

### Features

- Dimension: 48mm x 5mm x 1.6mm.
- Instant light.
- Linear type.
- High efficiency.
- Long operating life.
- Low power consumption.
- More energy efficient than incandescent, most halogen lamps, and fluorescent lamp.
- RoHS compliant.



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

### Description

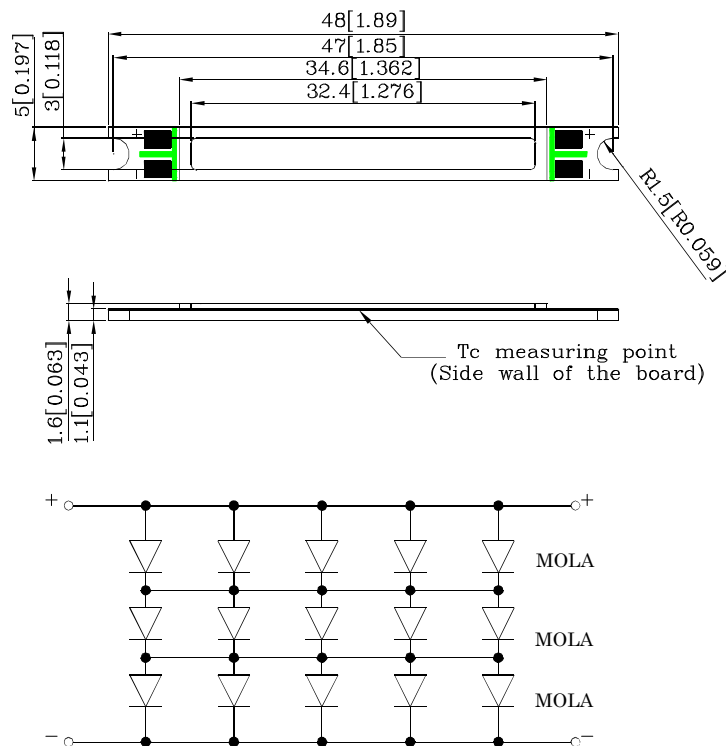
The package containing fifteen chips is capable of providing high brightness.

High thermal dissipation efficiency is achieved by incorporating aluminium as reflector and also substrate to ensure long operating life.

### Applications

- Ceiling lights.
- Contour lights.
- Decoration lights.
- General lighting.
- Architectural lighting.

### Package Schematics

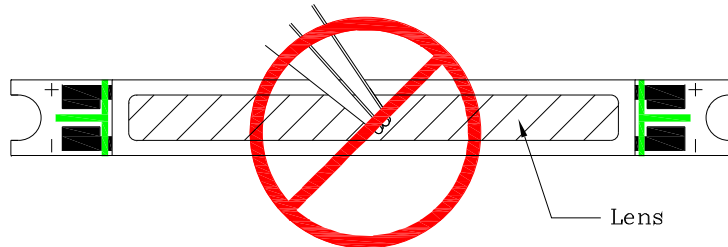


#### Notes:

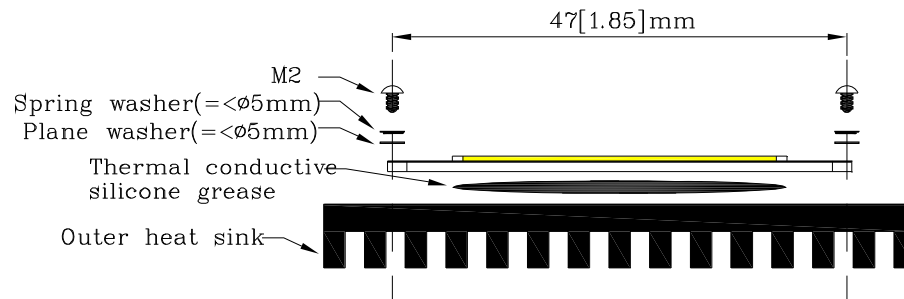
1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25(0.01)$  unless otherwise noted.
3. Specifications are subject to change without notice.

