emitting Color	Emitting Material	Lens-color	Luminous Intensity (I_F=150mA) mcd		Luminous Flux (I_F=150mA) mlm		Wavelength nm λP	Viewing Angle 2 θ 1/2
				min.	typ.	min.	typ.		
XZCB25X109S	Blue	InGaN	Water Clear	700	1295	4200	6000	445	120°

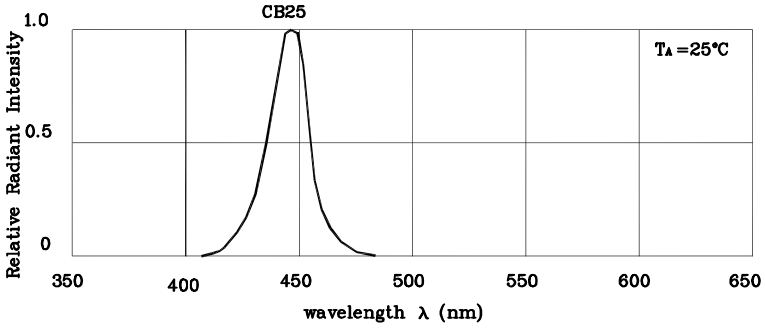
Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	600	mW
Junction Temperature [1]	T_J	110	°C
Operating Temperature	Top	-40 To +85	°C
Storage Temperature	Tstg	-40 To +85	°C
Reverse Voltage	V_R	5	V
DC Forward Current [1]	I_F	150	mA
Peak Forward Current [2]	I_{FM}	300	mA
Thermal Resistance [1] (Junction/ambient)	$R_{th\ j\text{-}a}$	180	°C/W
Thermal Resistance [1] (Junction/solder point)	$R_{th\ j\text{-}s}$	60	°C/W
Electrostatic Discharge Threshold (HBM)		8000	V

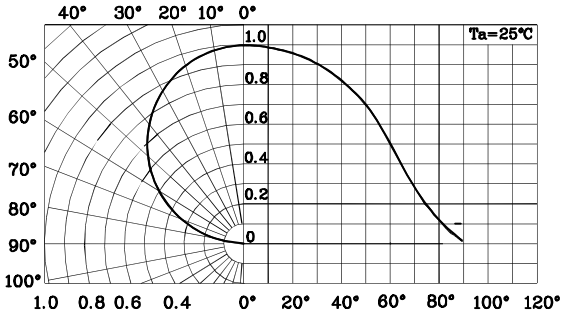
Notes:
1.Results from mounting on PC board FR4(pad size≥70mm²), mounted on pc board-metal core PCB is recommend for lowest thermal Resistance.
2.1/10 Duty Cycle, 0.1ms Pulse Width.

Electrical / Optical Characteristics at TA=25°C

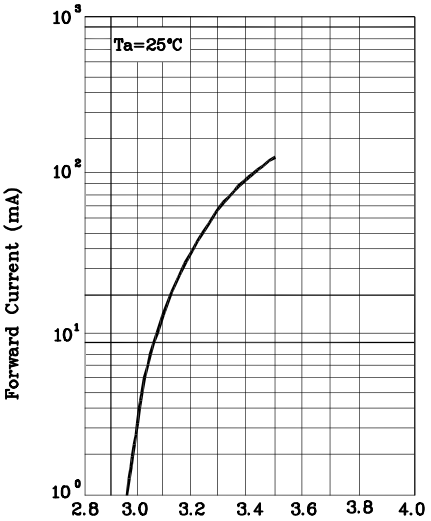
Parameter	Symbol	Value	Unit
Wavelength at peak emission I_F=150mA [Typ.]	λpeak	445	nm
Dominant Wavelength I_F=150mA [Typ.]	λdom [1]	450	nm
Spectral Line Half-width I_F=150mA [Typ.]	Δλ	20	nm
Forward Voltage I_F=150mA [Min.]	V_F [2]	2.7	V
Forward Voltage I_F=150mA [Typ.]		3.5	
Forward Voltage I_F=150mA [Max.]		4.0	
Allowable Reverse Current [Max.]	I_R	85	mA
Temperature coefficient of λpeak I_F=150mA, -10°C≤ T≤100°C [Typ.]	TCλpeak	0.13	nm/°C
Temperature coefficient of λdom I_F=150mA, -10°C≤ T≤100°C [Typ.]	TCλdom	0.1	nm/°C
Temperature coefficient of V_F I_F=150mA, -10°C≤ T≤100°C [Typ.]	TC_V	-3.1	mV/°C



