

SML-LX2214SYC-TR

Mini Top View LEDs



Features

Lead (Pb) Free Product - RoHS Compliant

- P-LCC-2 package.
- Colored clear resin.
- Wide viewing angle 120°.
- Inner reflector and white package.
- Qualification according to AEC-Q101 rev C.
- Precondition: Bases on JEDEC J-STD 020D Level 3.
- Automotive reflow profile (IR reflow or wave soldering)
- Compliance with EU REACH.

Applications

- Automotive backlighting or indicator: Interior and exterior lighting, Dashboard, switch, reading lamp, audio and video equipments...etc.
- Backlight: LCD, switches, symbol, mobile phone and illuminated advertising.
- Display for indoor and outdoor application.
- Ideal for coupling into light guides.
- Substitution of traditional light.
- General applications.
- Optical indicator.

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Device Selection Guide

Chip Materials	Emitted Color	Resin Color
AlGaInP	Brilliant Yellow	Water Clear

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	VR	10	V
Forward Current	I _F	70	mA
Peak Forward Current (Duty 1/10 @1KHz)	I _{FP}	100	mA
Power Dissipation	Pd	185	mW
Junction Temperature	T _j	125	°C
Operating Temperature	T _{opr}	-40 ~ +100	°C
Storage Temperature	T _{stg}	-40 ~ +110	°C
Thermal Resistance	Rth _{J-A}	400	K/W
	Rth _{J-S}	180	K/W
ESD (Classification acc. AEC Q101)	ESD _{HBM}	2000	V
	ESD _{MM}	200	V
Soldering Temperature	T _{sol}	Reflow Soldering : 260 °C for 30 sec. Hand Soldering : 350 °C for 3 sec.	

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Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	560	---	1400	mcd	I _F = 20mA
Viewing Angle	2θ _{1/2}	---	120	---	deg	
Dominant Wavelength	λ _d	585	---	594	nm	
Forward Voltage	V _F	1.7	---	2.6	V	V _R = 10V
Reverse Current	I _R	---	---	10	μA	

Note:

1. Tolerance of Luminous Intensity: ±11%
2. Tolerance of Dominant Wavelength : ±1nm
3. Tolerance of Forward Voltage: ±0.1V

Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
U2	560	710	mcd	I _F = 20mA
V1	710	900		
V2	900	1120		
AA	1120	1400		

Bin Range of Dominant Wavelength

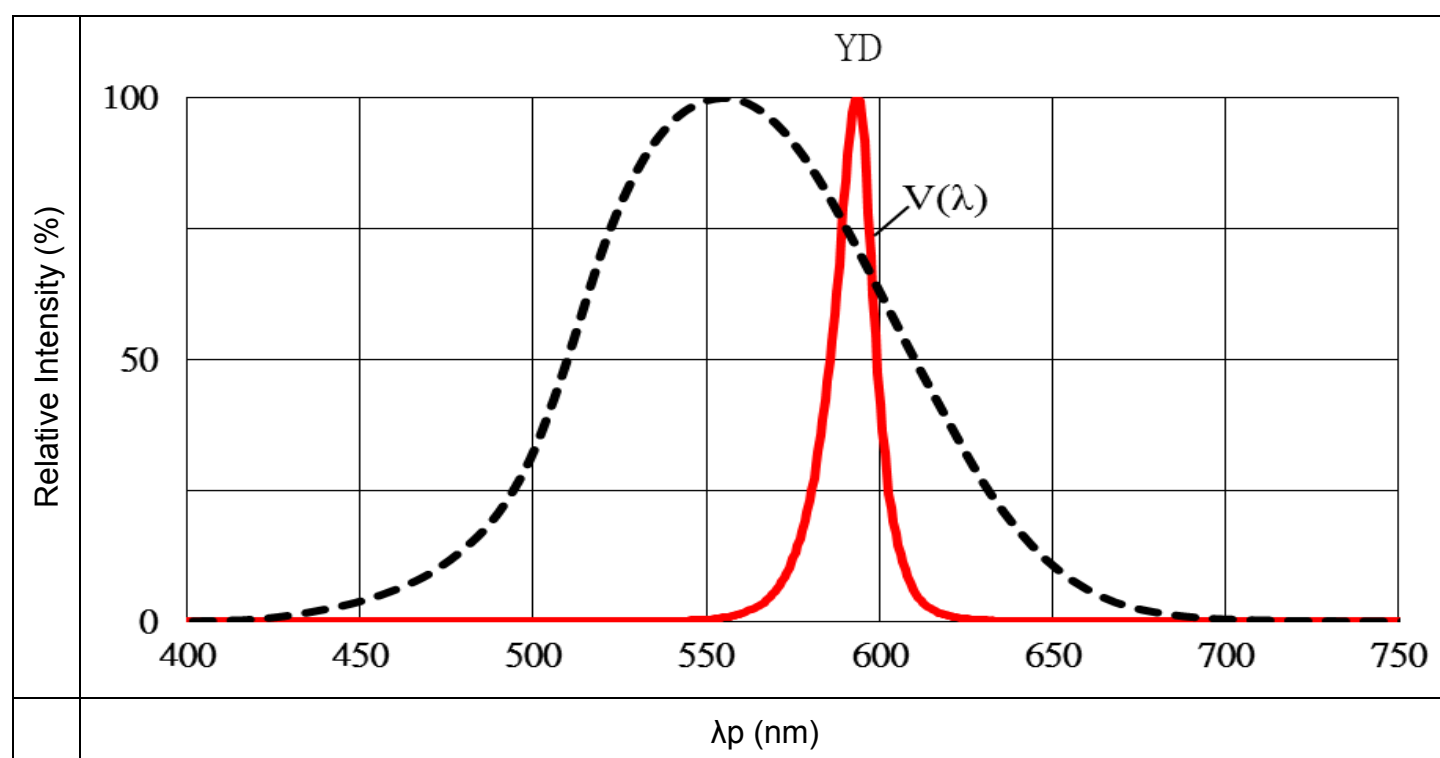
Group	Bin Code	Min.	Max.	Unit	Condition
ER	ER-1	585	589	nm	I _F = 20mA
	ER-2	589	594		

