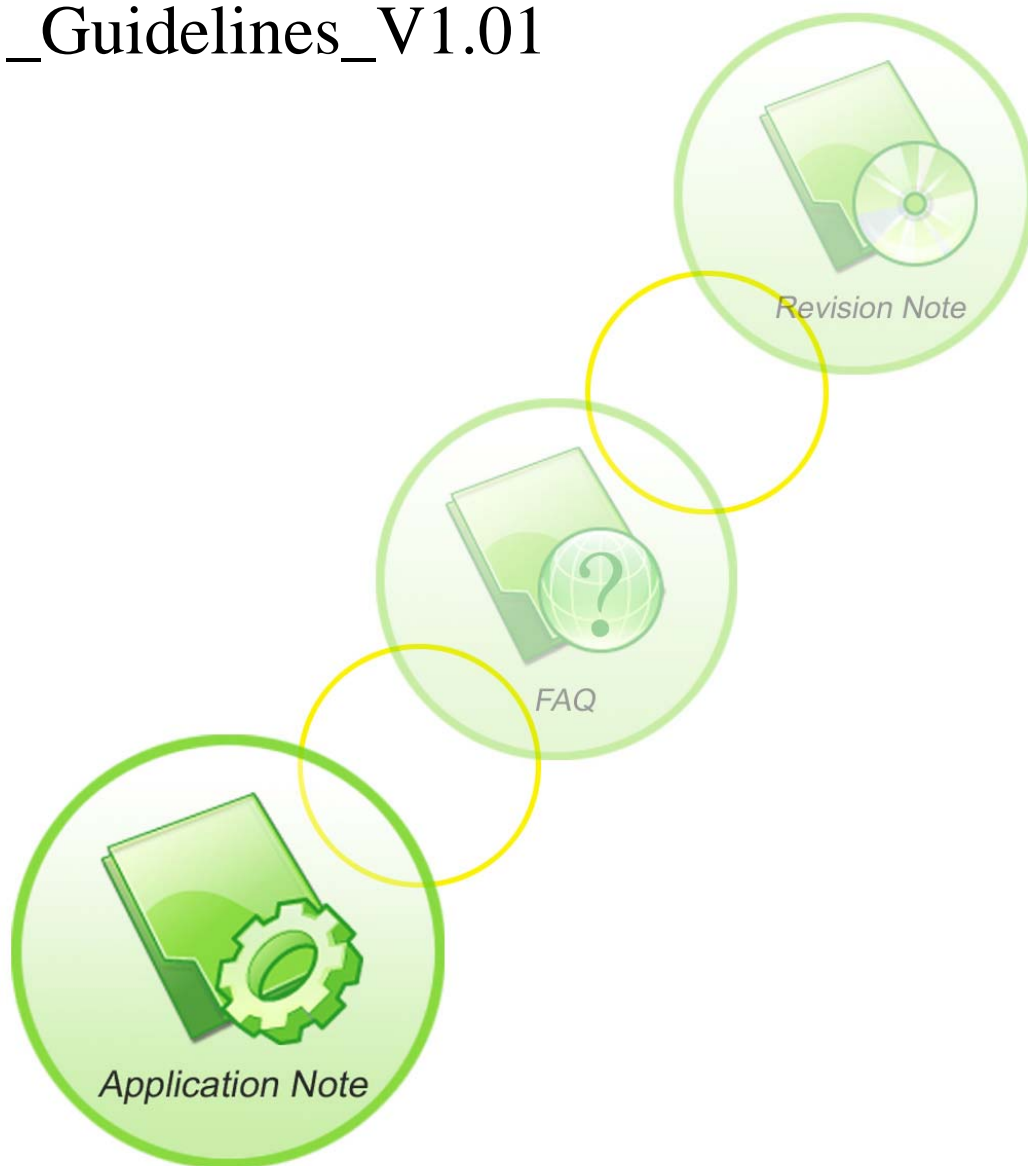




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SIM5350_ Secondary Reflow SMT _Guidelines_V1.01



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Version History

Date	Version	Description of change	Author
2013-11-29	1.00		Yang Hongliang
2013-11-28	1.01	Modify stencil outline.	Yang Hongliang

Scope

This document can apply to SIM5350 series modules.