## Precautions

1. Do not touch the lens with any sharp object.
2. No stress should be applied on the lens.



3. Thermal grease between the light bar and heat sink is recommended to fill air gaps for better thermal conductivity.
4. For securing the LED light bar, M2 screws are recommended. The light bar should not be bent or stressed in any way which could damage the internal circuit.



5. To prevent damages caused by electrostatic discharge (ESD), it is recommended to wear proper gear such as wristband or anti-static gloves when handling the product.
6. Constant current source is recommended to power the light bar. When more than one light bar are used, they should be connected in series if possible.
7. Thermal management should be taken into consideration when using the product. Maximum driving current should be reduced accordingly at higher ambient temperature to prevent overheating.
8. Soldering recommendations:
  - Soldering iron power should not exceed 40W, and should not be in contact with the joint for more than 3.5 secs.
  - The maximum soldering temperature should be less than 350°C.
  - Do not touch the product immediately after soldering.
  - Not reflow compatible.
9. As silicone encapsulation is permeable to gases, some corrosive substances such as H<sub>2</sub>S might corrode silver plating of leadframe. Special care should be taken if an LED with silicone encapsulation is to be used near such substances.

### Absolute Maximum Ratings

Parameter	Symbol	Rating	Units
Forward Current	I <sub>F</sub>	500	mA
Forward Pulse Current [1]	I <sub>FP</sub>	700	mA
Power Dissipation	P <sub>D</sub>	4.3	W
LED Junction Temperature	T <sub>j</sub>	110	°C
Operating Temperature	T <sub>opr</sub>	-30~+100	°C
Storage Temperature	T <sub>stg</sub>	-40~+110	°C

Note:

1. 1/10 Duty Cycle, 0.1ms Pulse Width.

### Electrical / Optical Characteristics

Part Name	Device	Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
XZMOLA112S5W-A	Red	Forward Voltage [2]	V <sub>F</sub>	5.6	7.0	8.6	V	I <sub>F</sub> =500mA
		Luminous Flux CIE127-2007*[3]	Φ <sub>v</sub>	60*	89.7*		lm	I <sub>F</sub> =500mA
		Wavelength at peak emission CIE127-2007*[4]	λ <sub>peak</sub>	-	640*	-	nm	I <sub>F</sub> =500mA
		Dominant Wavelength CIE127-2007*	λ <sub>dom</sub>	-	625*	-	nm	I <sub>F</sub> =500mA
		Spectral bandwidth at 50%Φ <sub>REL</sub> MAX	Δλ <sub>1/2</sub>	-	25	-	nm	I <sub>F</sub> =500mA
		Temperature coefficient of λ <sub>peak</sub>	TCλ <sub>peak</sub>	-	0.11	-	nm/°C	I <sub>F</sub> =500mA
		Temperature coefficient of λ <sub>dom</sub>	TCλ <sub>dom</sub>	-	0.09	-	nm/°C	I <sub>F</sub> =500mA
		Temperature coefficient of Forward Voltage	ΔλV <sub>F</sub> /ΔT	-	-3.8	-	mV/°C	I <sub>F</sub> =500mA
		Emission Angle	2 θ 1/2 x direction	-	120	-	°	I <sub>F</sub> =500mA
2 θ 1/2 y direction	-		120	-	°	I <sub>F</sub> =500mA		

Notes:

