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Tollfree:1.800.984.5337
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SPECIFICATION

PART NO. : MTSM6320-UR-A

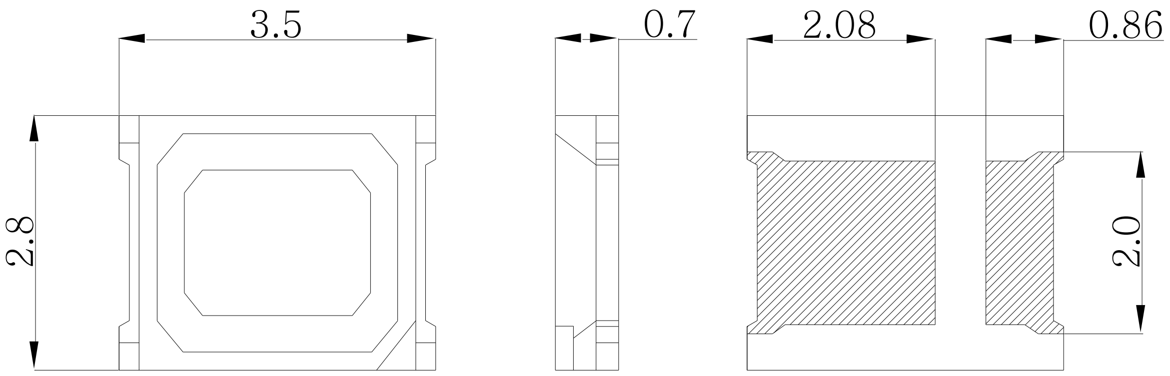
2.8 x 3.5mm SMD TYPE

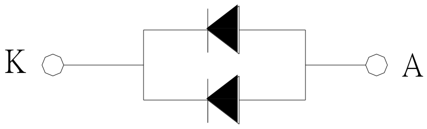
RoHS

ATTENTION

**OBSERVE PRECAUTION
FOR HANDLING
ELECTRO STATIC
SENSITIVE
DEVICES**

Package Dimensions





Notes:

1. All dimensions are in mm.
2. The specifications, characteristics and technical data described in the datasheet are subject to change without notice.
3. Tolerance is ±0.25mm unless otherwise noted.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MTSM6320-UR-A	AlGaInP/GaP	Hyper Red	Water Clear

Absolute Maximum Ratings at Ta=25 ℃

Parameter	Symbol	Rating	Unit
Power Dissipation	P_D	72	mW
Reverse Voltage	V_R	5	V
D.C. Forward Current	If	30	mA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	If(Peak)	80	mA
Operating Temperature Range	Topr.	-40 to +100	℃
Storage Temperature Range	Tstg.	-40 to +100	℃
Soldering Temperature	Tsld.	Reflow Soldering: 260℃ for 10 sec. Hand Soldering: 350℃ for 3 sec.	

Electrical and Optical Characteristics:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	Iv	If=20mA	429	750		mcd
Forward Voltage	Vf	If=20mA		1.9	2.4	V
Peak Wavelength	λp	If=20mA		632		nm
Dominant Wavelength	λd	If=20mA		625		nm
Reverse Current	Ir	Vr=5V			100	μA
Viewing Angle	$2\theta 1/2$	If=20mA		120		deg
Spectrum Line Halfwidth	Δλ	If=20mA		20		nm

Notes:1. Tolerance of Luminous Intensity is ±15%
2. Tolerance of Forward Voltage is ±0.1V
3. Tolerance of Dominant Wavelength is ±1nm
4. Customer’s special requirements are also welcome.

Specifications for Bin Grading:

Iv(mcd)		
BIN	**MIN.**	**MAX.**
Q	429	550
R	550	770
S	770	1100
T	1100	1520
U	1520	Over

Specifications for Vf Group:

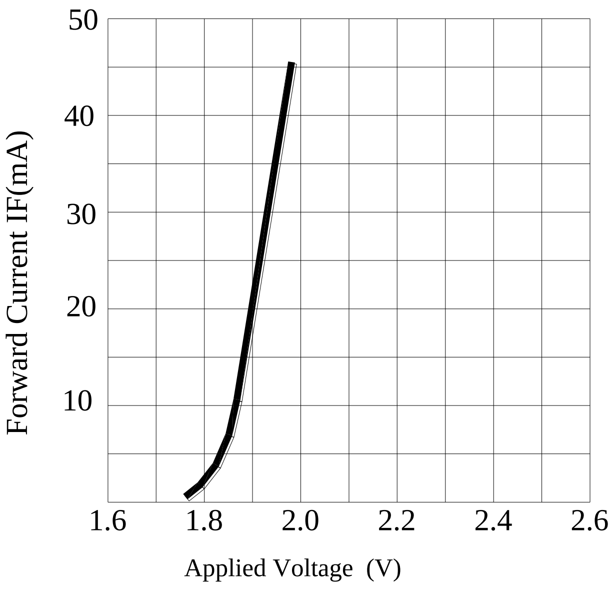
Vf(V)		
Group	**MIN.**	**MAX.**
V1	1.6	1.8
V2	1.8	2.0
V3	2.0	2.2
V4	2.2	2.4