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1. Storage Notes

1.1. The Moisture Sensitivity Level

The moisture sensitivity level of SIM5350 is 5. The module should be mounted within 48 hours after unpacking in the environmental conditions of temperature $<30^{\circ}\text{C}$ and relative humidity of $<60\%$ (RH). It is necessary to bake the module if the above conditions are not met.

Table1: Moisture Sensitivity Level and Floor Life

Moisture Sensitivity Level (MSL)	Floor Life (out of bag) at factory ambient $\leq 30^{\circ}\text{C}/60\%$ RH or as stated
1	Unlimited at $\leq 30^{\circ}\text{C}/85\%$ RH
2	1 year
2a	4 weeks
3	168 hours
4	72 hours
5	48 hours
5a	24 hours
6	Mandatory bake before use. After bake, it must be reflowed within the time limit specified on the label.

NOTES:

For product handling, storage and processing, IPC/JEDEC J-STD-033 must be followed.

1.2. Baking Requirements

SIM5350 modules are vacuum packaged, and guaranteed for 6 months storage without opening or leakage under the following conditions: the environment temperature is lower than 40°C , and the air humidity is less than 90%.

If the condition meets one of the following ones shown below, the modules should be baked sufficiently before re-flow soldering, and the baking condition is shown in below table; otherwise the module will be at the risk of permanent damage during re-flow soldering.

- If the vacuum package is broken or leakage;
- If the vacuum package is opened after 6 months since it's been packed;
- If the vacuum package is opened within 6 months but out of its Floor Life at factory ambient $\leq 30^{\circ}\text{C}/60\%$ RH or as stated.

Table 2: Baking requirements

Baking temperature	Moisture	Time
40°C±5°C	<5%	192 hours
120°C±5°C	<5%	6 hours

NOTES:

Care should be taken if that plastic tray is not heat-resistant, the modules should be taken out for preheating, otherwise the tray may be damaged by high-temperature heating.

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2. PCB Design Notes

2.1. Layout Requirements

- For SIM5350 modules, layout of other components within 1mm area is prohibited. The minimum distance on the PCB edge from SIM5350 modules is 1.5mm.
- If the PCB layout is double-sided, it is suggested that SIM5350 side is the last for reflow.

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3. Assembly Instructions

3.1. Stencil Design

Recommended thickness of the SIM5350 stencil is 0.12mm; For stencil design, please refer to Figure1 and Figure2.