2. Forward Voltage is measured with an accuracy of +/-0.1V.

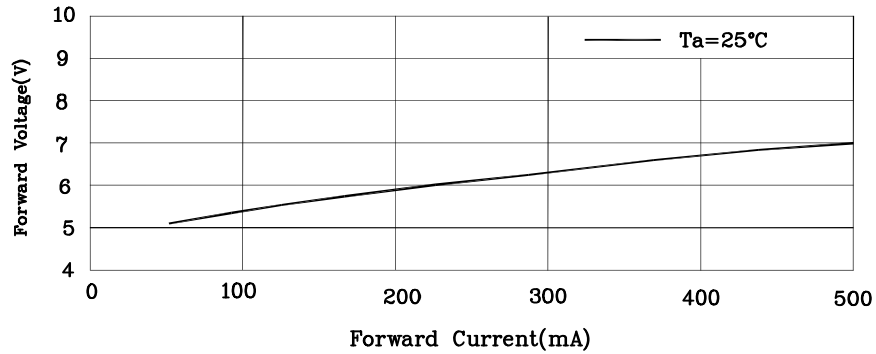
3. Flux is measured with an accuracy of +/-15%.

4. Wavelength : +/-0.1nm.

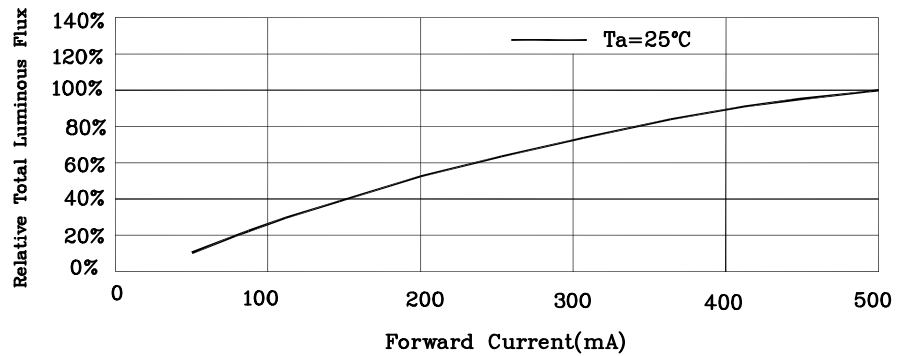
\*Luminous Flux value and wavelength are in accordance with CIE127-2007 standards.

Test Item	Test Condition
Moisture-proof Test	85°C , 85%RH for 1000 hours

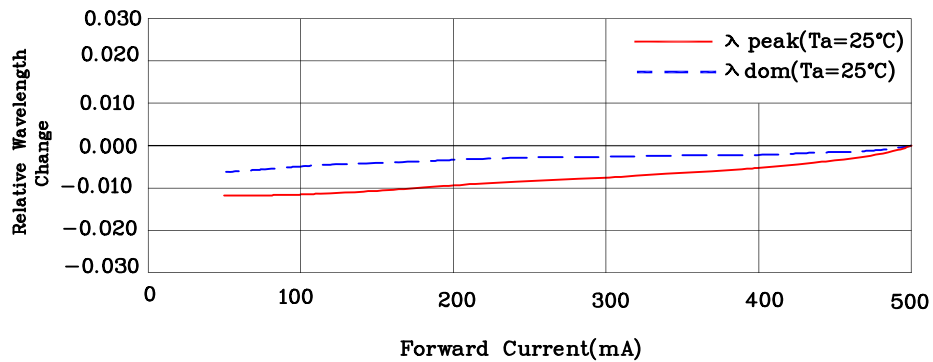
Forward Current – Forward Voltage  
Characteristic



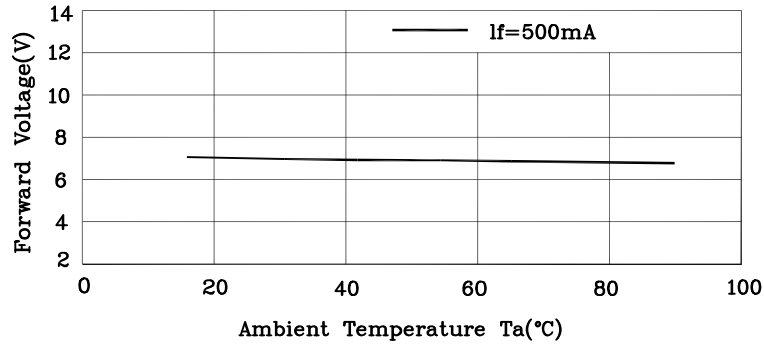
Forward Current – Relative Total Luminous Flux  
Characteristic