Bin Range of Forward Voltage

Group	Bin Code	Min.	Max.	Unit	Condition
C1	---	1.70	2.60	V	I _F = 50mA

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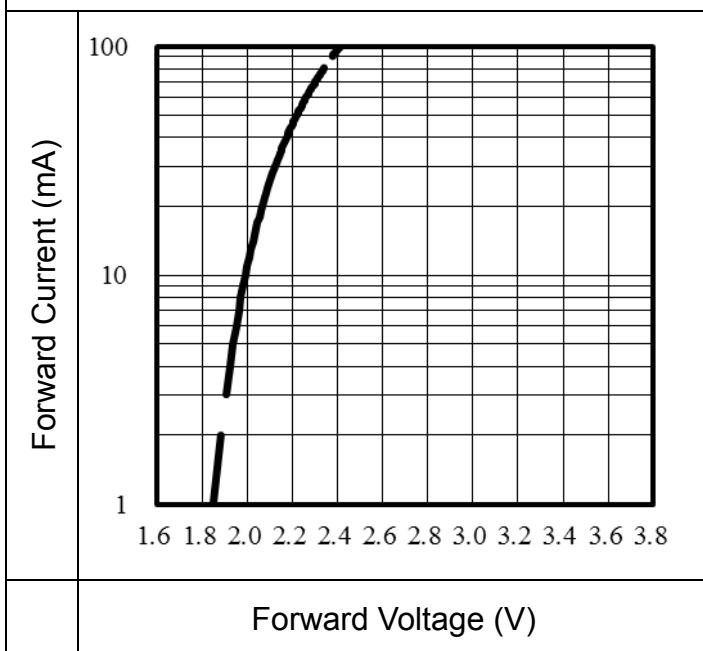
Typical Electro-Optical Characteristics Curves(Ta=25℃)
 Typical Curve of Spectral Distribution