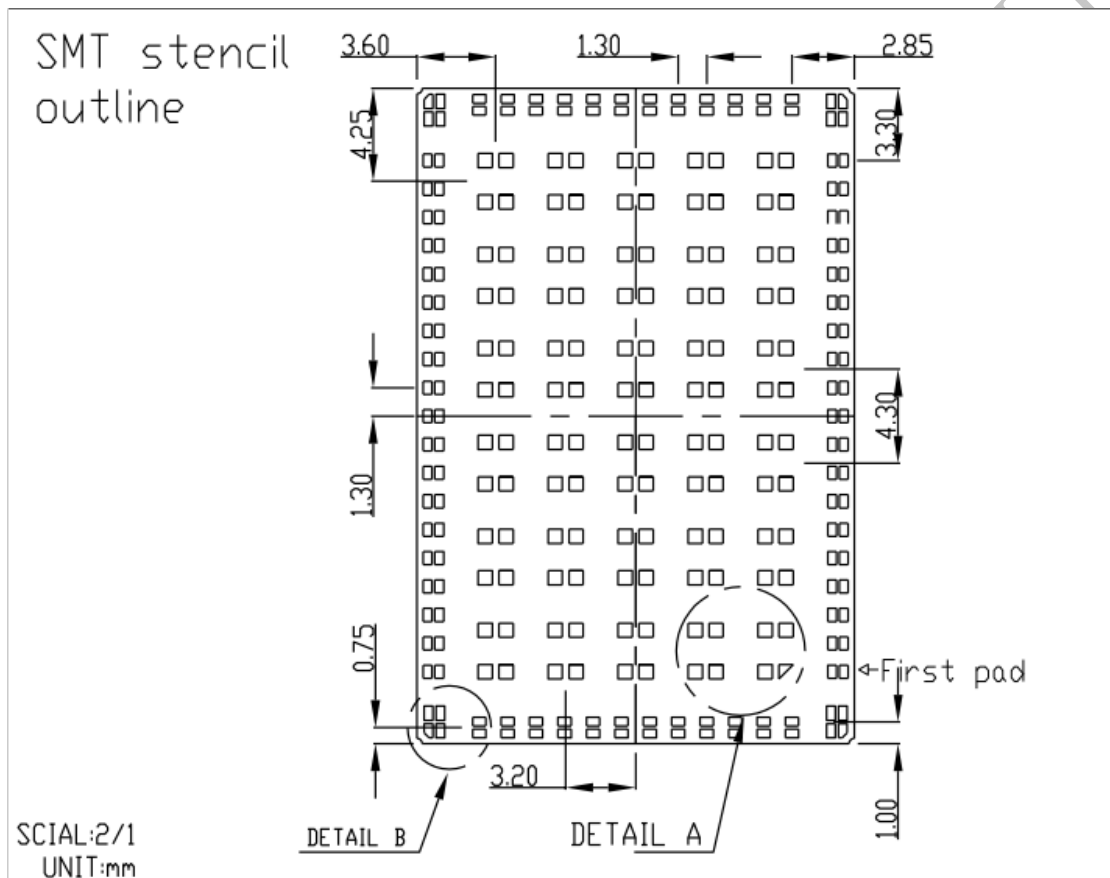


Figure 1: Recommended SMT stencil outline A (Unit: mm)

