



# **SHEMMAO** **Solder Preform**

**Reliability Improvement  
on Solder Joints**

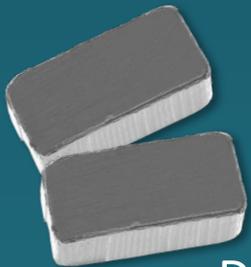


**SHENMAO Technology Inc.**

*Your Ultimate Choice for Solder*

# Specification

Model	Size (mm)			Volume (mm <sup>3</sup> )	Packaging Quantity (7" Reel)
	Length	Width	Thickness		
<b>0201</b>	<b>0.51</b>	<b>0.25</b>	<b>0.25</b>	<b>0.03</b>	<b>10000 pcs</b>
<b>0402</b>	<b>1.00</b>	<b>0.50</b>	<b>0.50</b>	<b>0.25</b>	<b>5000 pcs</b>
<b>0603</b>	<b>1.60</b>	<b>0.80</b>	<b>0.80</b>	<b>1.02</b>	<b>4000 pcs</b>
<b>0805</b>	<b>2.01</b>	<b>1.30</b>	<b>0.76</b>	<b>1.98</b>	<b>3000 pcs</b>

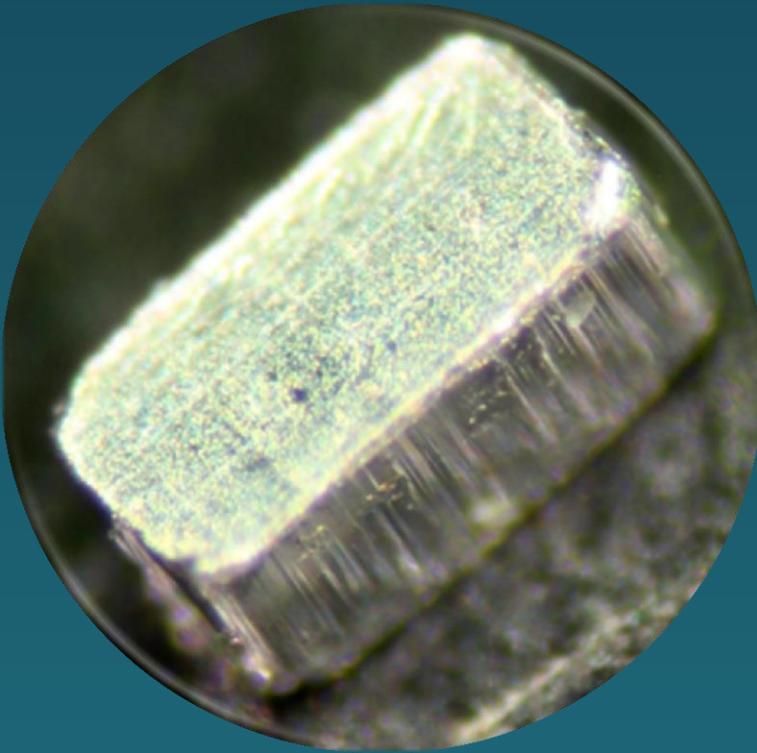


Dimensional Tolerances: Length and width:  $\pm 0.05\text{mm}$ , thickness:  $\pm 10\%$

Applicable Alloy: SAC305, SAC105, SC07, and other soft soldering alloy

Please inquire for your own alloy, form and size specification.