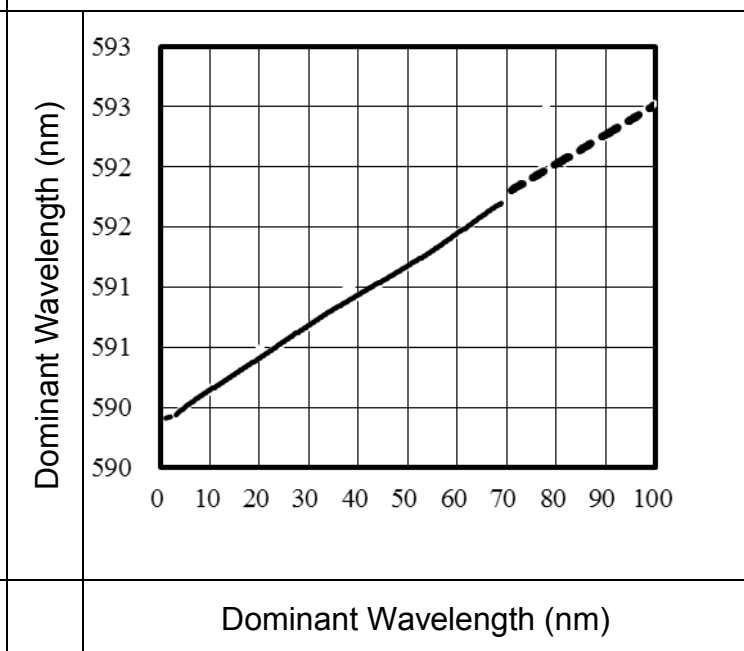
Note: $V(\lambda)$ =Standard eye response curve;

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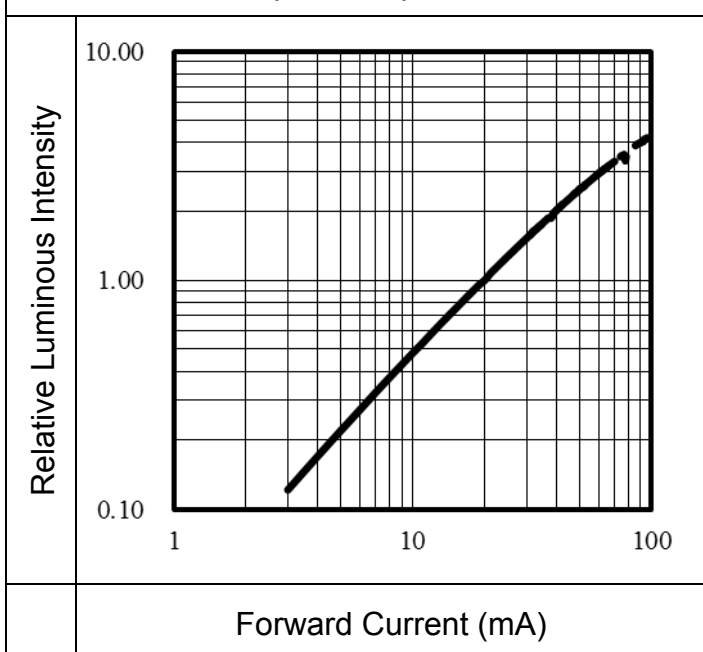
Forward Current vs. Forward Voltage
(Ta=25°C)



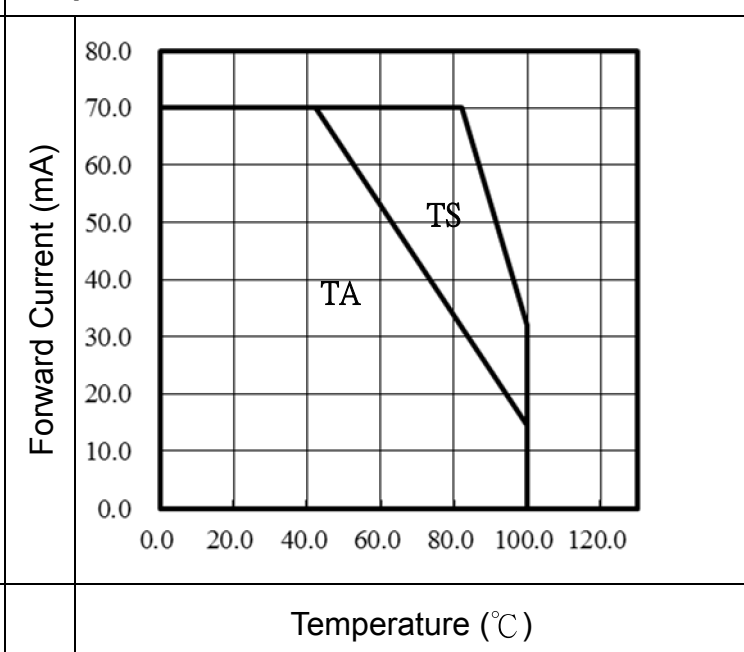
Dominant Wavelength vs. Forward Current
(Ta=25°C)



Relative Luminous Intensity vs. Forward Current
(Ta=25°C)

