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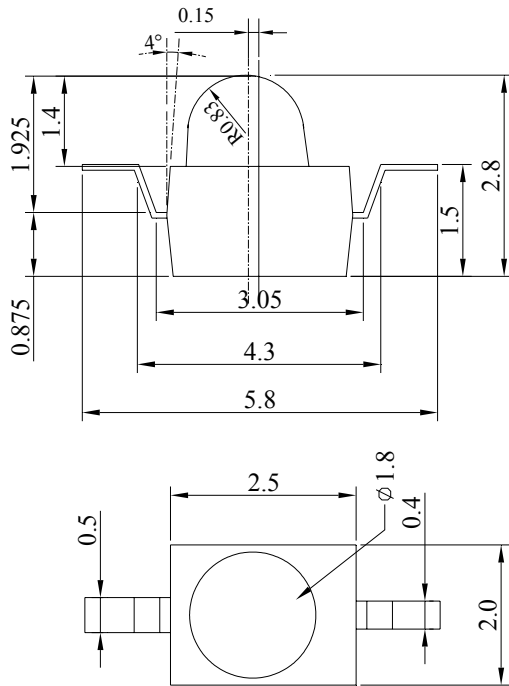
# SPECIFICATION

*PART NO. : MTSM0302AZ-HR-A*

*1.8mm AXIAL LED LAMP*



### Package Dimensions



**Notes:**

1. All dimensions are in mm.
2. Tolerance is  $\pm 0.25$ mm unless otherwise noted.

### Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MTSM0302AZ-HR-A	AlGaInP/GaAs	Deep Red	Water Clear

**Absolute Maximum Ratings at Ta=25°C**

Parameter	Symbol	Rating	Unit
Power Dissipation	P <sub>D</sub>	72	mW
Reverse Voltage	V <sub>R</sub>	5	V
D.C. Forward Current	I <sub>f</sub>	30	mA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	I <sub>f</sub> (Peak)	100	mA
Operating Temperature Range	T <sub>opr.</sub>	-40 to +100	°C
Storage Temperature Range	T <sub>stg.</sub>	-40 to +100	°C
Soldering Temperature	T <sub>sl.</sub>	Reflow Soldering: 260°C for 10 sec.	

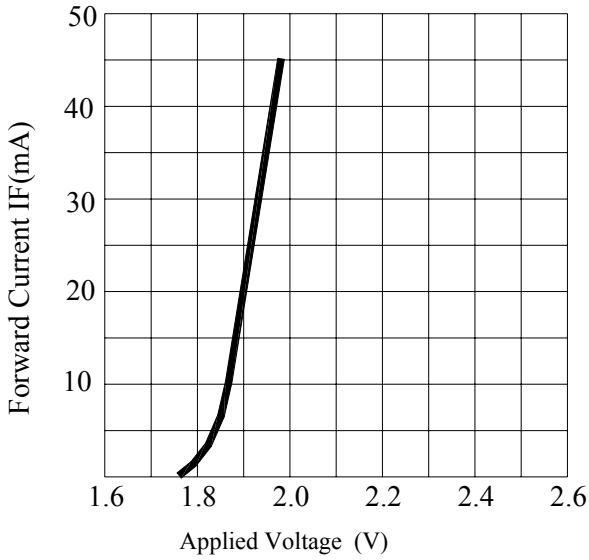
**Electrical and Optical Characteristics:**

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I <sub>v</sub>	I <sub>f</sub> =20mA	622	1050		mcd
Forward Voltage	V <sub>f</sub>	I <sub>f</sub> =20mA		1.9	2.4	V
Peak Wavelength	λ <sub>p</sub>	I <sub>f</sub> =20mA		650		nm
Dominant Wavelength	λ <sub>d</sub>	I <sub>f</sub> =20mA		639		nm
Reverse Current	I <sub>r</sub>	V <sub>r</sub> =5V			100	μA
Viewing Angle	2θ 1/2	I <sub>f</sub> =20mA		36		deg
Spectrum Line Halfwidth	Δλ	I <sub>f</sub> =20mA		20		nm

