SPECIFICATION FOR APPROVAL

CUSTOMER'S APPROVAL CHOP
Approval's condition: _____
Approved date: _____

KINDLY RETURN A SET WITH YOUR COMPANY'S OFFICIAL STAMP ON APPROVAL OF THIS ITEM

CUSTOMER'S NAME:	
CUSTOMER'S MODEL NO. :	
CUSTOMER'S PART NO. :	
DESCRIPTION:	**5G n77 15.9mm DR Filter**
Semitel'S MODEL NO. :	**SE8R3850B300_15.9_078**
VERSION:	**02**
DATE:	**2025/9/1**

Attachments:

- ☐ Product specification
- ☐ Sample Qty.:
- ☐ Test data

Prepared By	Checked By	Approved By
Hebe Deng 2025/9/1	Liang Wong 2025/9/1	Eric Chang 2025/9/1

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Revision Record

Version	Revision Date	Revision For Items	Reason For Revision
01	2025/6/10	New Revision	-
02	2025/9/1	1. Correct the n79 ceramic size from 15.9mm*3.5mm into 15.9mm*2.7mm. 2. In "4. Recommended PC Board Pattern", distance of shielding center to baseline is corrected from 1.15mm into 1.05mm. 3. Add new n77, n77us ceramic size 15.9mm*5.0mm, add n48+n77 part 4. Add "part positioning line" 5. In "4. Recommended PC Board Pattern", add a 0.5mm wide rectangle with blue outline to represent the area shielding will be positioned (±0.15mm tolerance) 6. In "4. Recommended PC Board Pattern", modified the recommended solder paste width from 0.4mm into 0.5mm to suit the area shielding will be positioned 7. Add dimension codes 8. Add dimension "A" (length of shielding) 9. The tolerance of dimension "D" is tightened from ±0.30mm into ±0.15mm 10. Add dimension "E" (distance of shielding center to baseline) 11. Add dimension "G" (width of ceramic) 12. Add 2 red dots to indicate the red glue for preventing shielding displacement during reflow 13. From the top view, mark the ceramic area not covered by shielding with shading	Update informations

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1.FEATURES

- Small Size, Light weight
- SMT package soldering
- Ideal for Microwave telecommunication

2.SPECIFICATIONS

ELECTRICAL SPECIFICATIONS			
NO.	ITEM	SPEC	UNIT
1	Center Frequency [fo]	3850	MHz
2	Bandwidth [BW]	fo ±150[3700~4000]	MHz
3	Insertion in BW	1.8 max.@25℃	dB
		2.0max.@-40℃ to +105℃	dB
4	Ripple in BW	1.5 max.	dB
5	Return Loss in BW（S11，S22）	15 min.	dB
6	In/Out Impedance	50	Ω
7	Attenuation[Absolute Value]	25 min. @ DC~3640 MHz	dB
		25 min. @ 3660~5500 MHz	dB
8	Operation Temperature Range	-40℃ to +105℃	
9	Input Power	10W	