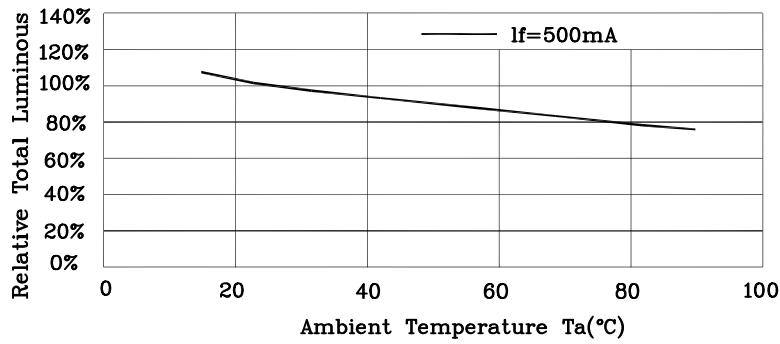
Forward Current – Relative Wavelength Change  
Characteristic



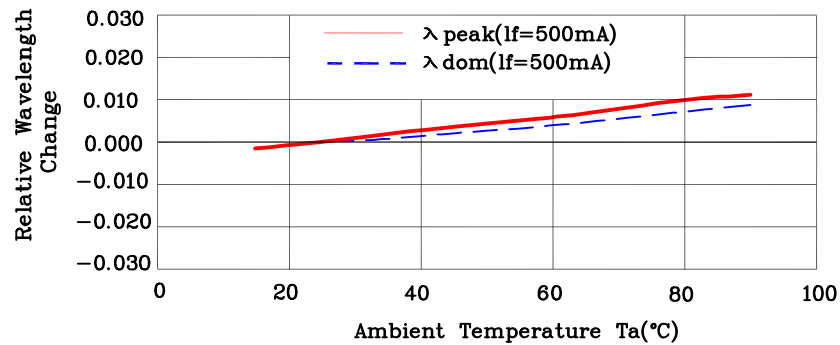
Ambient Temperature  $T_a$  - Forward Voltage Characteristic

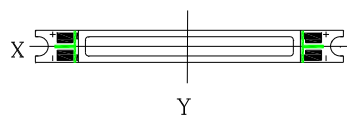
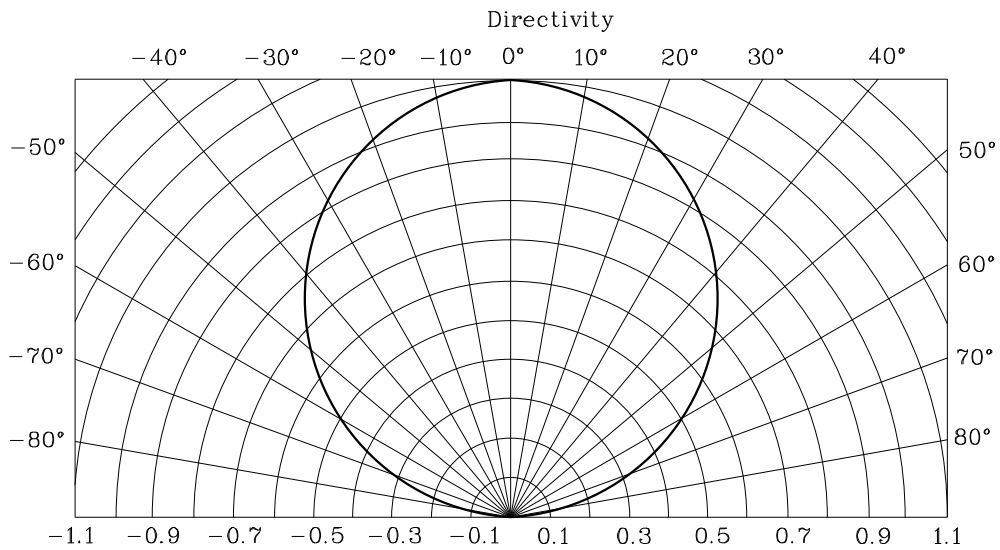
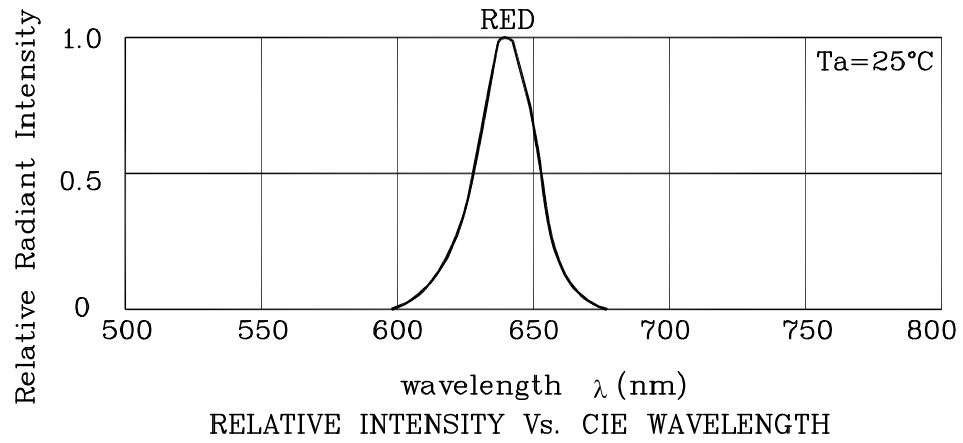