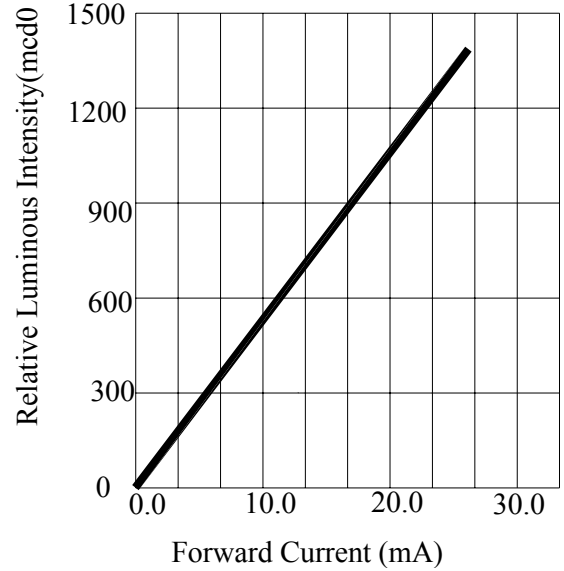
Notes: 1.The datas tested by IS tester.

2. Customer's special requirements are also welcome.

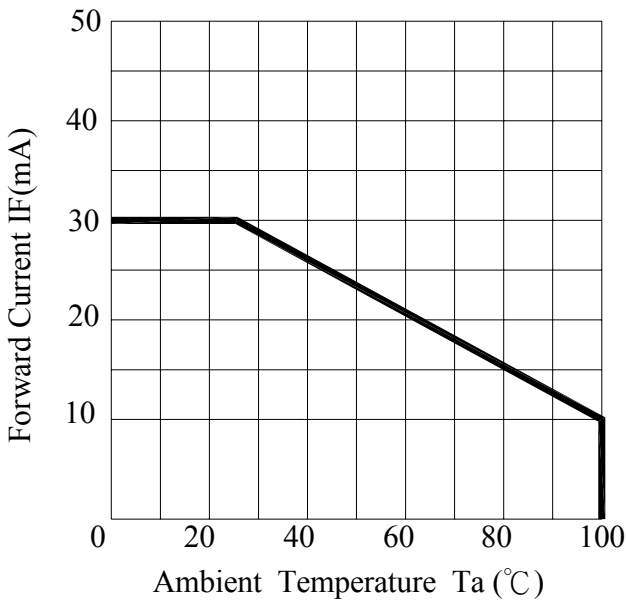
**Typical Electrical/Optical Characteristic Curves**  
**(25°C Ambient Temperature Unless Otherwise Noted)**



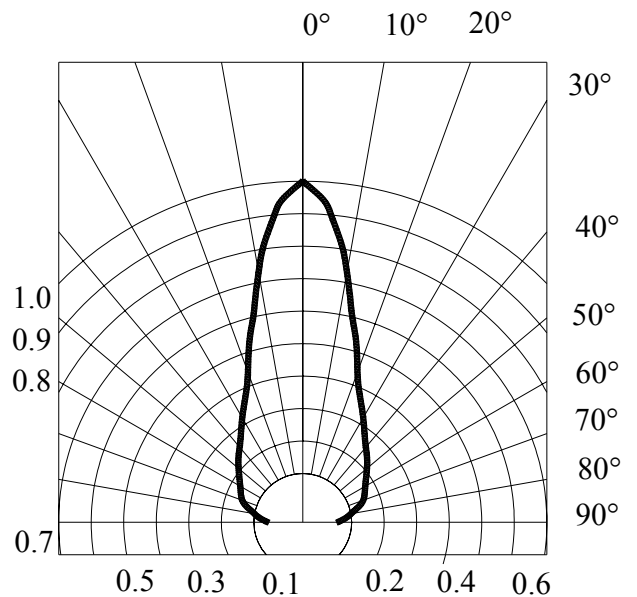
Forward Current VS. Applied Voltage



Forward Current VS. Luminous Intensity



Ambient Temperature VS. Forward Current



Radiation Diagram

## PRECAUTION IN USE

### Storage

Recommended storage environment

Temperature: 5°C ~ 30°C (41°F ~ 86°F)

Humidity: 60% RH Max.