Specifications for Wavelength Group:

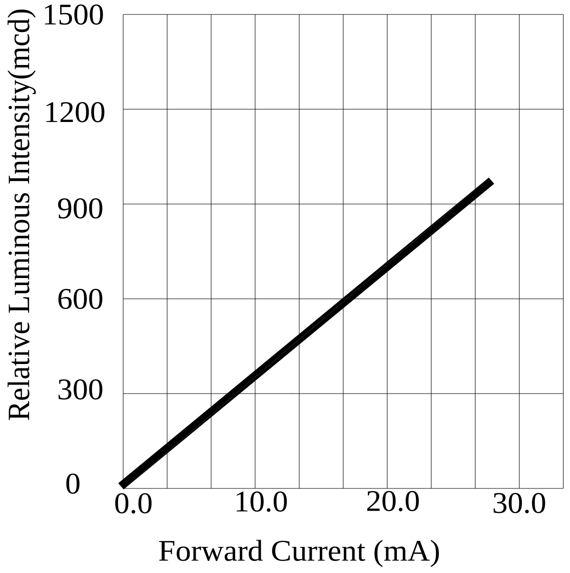
λ d(nm)		
Group	**MIN.**	**MAX.**
X1	618	621
X2	621	624
X3	624	627
X4	627	630

Typical Electrical/Optical Characteristic Curves

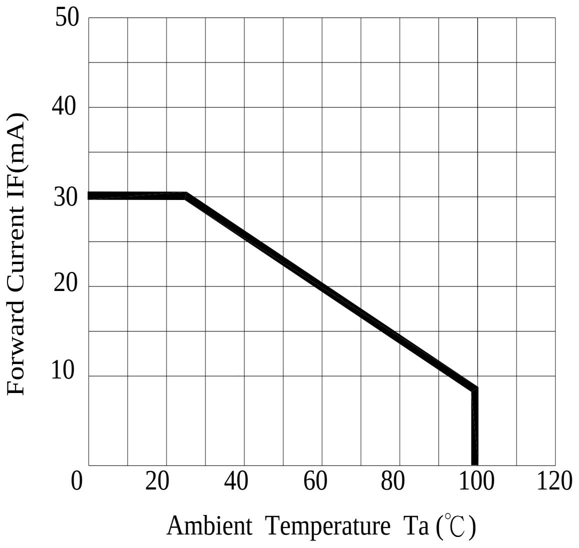
(25℃ Ambient Temperature Unless Otherwise Noted)



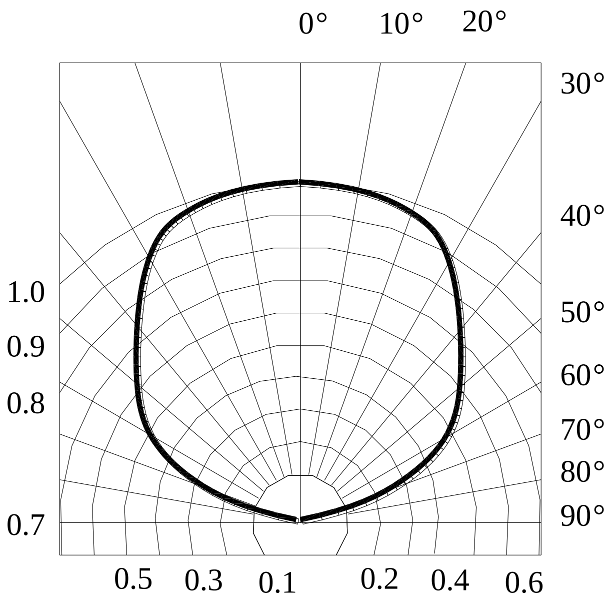
Forward Current VS. Applied Voltage



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.

Moisture measures: Please refer to Moisture-sensitive label on reels package bags.

