Dispensing paste for Laser Reflow

NXD300

SMIC confidential

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SMIC

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NXD series

Dispense type solder paste NXD series

NXD series is new dispense solder paste series for high density packaging, JET dispense and laser reflow.
It is stable shape and volume, and it is possible fine dispense and reduction of working time.
It can be combined Low-temperature and High-reliability alloy, and good soldering for various size and shape.
NXD Series supports next generation packaging.

NXD300

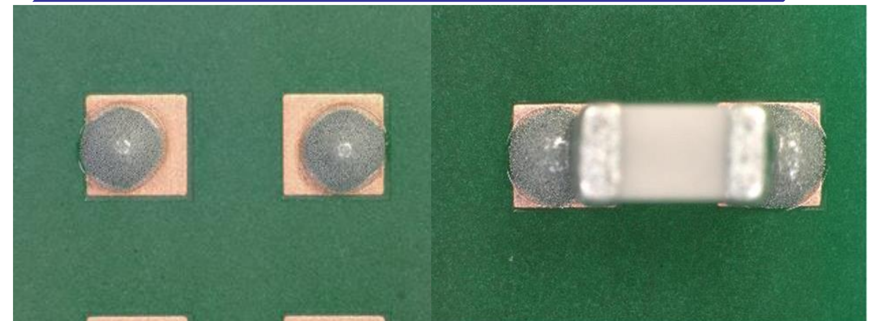
For Laser Reflow

There is little or less solder ball with laser reflow.
It is possible fine dispense.

- **Reduce solder splash and solder ball.** — It complete laser reflow at 2 sec or less/shot.
- **Support Type5／Type6** — It enable mounting 1005／0603 Chip by laser reflow.

It is stable shape and volume.

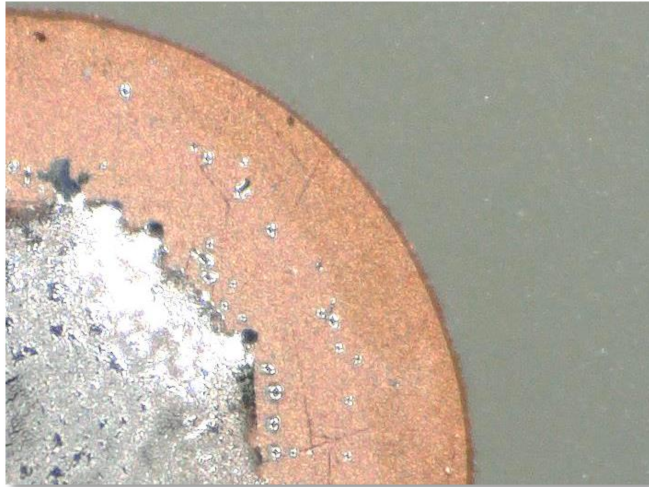
It keep a shape and parts after mounting parts.

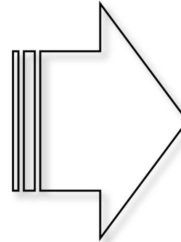


Wettability

Reduce solder splash and solder ball.

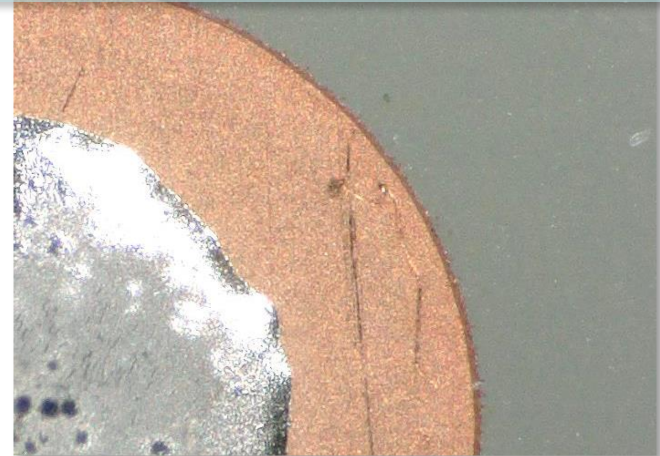
Conventional product



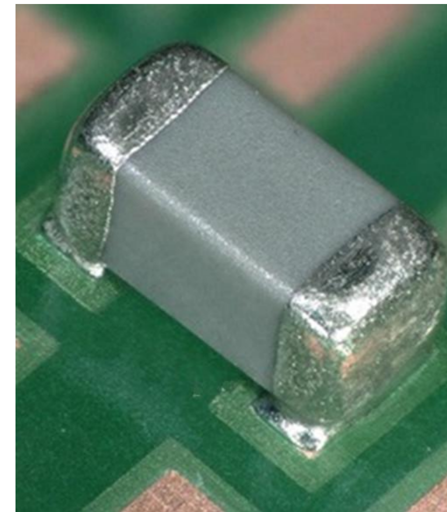


NXD300 for Laser Reflow

There is little or less solder ball and good wettability with laser reflow.