Use within 7 days after opening of sealed vapor/ESD barrier bags.

If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.

Baking treatment : 60±5°C for 24 hours.

Fold the opened bag firmly and keep in dry environment.

### Soldering

Reflow Soldering		
	Lead Solder	Lead – free Solder
Pre-heat	120~150°C	180~200°C
Pre-heat time	120sec. Max.	120sec. Max.
Peak temperature	240°C Max.	260°C Max.
Soldering time	10sec. Max.	10sec. Max.
Condition	refer to Temperature- profile 1	refer to Temperature- profile 2

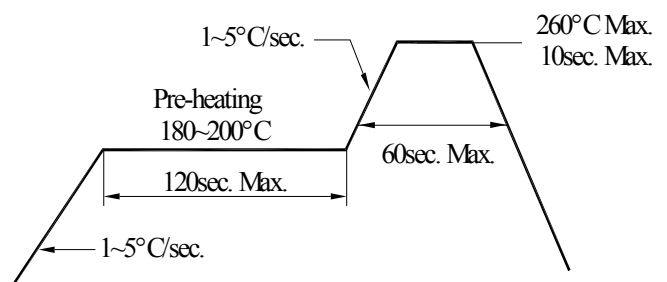
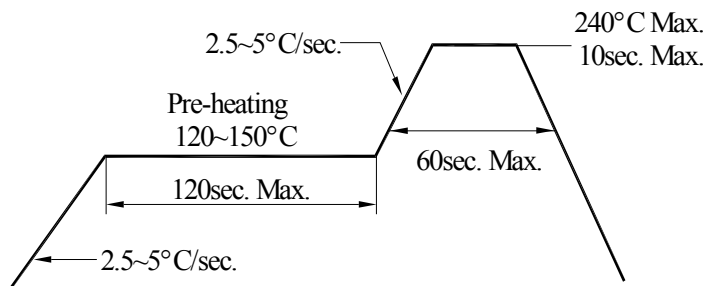
\*After reflow soldering rapid cooling should be avoided.

[Temperature-profile (Surface of circuit board)]

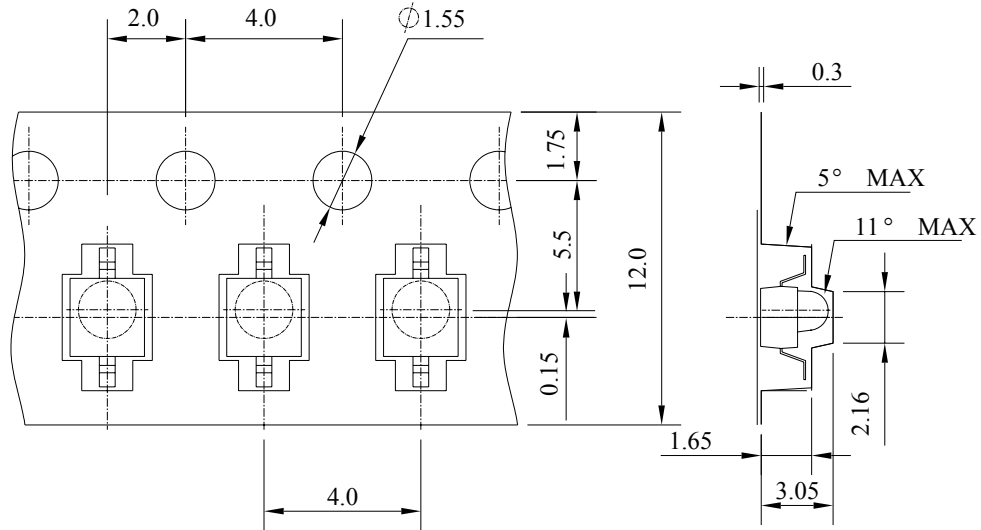
Use the conditions shown to the under figure.