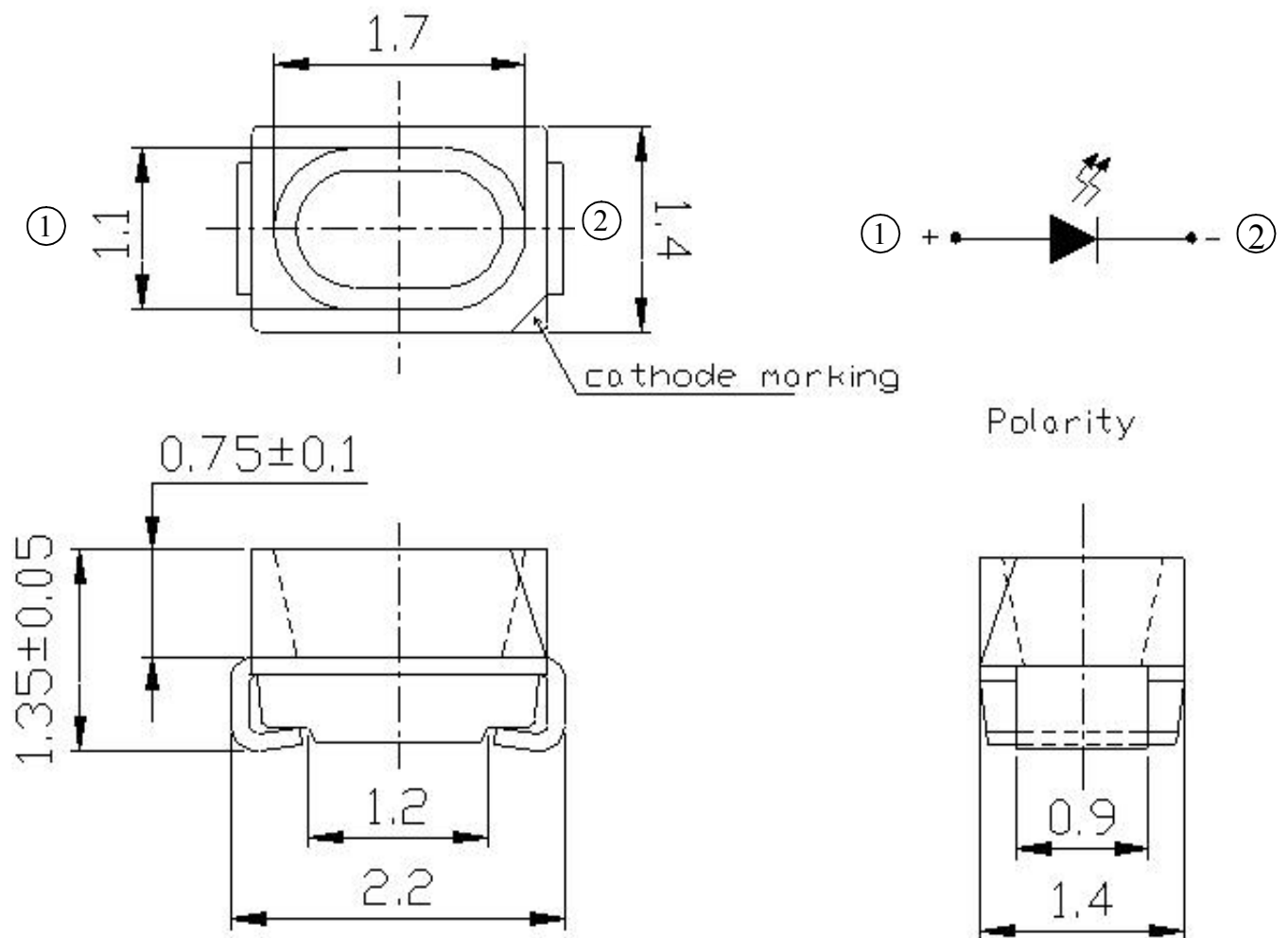


Forward current vs. Ambient and Solder Temperature



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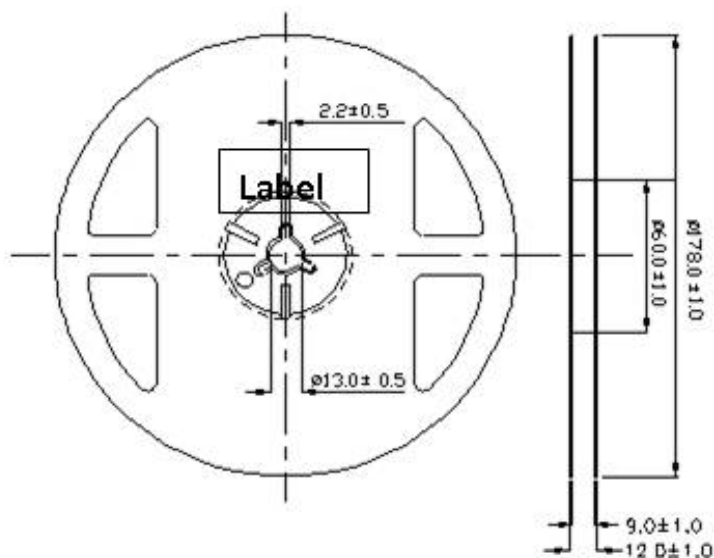
Package Dimension



Note: Tolerances unless mentioned ±0.1mm. Unit = mm