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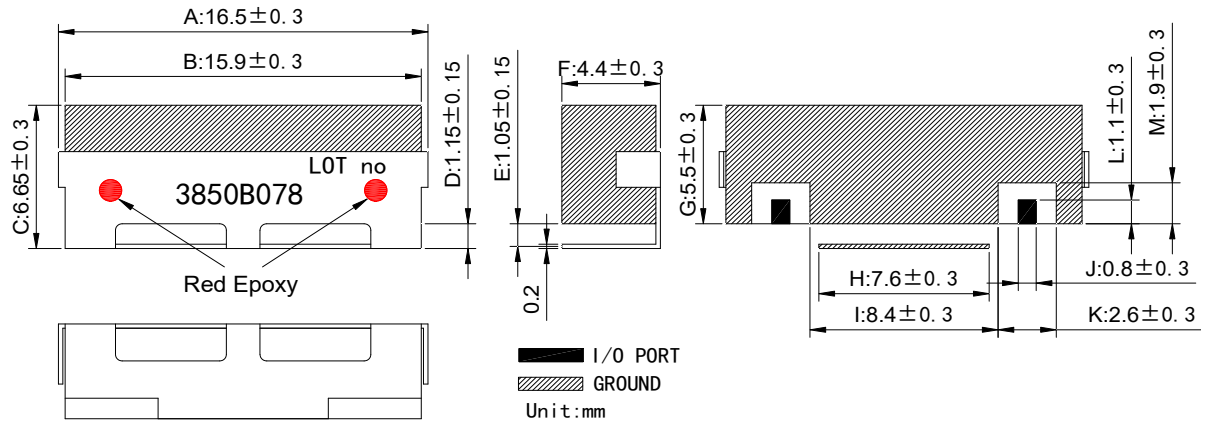
3.OUTLINE DRAWING

3.1. Filter drawing

3.2. P/N SE8R3850B300_15.9_078 Marking information as (marking showing 3850Bxxx, xxx=001~999 mean for project series code.)



Notes：

(1), A : Length of shielding

(2), B : Length of ceramic

(3), C : Width of product

(4), D : Side of ceramic to outer side of shielding terminal distance

(5), E : Side of ceramic to center of shielding terminal

(6), F : Height of product

(7), G : Width of ceramic

(8), H : Length of shielding terminal contacting to PCB

(9), I : Length of ceramic ground between I/O pins

(10), J : Width of I/O pins

(11), K : Width of product clearance area

(12), L: Length of I/O pins

(13), M : Length of product clearance area

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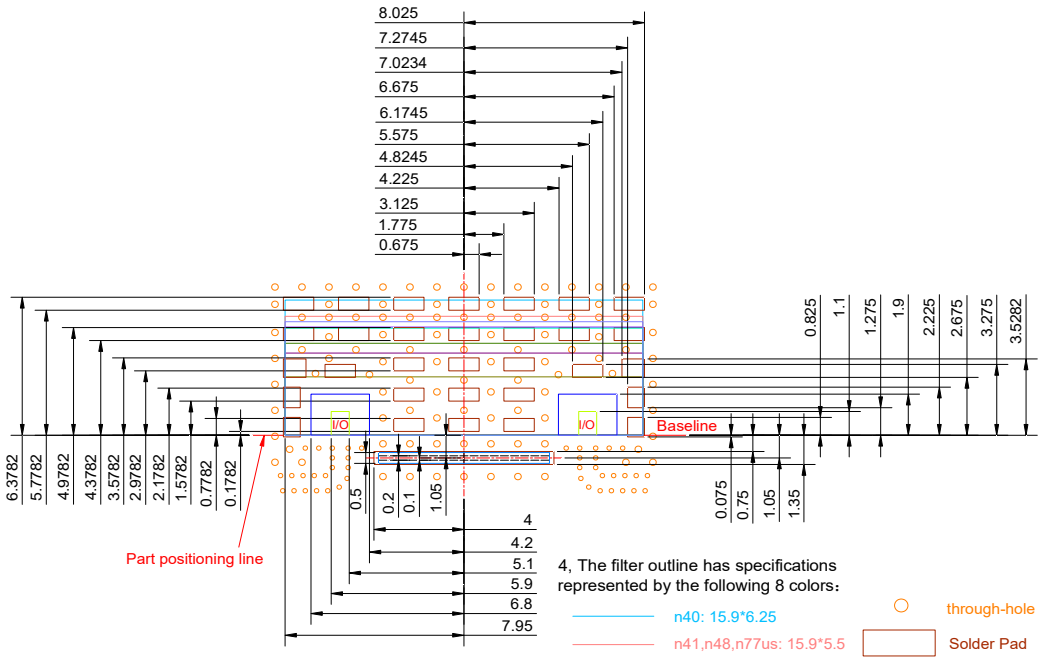
4.RECOMMENDED PC BOARD PATTERN

4.1. multi-band reference layout pad



1,Microstrip lines need to be designed according to 50Ω based on the board information.
2,Recommended the distance between the input/output PAD reference ground and the surface layer be greater than 0.5mm.
3,Suggested thickness of solder mask green oil is 0.15~0.2mm.