< 1 : Lead Solder >

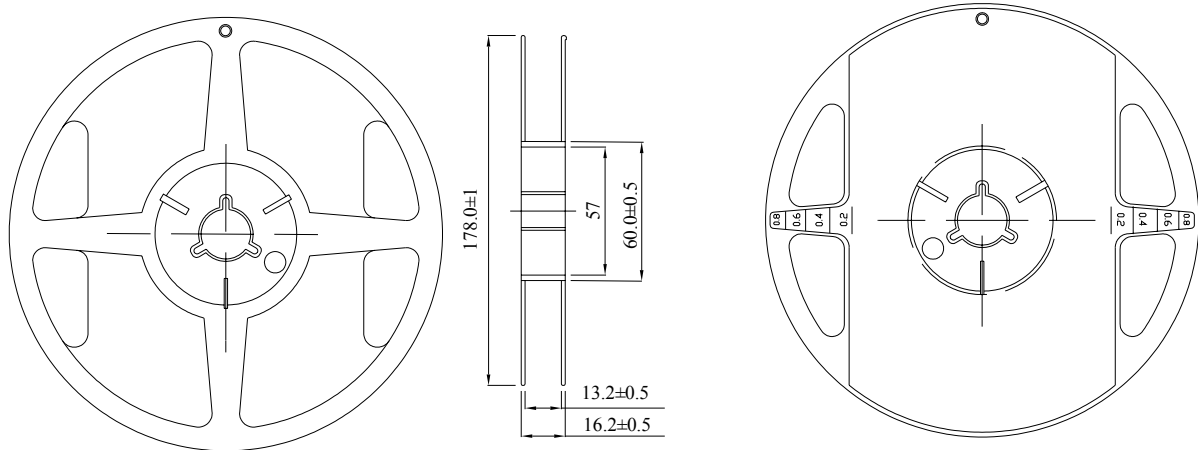
< 2 : Lead-free Solder >



**Dimensions for Tape**



**Dimensions for Reel**



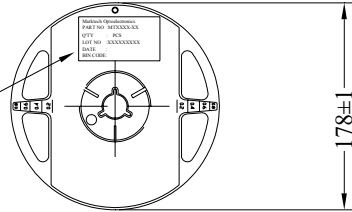
**Notes:**

1. All dimensions are in mm, tolerance is  $\pm 2.0$  mm unless otherwise noted.
2. Specifications are subject to change without notice.

## Packing

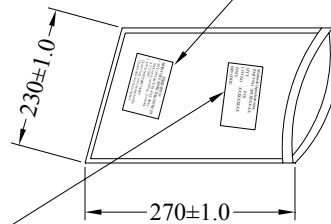
REEL  
QUANTITY: 1,500 PCS

Marktech Optoelectronics.  
PART NO :MTXXXX-XX  
Q'TY : PCS  
LOT NO :XXXXXXXXXX  
DATE :  
BIN CODE:



BAG  
QUANTITY: 1,500 PCS

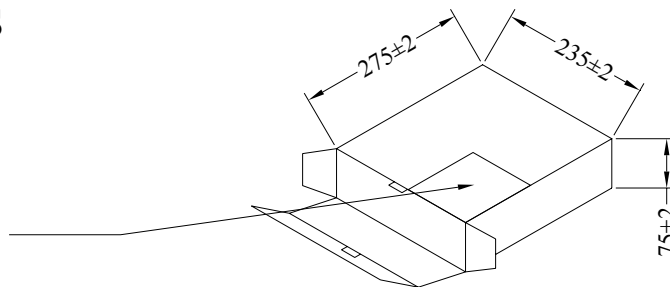
Marktech Optoelectronics.  
PART NO :MTXXXX-XX  
Q'TY : PCS  
LOT NO :XXXXXXXXXX  
DATE :  
BIN CODE:



溼氣敏感材料  
MOISTURE SENSITIVE DEVICES  
1. 在5°C-30°C密封貯藏，1年有效。  
Shelf life in sealed bag : 12 months  
at 5°C-30°C .  
2. 開封後需在168小時內使用。  
Devices have to be mounted within  
168 hours after this bag is opened .

INSIDE BOX  
QUANTITY: 4 BAGS  
TOTAL: 6,000 PCS

Marktech Optoelectronics.  
PART NO :MTXXXX-XX  
Q'TY : PCS  
LOT NO :XXXXXXXXXX  
DATE :  
BIN CODE:



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