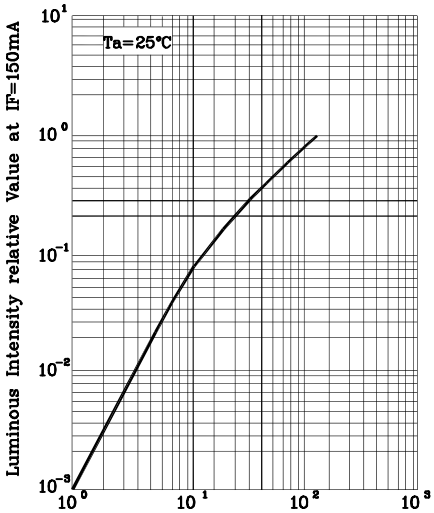
RELATIVE INTENSITY Vs. WAVELENGTH



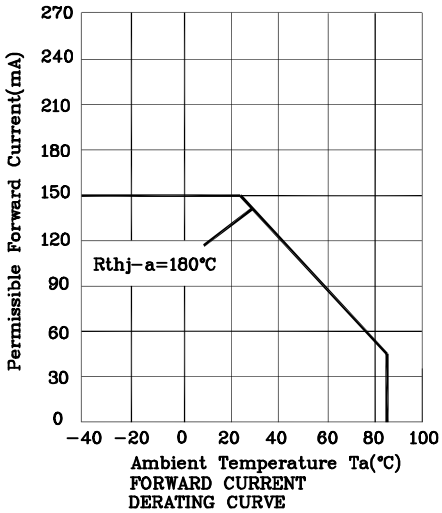
SPATIAL DISTRBUTION



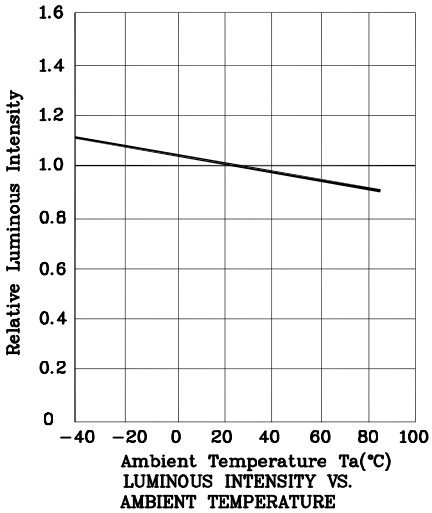
FORWARD CURRENT Vs.
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT



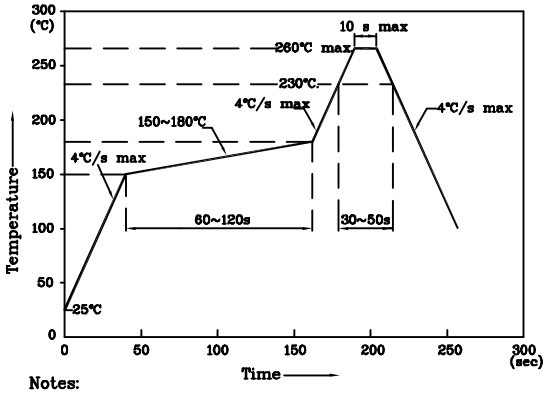
FORWARD CURRENT
DERATING CURVE



LUMINOUS INTENSITY VS.
AMBIENT TEMPERATURE

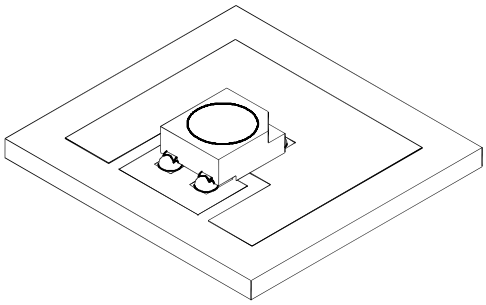
LED is recommended for reflow soldering and soldering profile is shown below.

Reflow Soldering Profile for SMD Products (Pb−Free Components)

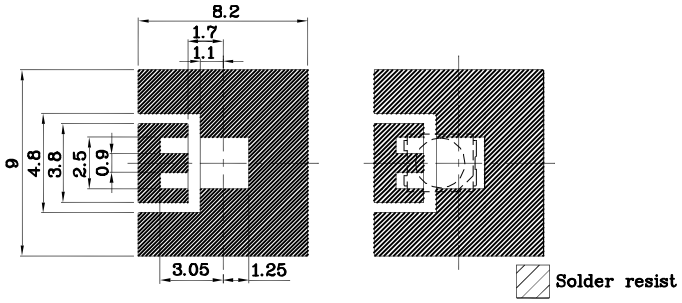


Notes:
1. Maximum soldering temperature should not exceed 260℃
2. Recommended reflow temperature: 145℃−260℃
3. Do not put stress to the epoxy resin during high temperatures conditions

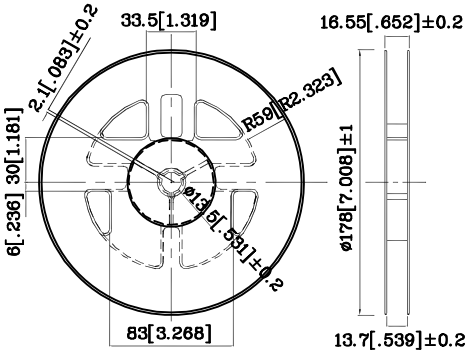
❖ The device has a single mounting surface. The device must be mounted according to the specifications.



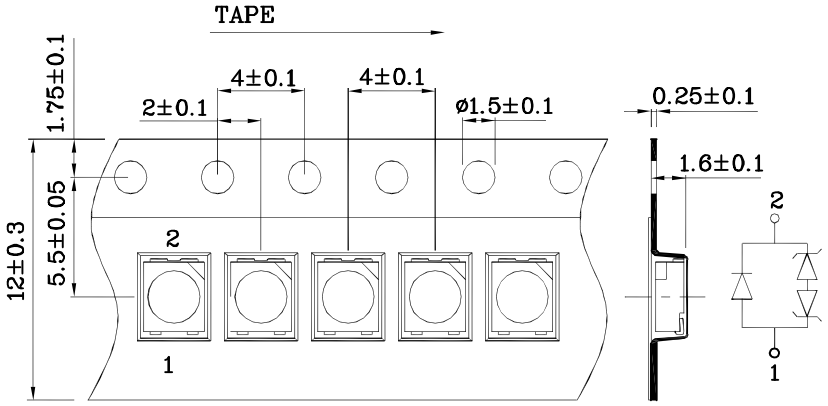
❖ Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



❖ 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