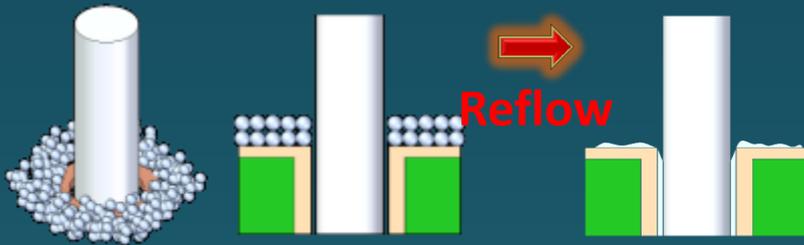
# Features



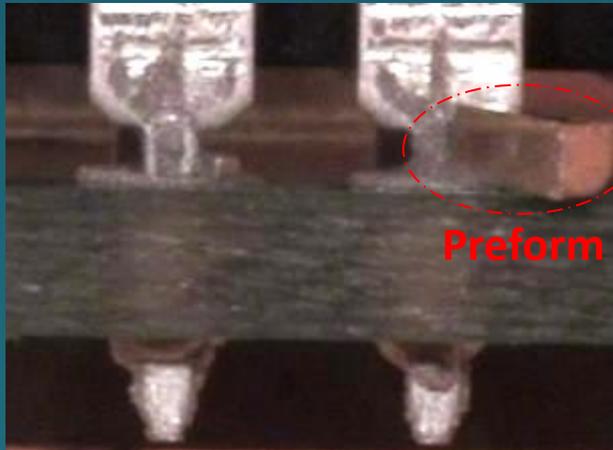
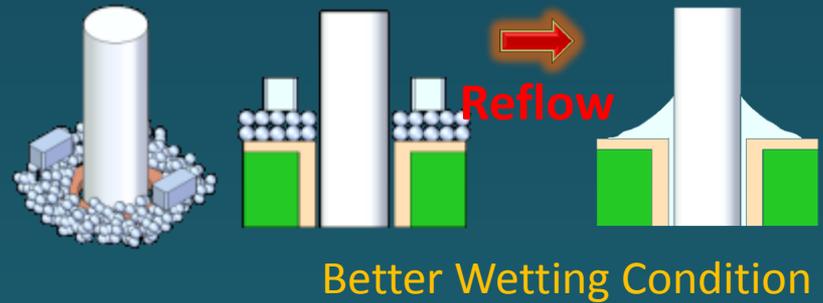
- ❑ Reduce Wave Soldering
- ❑ Increase Solder Volume
- ❑ Reliability Improvement
- ❑ Process Yield Improvement
  - Self-Alignment
  - Reduce Pick&Place Error Rates