Ambient Temperature  $T_a$  - Relative Total Luminous Flux Characteristic



Ambient Temperature  $T_a$  - Relative Wavelength Change Characteristic



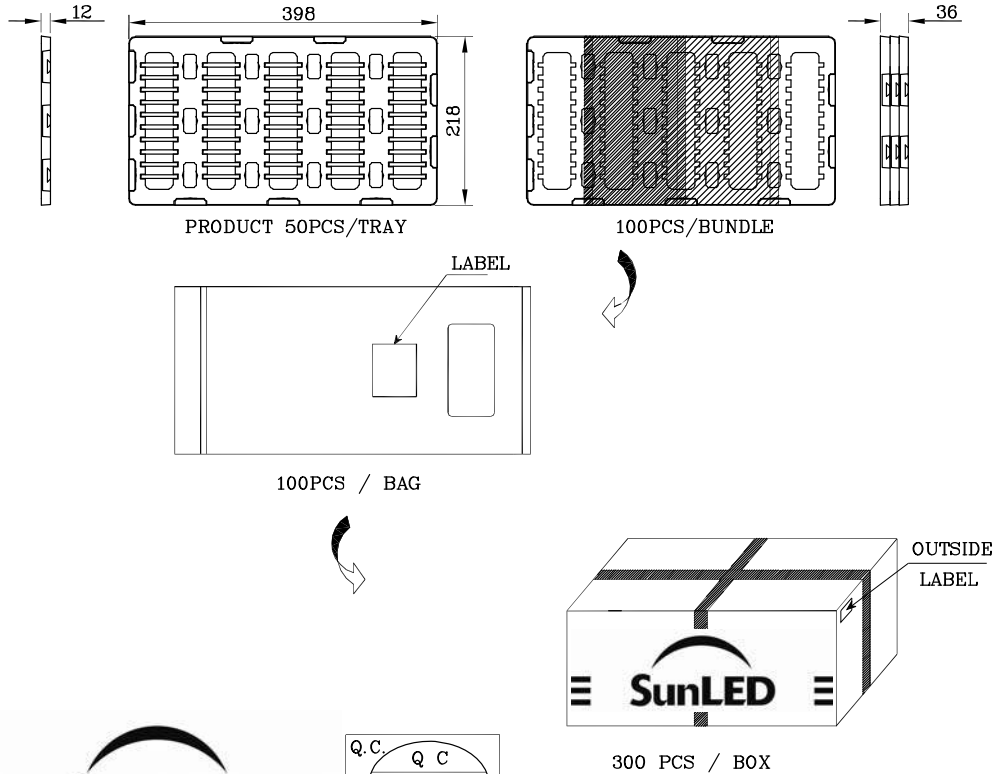



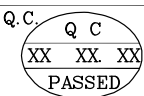

— X Direction  
— Y Direction

**PACKING & LABEL SPECIFICATIONS**

PACKING & LABEL SPECIFICATION

- (1) Primary packing  
 50 pieces are contained in each tray.  
 Two trays which collectively contain 100 pieces are stacked together with an additional empty tray as lid.  
 Tray (Dimensions: 398x218x12mm, materials: electrically conductive PS.)
- (2) Secondary packing  
 A set of three trays is placed in bag. (100 pieces per bag.)  
 An indication label which specifies product name, quantity, lot number and shipment date is attached to the outside of the 18# box. (300 pieces per box.)



		
P/NO : XZxxx112x		
QTY : 100 pcs	CODE: XXX	
S/N : XX		
LOT NO:		
 XXXXXXXXXXXXX		
RoHS Compliant		

**TERMS OF USE**

1. Data presented in this document reflect statistical figures and should be treated as technical reference only.
2. Contents within this document are subject to improvement and enhancement changes without notice.
3. The product(s) in this document are designed to be operated within the electrical and environmental specifications indicated on the datasheet.  
 User accepts full risk and responsibility when operating the product(s) beyond their intended specifications.
4. The product(s) described in this document are intended for electronic applications in which a person's life is not reliant upon the LED. Please consult with a SunLED representative for special applications where the LED may have a direct impact on a person's life.