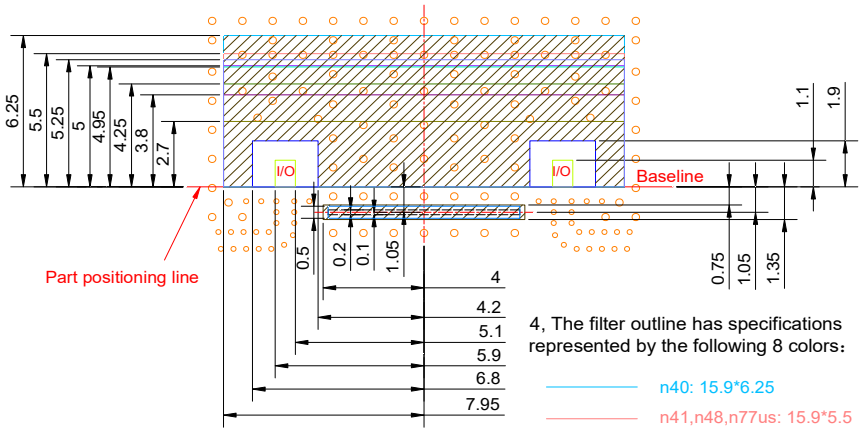
4, The filter outline has specifications represented by the following 8 colors:

- n40: 15.9*6.25
- n41,n48,n77us: 15.9*5.5
- n77us : 15.9*5.25
- n77,n77us,n48+n77 : 15.9*5.0
- n77us: 15.9*4.95
- n79: 15.9*4.25
- n78: 15.9*3.8
- n79: 15.9*2.7

- through-hole
- Solder Pad
- Clear zone
- I/O port
- Shield case
- Shield case tolerance ± 0.15mm

unit:mm

4.2. multi-bands bottom view



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- n78: 15.9*3.8
- n79: 15.9*2.7

- through-hole
- GND Pad
- Clear zone
- I/O port
- Shield case
- Shield case tolerance ± 0.15mm

unit:mm

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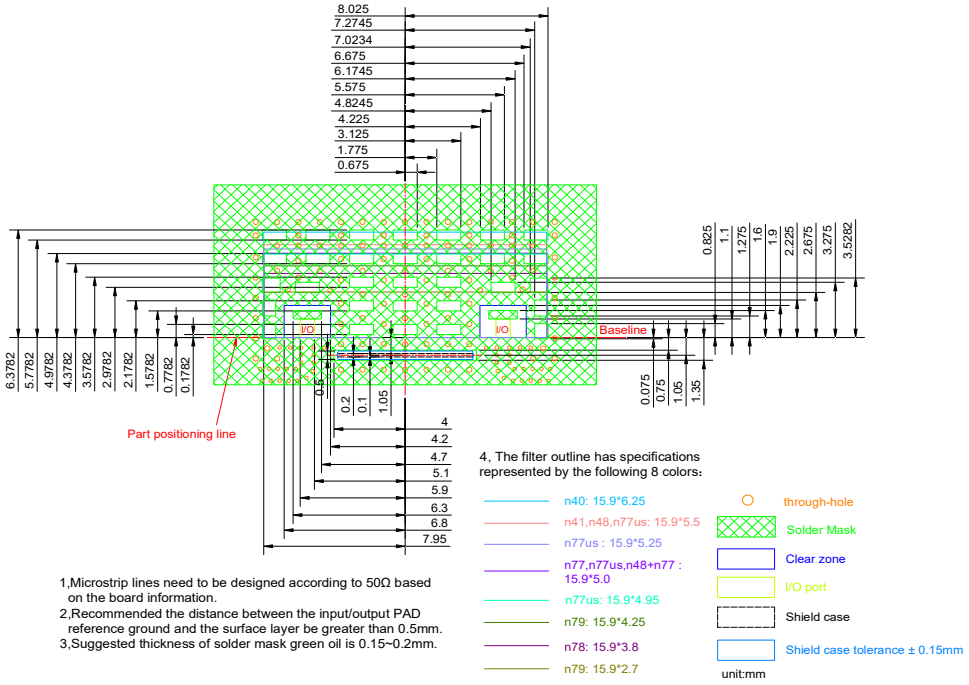
4.3. multi-bands solder mask