# Reduce Wave Soldering

## Conventional Process



## Solder Preform Process

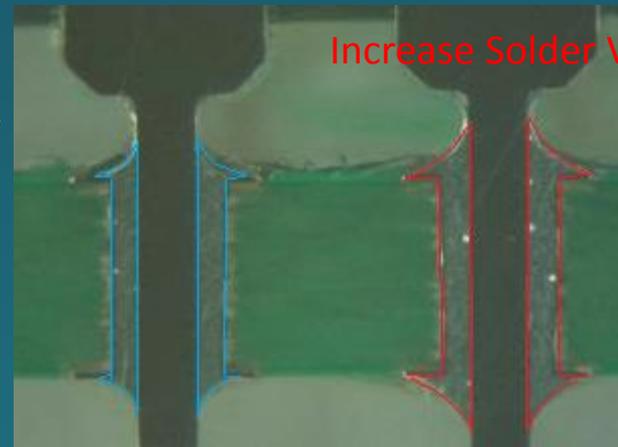


Conventional

Solder Preform



Reflow

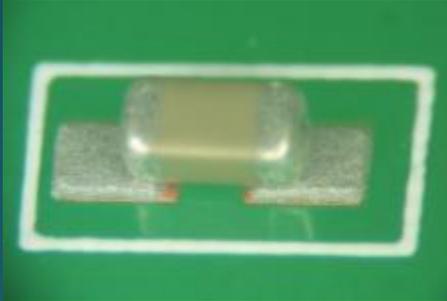


Conventional

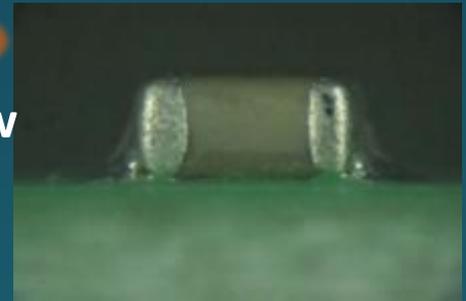
Solder Preform

# Increase Solder Volume

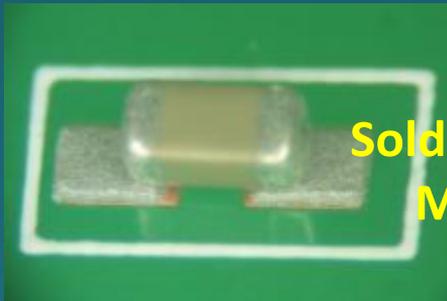
## Conventional Process



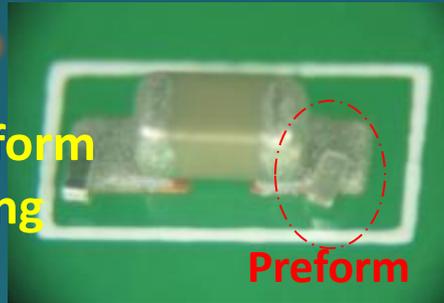
Reflow



## Solder Preform Process



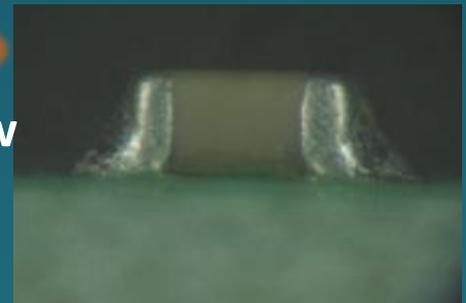
Solder Preform  
Mounting



Preform



Reflow



Increase Solder Volume