5. The contents within this document may not be altered without prior consent by SunLED.
6. Additional technical notes are available at <http://www.SunLEDusa.com/TechnicalNotes.asp>



## XZxxx112x-A Application Note

### Introduction

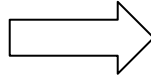
The XZxxx112x-A LED strips provide very high light output, and can be configured to suit a wide range of applications. However the heat generated during operation, if not handled properly, could shorten the product life significantly. Therefore for optimal performance, proper thermal management should be incorporated to keep it below the rated temperature. This document describes the heat sink attachment procedure.

### Attachment to Heat sink

1. Apply a thin layer (0.1 ~ 0.2 mm) of thermal grease on the bottom of the XZxxx112x-A LED strip.

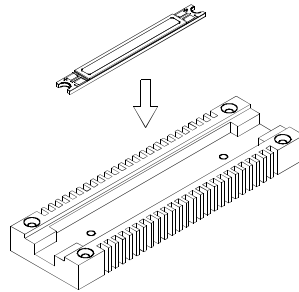


Rear surface



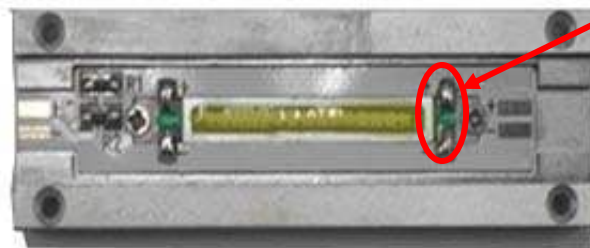
Thermal glue on rear surface

2. Press the XZxxx112x-A LED strip firmly on the heat sink to ensure good contact between the heat sink and the LED strip. A guide for heat sink size selection at various driving currents is listed in the table below.



3. A specifically designed electronic circuit is required to power the LED strip. Do not connect the product directly to the main power.

Current (mA)	350	500	600	700
Heat sink surface area (mm <sup>2</sup> )	10,000	15,000	17,000	21,000



It is strongly recommended that temperature of pad be not higher than 75°C when you use the product.