If unused LEDs remain, they should be stored in moisture proof packages, such as sealed container with packages of moisture absorbent material (silica gel). It is also recommended to return the LEDs to the original moisture proof bag and to reseal the moisture proof bag again.

Fold the opened bag firmly and keep in dry environment.

Soldering

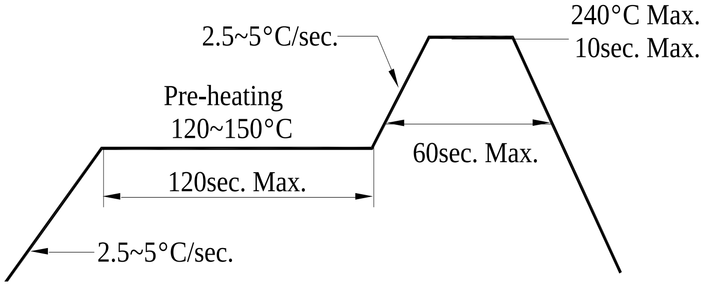
Reflow Soldering			Hand Soldering	
	Lead Solder	Lead – free Solder		
Pre-heat	120~150℃	180~200℃	Temperature	350℃ Max.
Pre-heat time	120sec. Max.	120sec. Max.	Soldering time	3sec. Max. (one time only)
Peak temperature	240℃ Max.	260℃ Max.		
Soldering time	10sec. Max.	10sec. Max.		
Condition	refer to Temperature-profile 1	refer to Temperature-profile 2		

***After reflow soldering rapid cooling should be avoided.**

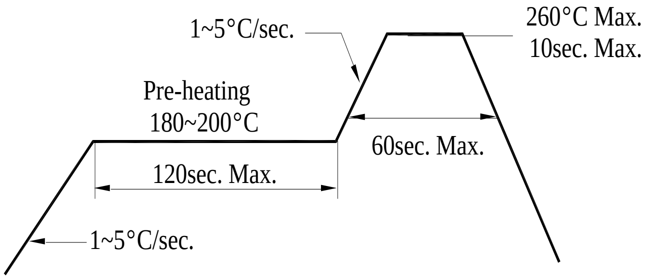
[Temperature-profile (Surface of circuit board)]

Use the conditions shown to the under figure.

＜1 : Lead Solder＞

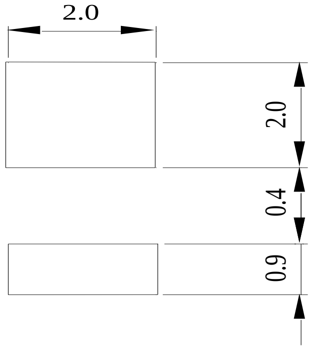


＜2 : Lead-free Solder＞



[Recommended soldering pad design]

Use the following conditions shown in the figure.



(UNIT:mm)

Handling of Silicone Resin LEDs

Handling Indications

During processing, mechanical stress on the surface should be minimized as much as possible. Sharp objects of all types should not be used to pierce the sealing compound

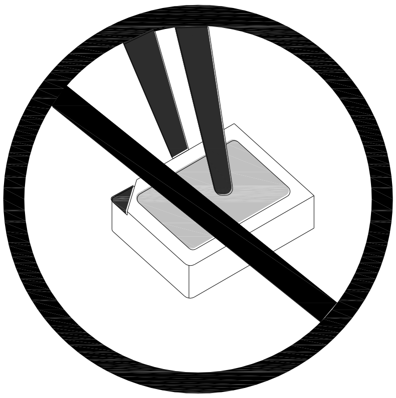


Figure 1

In general, LEDs should only be handled from the side. By the way, this also applies to LEDs without a silicone sealant, since the surface can also become scratched.

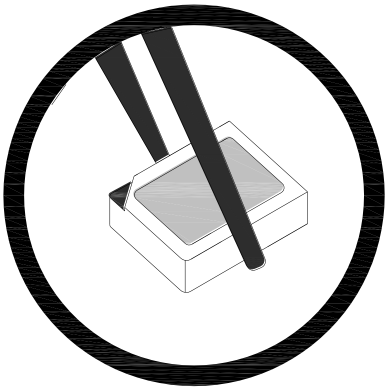


Figure 2

When populating boards in SMT production, there are basically no restrictions regarding the form of the pick and place nozzle, except that mechanical pressure on the surface of the resin must be prevented.

This is assured by choosing a pick and place nozzle which is larger than the LED's reflector area.