# Increase Solder Volume

## Conventional Process



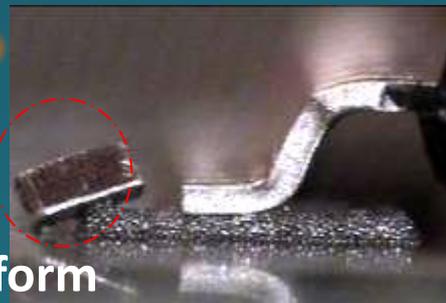
Reflow



## Solder Preform Process



Solder Preform  
Mounting



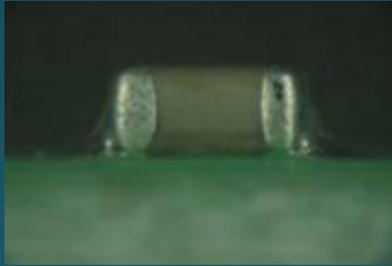
reflow



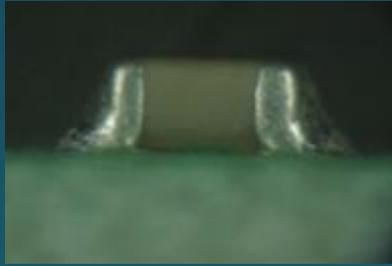
Increase Solder Volume

# Reliability Improvement

Conventional Process

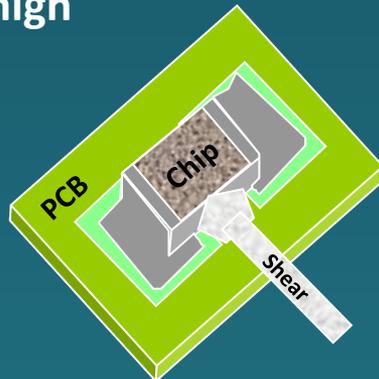


Solder Preform Process



## Test Condition

Shear speed: 100um/sec  
Shear high: 1/4 chip high



Test results



# Reliability Improvement

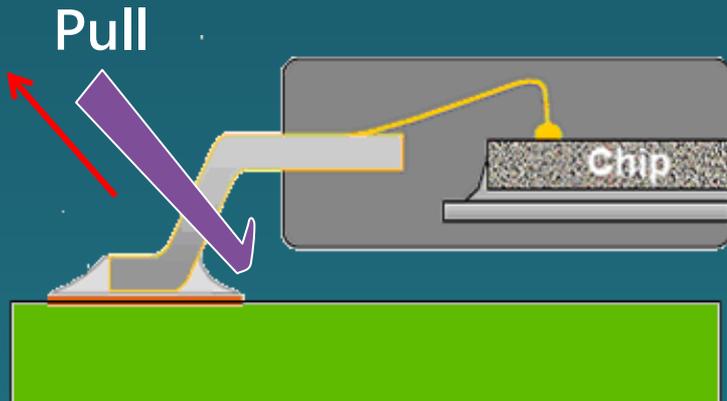
Conventional Process