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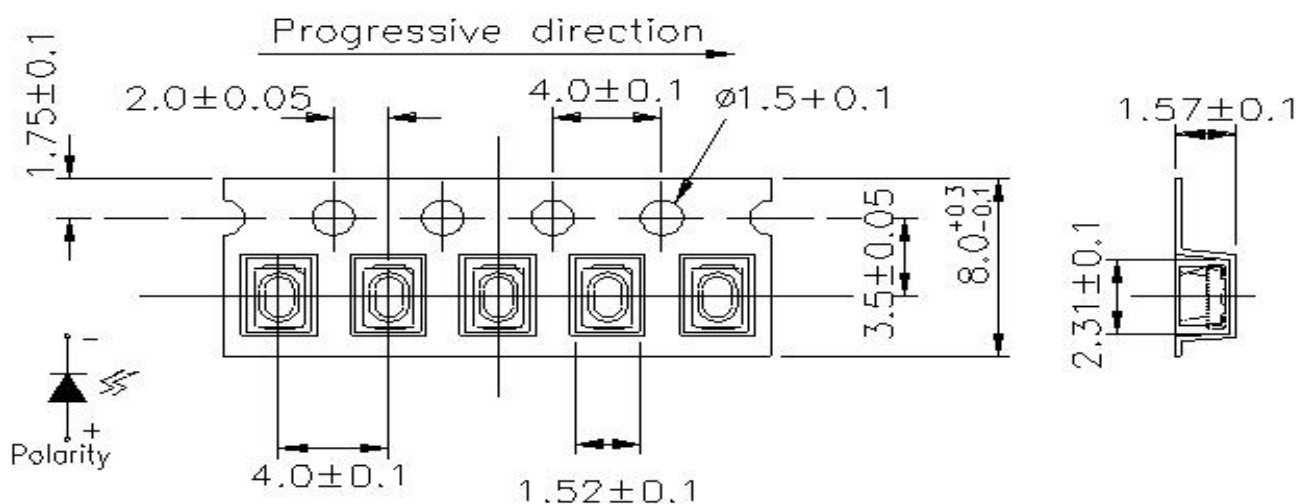
Reel Dimensions



Note: Tolerances unless mentioned ± 0.1 mm. Unit = mm

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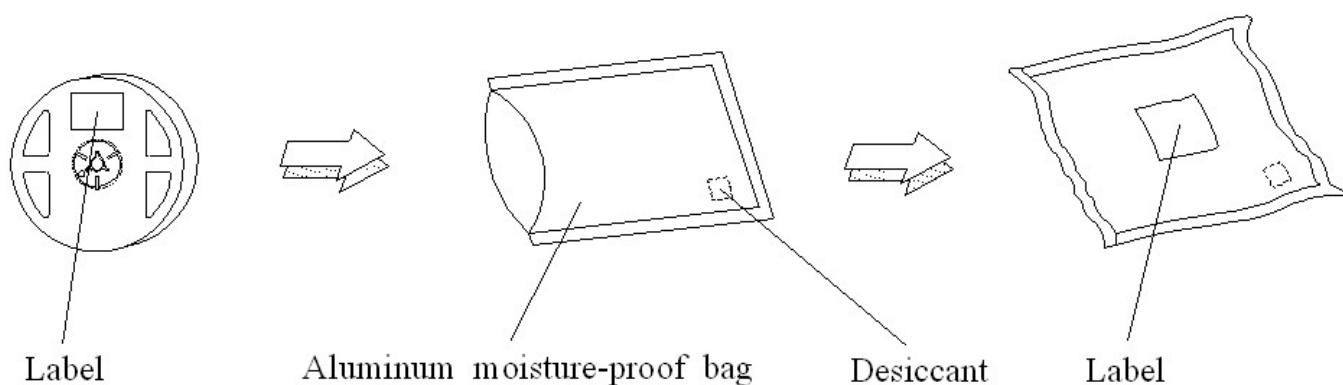
Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel