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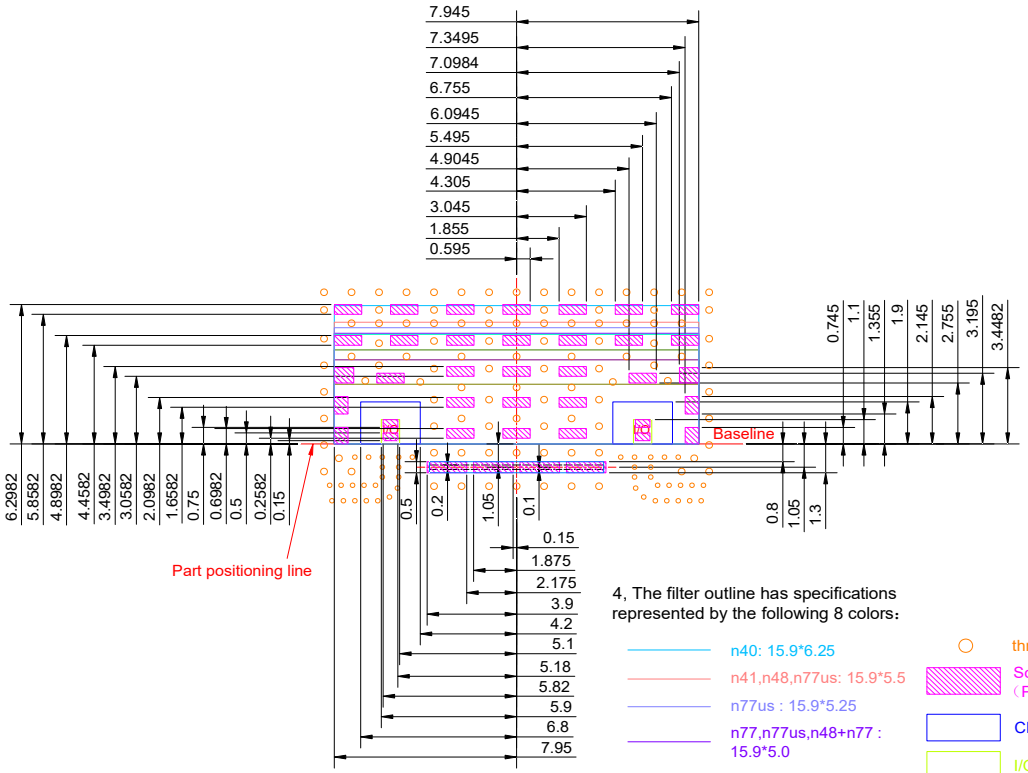
- n79: 15.9*4.25
- n78: 15.9*3.8
- n79: 15.9*2.7

- through-hole
- Solder Mask
- Clear zone
- I/O port
- Shield case
- Shield case tolerance ± 0.15mm

unit:mm

4.4. multi- bands solder paste



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- n79: 15.9*4.25
- n78: 15.9*3.8
- n79: 15.9*2.7