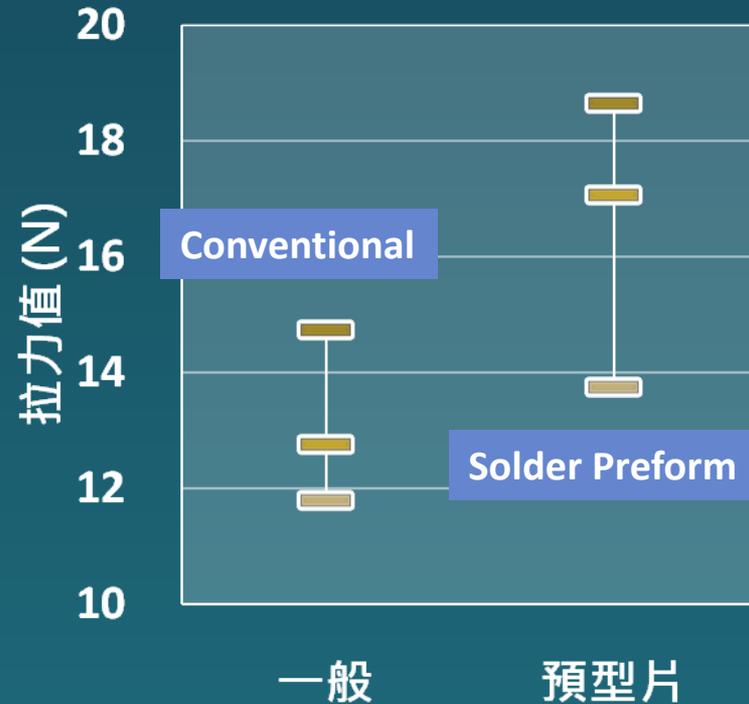
Solder Preform Process



Test Condition

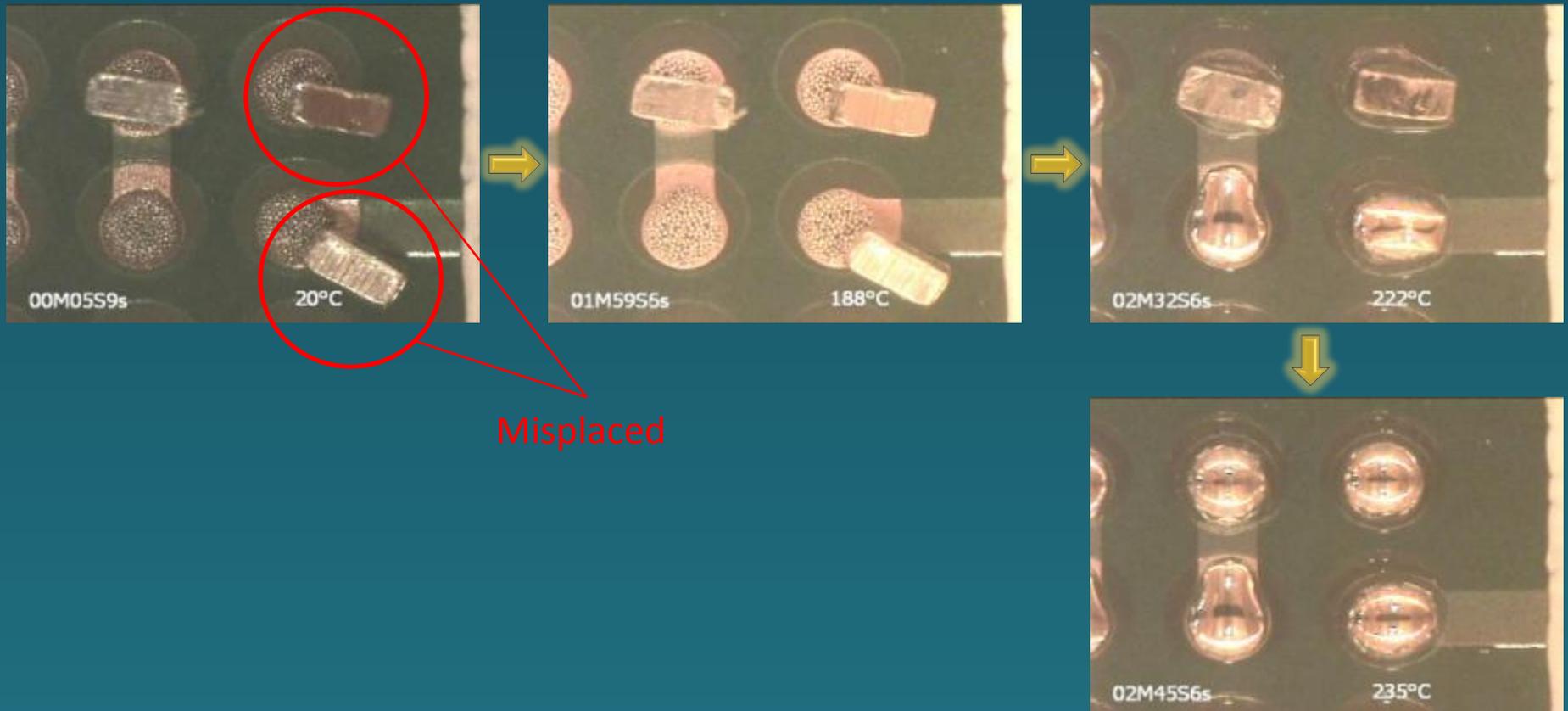


Test results



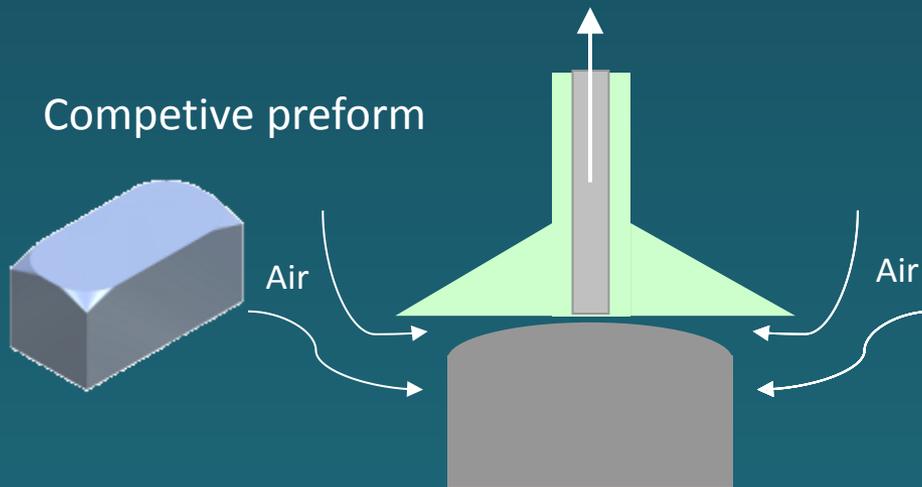
# Process Yield Improvement

## Self-Alignment of Misplaced Solder Preform



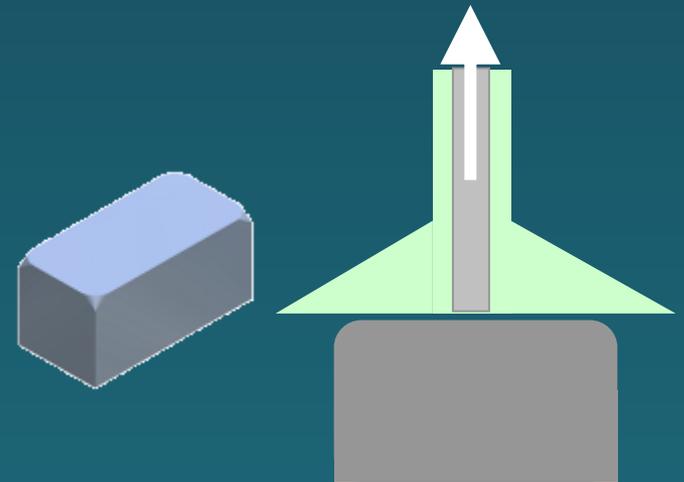
# Process Yield Improvement

Reduce pick error rates



Nozzle performance  
reduced due to no  
planar surface

SHENMAO Solder Preform



- Planar surface
- Excellent nozzle suction
- High placement accuracy



**THANKS!**

**SHENMAO Technology Inc.**  
*Your Ultimate Choice for Solder*