Example

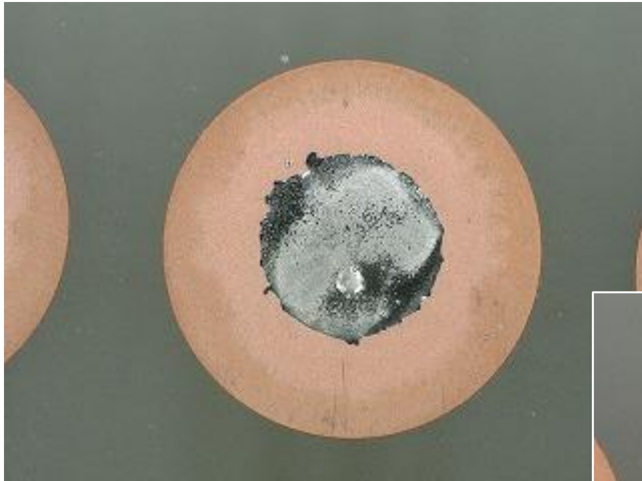


It enable good soldering for various size and shape.

Wettability in the case of fine dispense.

Support Type5／Type6 powder

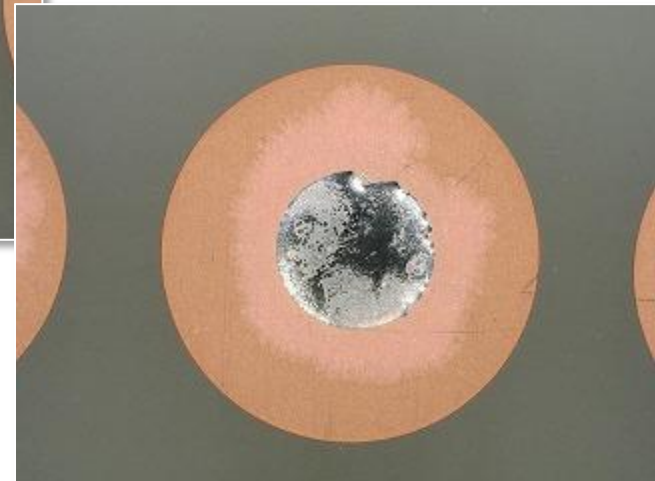
M705-NXD300　Type4



Support Type5／Type6 powder.
There is little or less solder ball
and good wettability with laser reflow.