- through-hole
- Solder Paste （PCB steel mesh）
- Clear zone
- I/O port
- Shield case
- Shield case tolerance ± 0.15mm

unit:mm

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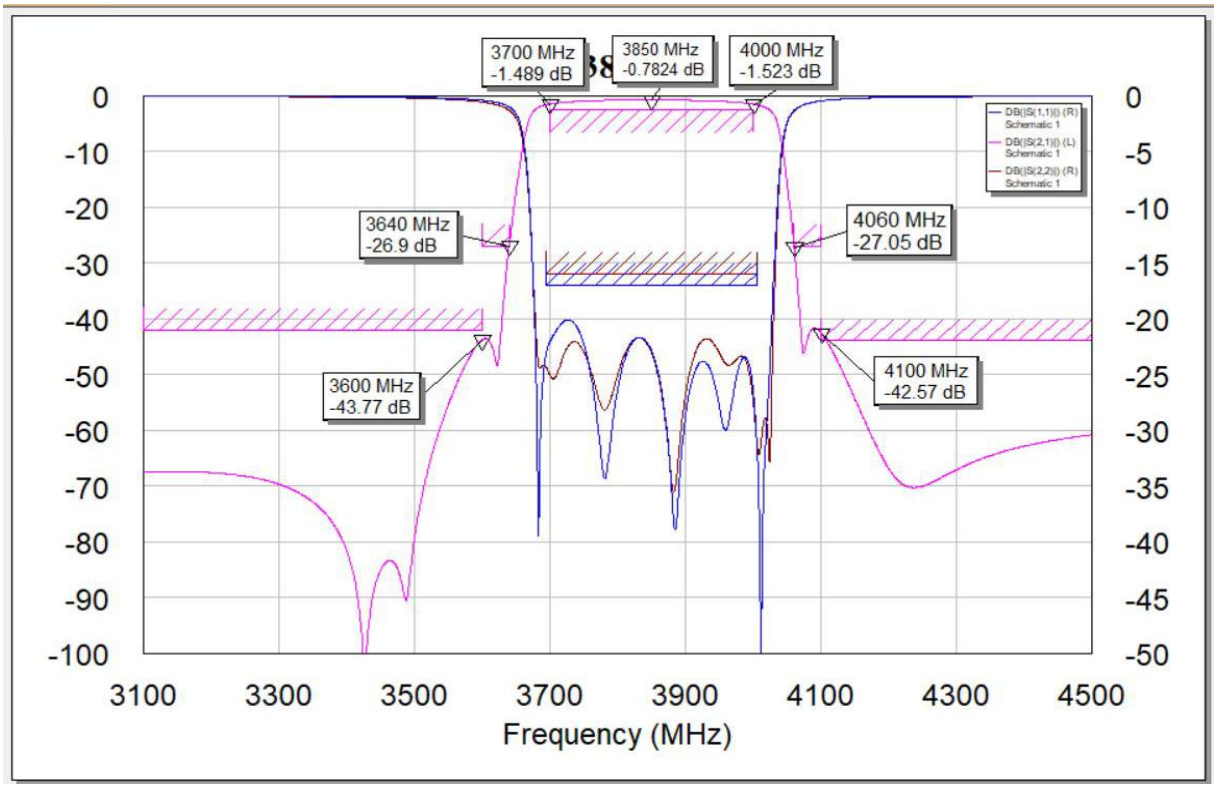
5.FREQUENCY RESPONSE