Note:

1. Tolerances unless mentioned ± 0.1 mm. Unit = mm
2. Minimum packing amount is 250/500/1000 pcs per reel

Moisture Resistant Packing Process



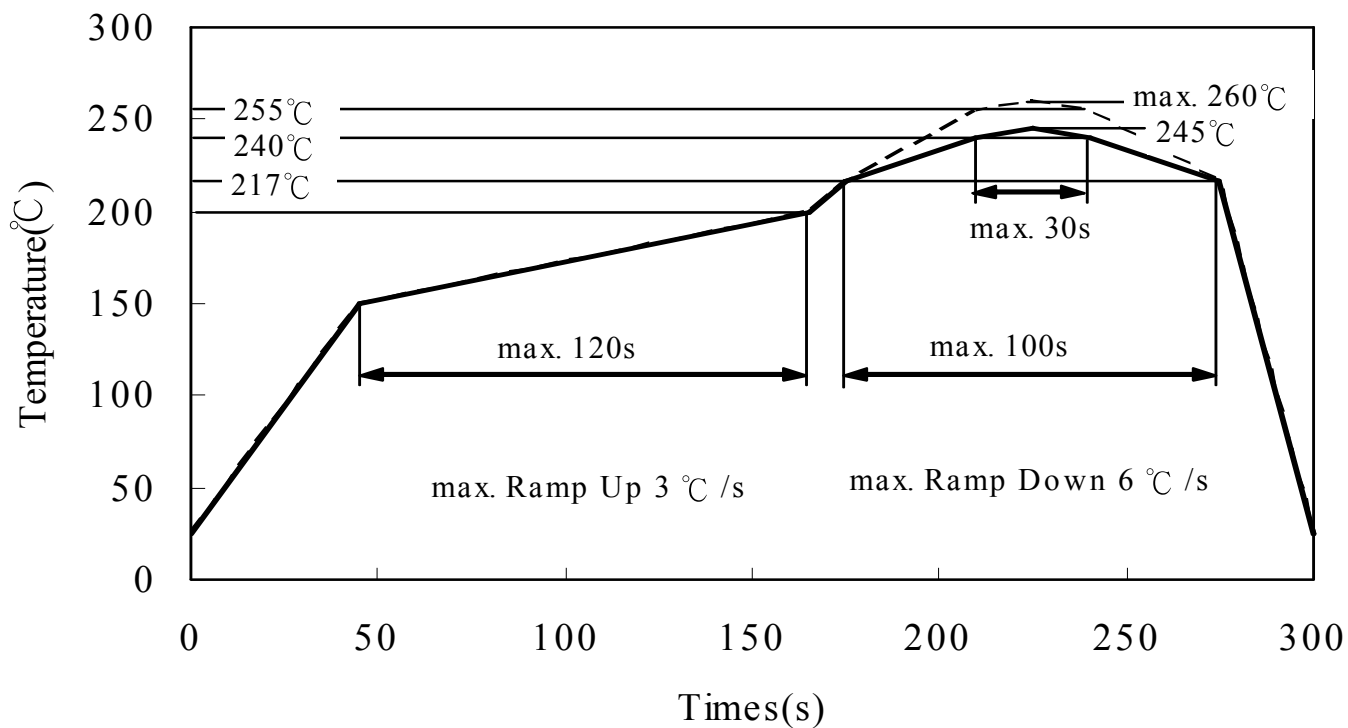
Note: Tolerances unless mentioned ± 0.1 mm. Unit = mm