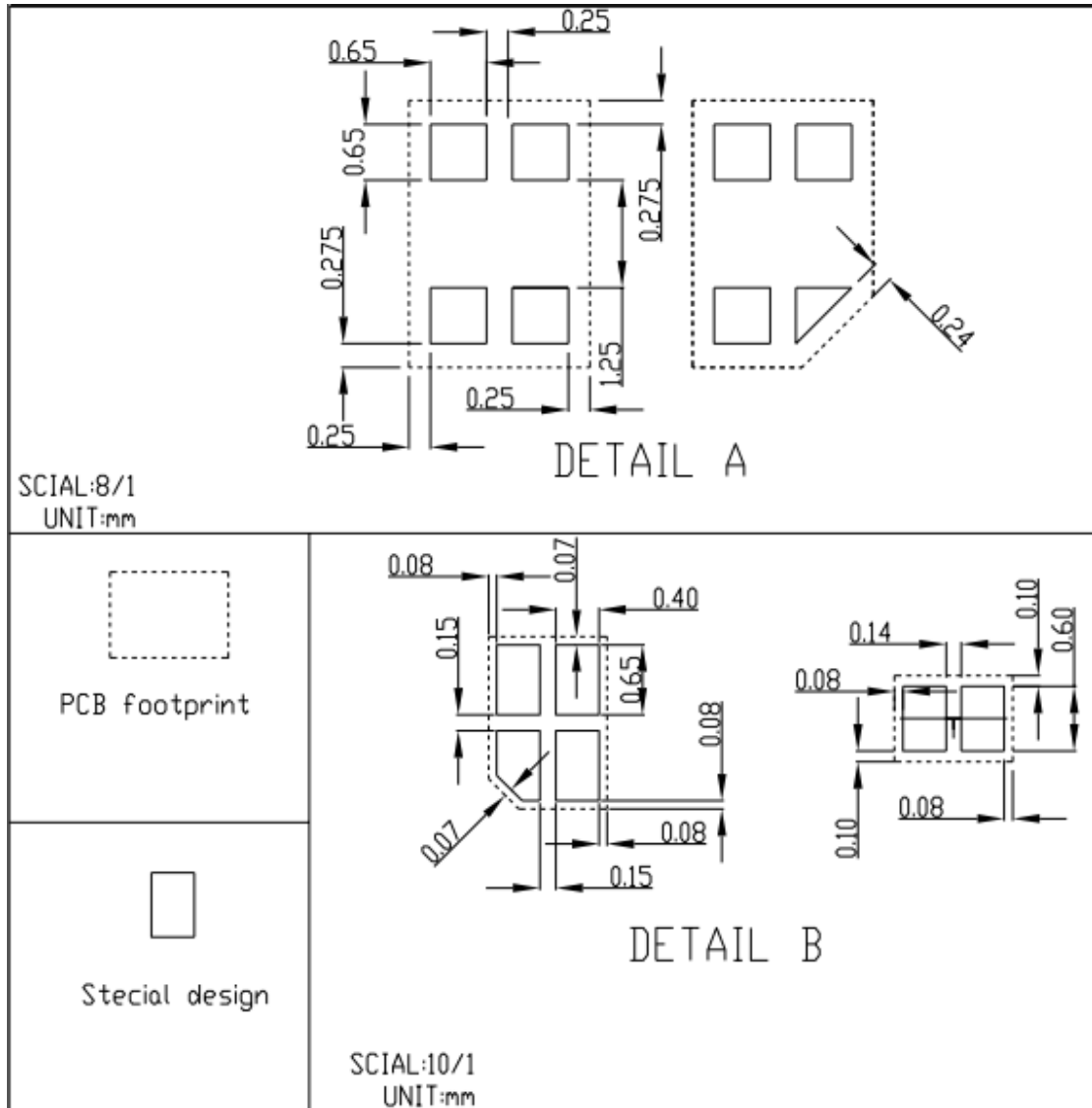


Figure 2: Recommended SMT stencil outline B (Unit: mm)

3.2. Reflow Profile

Recommend the solder paste type: M705-GRN360-K2-V.

Please refer to the recommended ramp-soak-spike reflow profile as following shows.

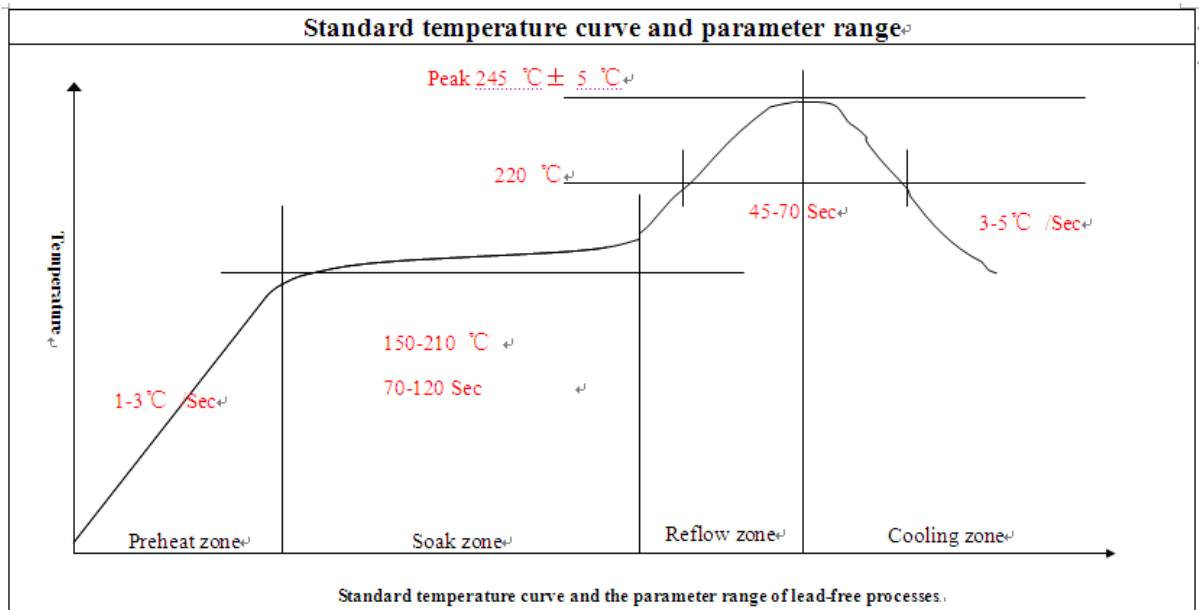


Figure 3: Standard temperature curve and the parameter range of lead-free processes

NOTES:

Recommended temperature curve of different solder paste is not completely consistent, The temperature curve of solder paste please contact suppliers.

3.3. Reflow Times

For SIM5350 modules, the reflow time should be not more than one time after the modules delivered to customer.

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