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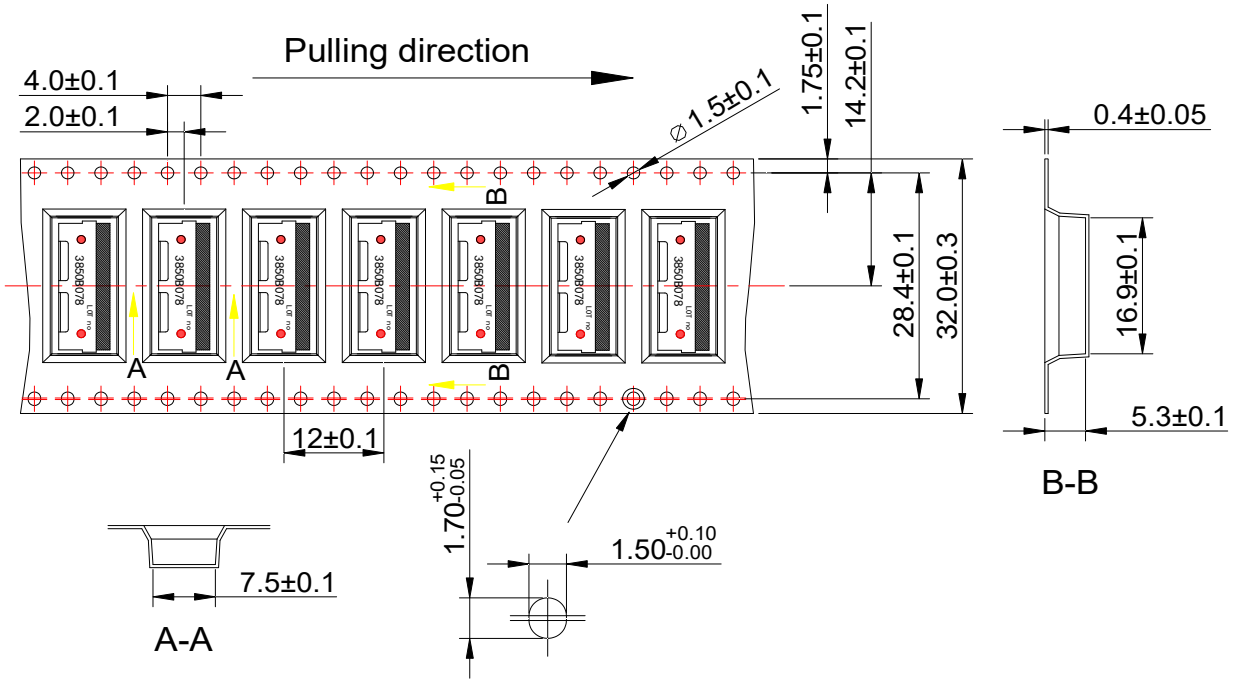
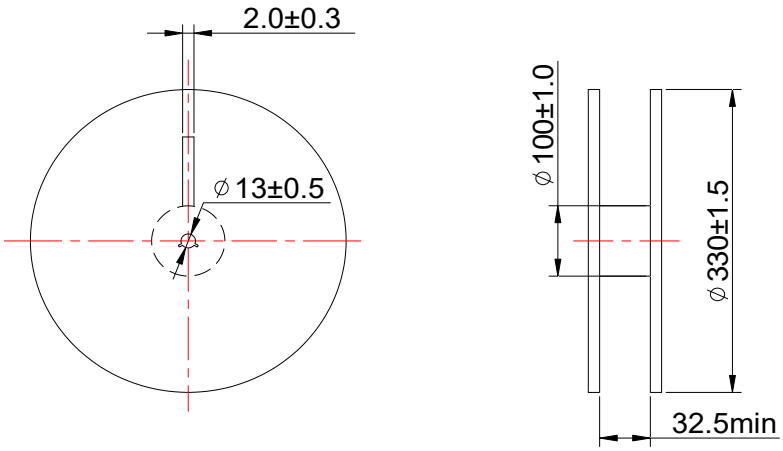
6.Tape and Reel Dimension

6.1. Quantity per reel:500pcs

6.2. Taping Dimension (Unit:mm)



6.3. Reel Dimension (Unit:mm)



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7.Environmental Test

7.1. Vibration Resist

The device should satisfy the electrical characteristics after applied to the vibration of 10 to 55Hz with amplitude of 1.5mm for 2 hours each in X, Y and Z directions.