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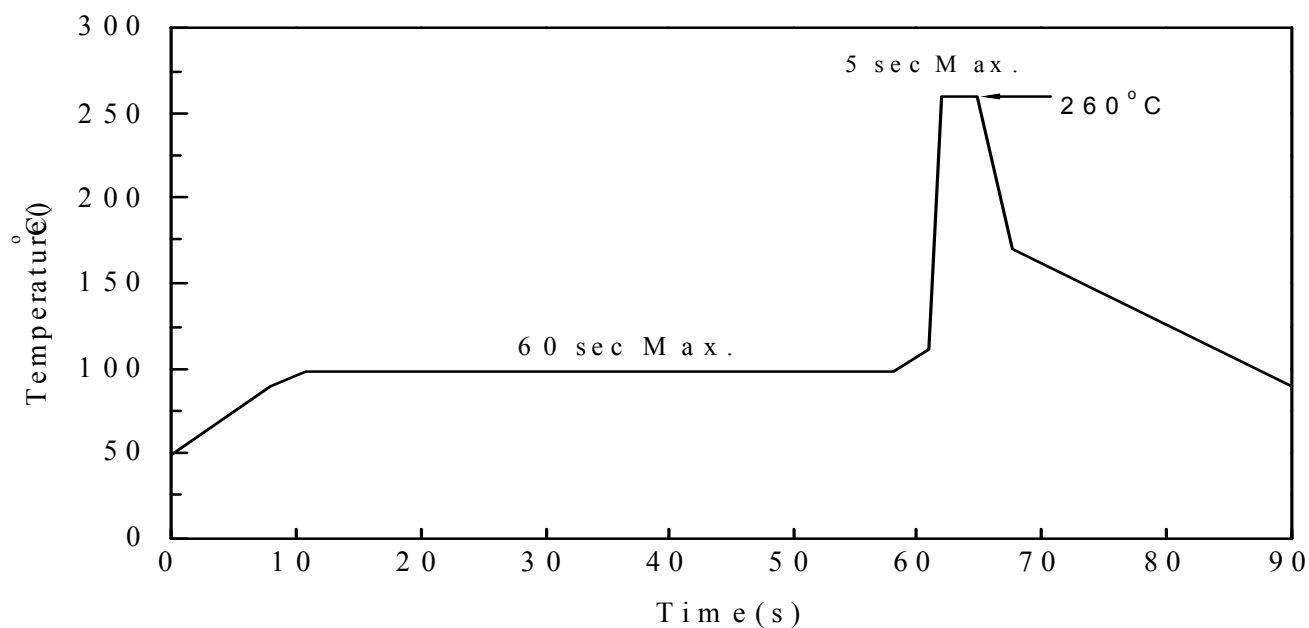
Precautions for Use

1. Soldering Condition (Reference: IPC/JEDEC J-STD-020D)

a. IR reflow

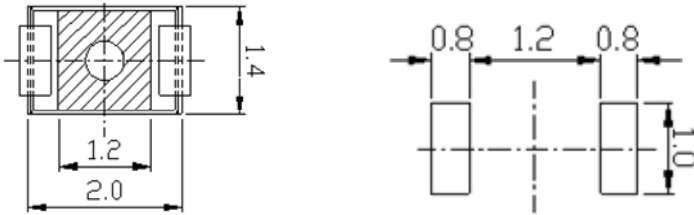


b. Wave soldering reflow



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(B) Recommend soldering pad



Note: Tolerances unless mentioned $\pm 0.1\text{mm}$. Unit = mm

2. Current limiting

A resistor should be used to limit current spikes that can be caused by voltage fluctuations. Otherwise damage could occur.

3. Storage

- 3.1 Moisture proof bag should only be opened immediately prior to usage.
- 3.2 Environment should be less than 30°C and 60% RH when moisture proof bag is opened.
- 3.3 After opening the package MSL Conditions stated on page 1 of this spec should not be exceeded.
- 3.4 If the moisture sensitivity card indicates higher than acceptable moisture, the component should be baked at min. 60°deg $\pm 5^{\circ}\text{deg}$ for 24 hours.

4. Iron Soldering

Hand soldering is not recommended for regular production. These guidelines are for rework only. Soldering iron tip should contact each terminal no more than 3 sec at 350°C , using soldering iron with nominal power less than 25W. Allow min. 2 sec. between soldering intervals.

5. Usage

Do not exceed the values given in this specification.

Application Restrictions

High reliability applications such as military/aerospace, automotive safety/security systems, and medical equipment may require different product. If you have any concerns, please contact us before using this product in your application. This specification guarantees the quality and performance of the product as an individual component. Do not use this product beyond the specification described in this document.