7.2. Steady Damp Heat Test

The device should satisfy the electrical characteristics after exposed to the temperature 40±2℃ and the relative humidity 90~95% RH for 96 hours and 1~2 hours recovery time under normal condition.

7.3. High Temperature Storage

The device should satisfy the electrical characteristics after exposed to temperature 85±5℃ for 96±2 hours and 1~2 hours recovery time under normal temperature.

7.4. Low Temperature Storage

The device should also satisfy the electrical characteristics after exposed to the temperature 40 ℃±5℃ for 96±2 hours and to 2 hours recovery time under normal temperature.

7.5. Thermal Shock

The device should also satisfy the electrical characteristics after exposed to the low temperature -40℃ and high temperature +85℃ for 30±2 min each by 5 cycles and 1 to 2 hours recovery time under normal temperature.

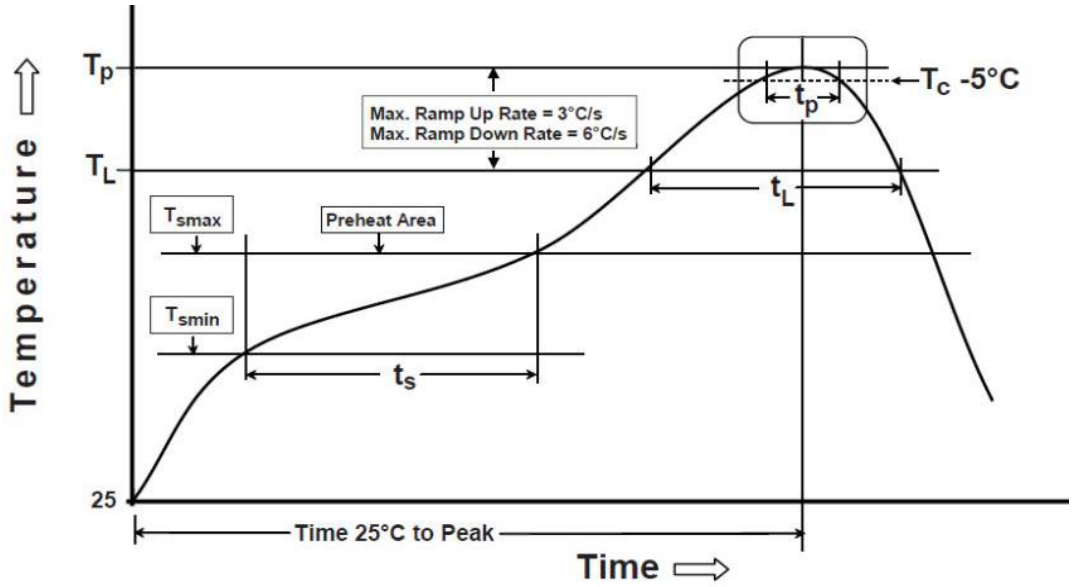
8.NOTICE

8.1. RoHS 2.0

8.2. MSL-1

8.3. Reflow temperature recommendation

Profile feature		Pb-Free Assembly(SnAgCu)
PREHEAT	Temperature Min(Tsmin) Temperature Max(Tsmax) Time(ts) (from Tsmin to Tsmax)	150°C 200°C 60-120 seconds
RAMP-UP	Ramp-up rate (TL to TP)	3 °C/second max.
REFLOW	Liquidus Temperature(TL) Total Time maintained above TL (t L)	217°C 30-100 seconds
PEAK	Temperature(TP) Time (tp)	250°C 25 seconds
RAMP-DOWN	Ramp-down rate (TP to TL)	6 °C / second max.
Time (from 25°C to Peak Temperature) 25°C		8 minutes max.



This product may not be used in the following environments:

1.Ambient air containing corrosive gas and volatile or combustible gas.

2.In liquid and in environments with a high concentration of airborne particles.

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