M705-NXD300　Type5

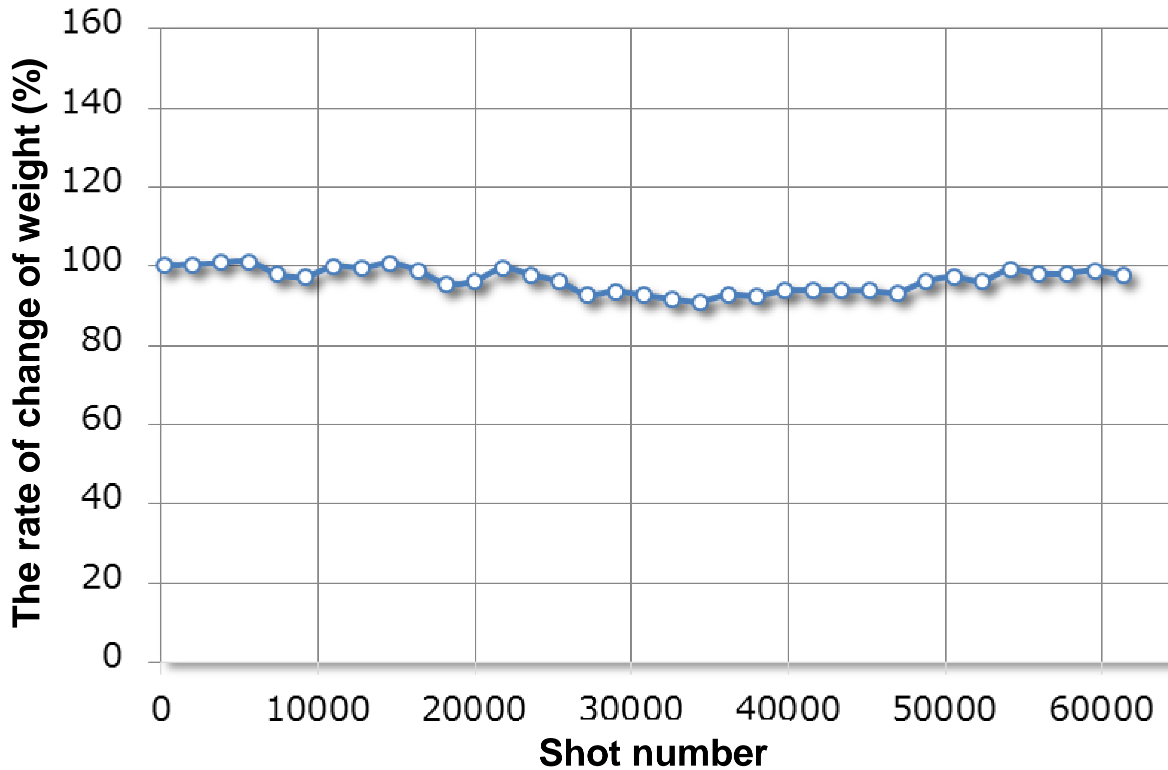
M705-NXD300　Type6



Machine:
ULD-730 opto Laser(Japan UNIX)

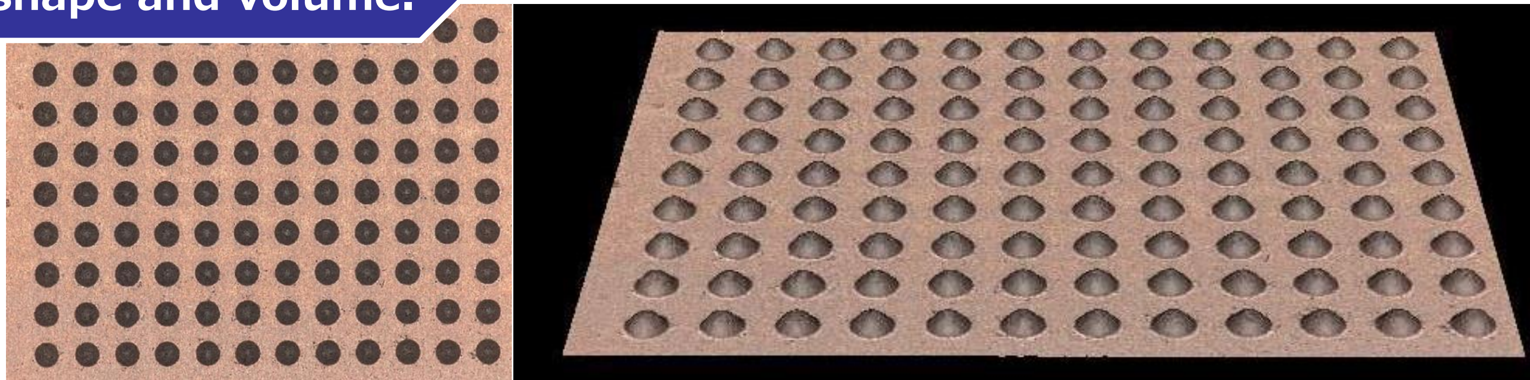
- **Laser diameter　1.5mm**
- **Paste volume　0.03mm³**

Dispense ability



Dispense time (msec)	150
Dispense pressure (MPa)	0.15
Nozzle (mmΦ)	Fine 0.35mm
Clearance (mm)	0.3
Cycle time (sec)	1
Dispense weight (mg)	0.5

It is stable shape and volume.

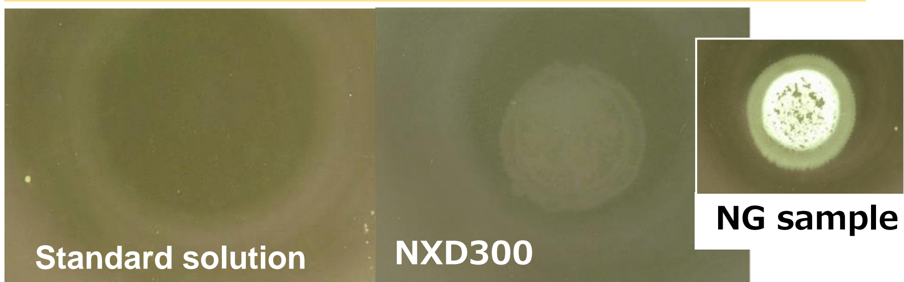


Reliability

◆ Copper mirror test

- Reference: JIS Z 3197
- Standard solution::WW rosin 25wt% IPA solution
- Test environment and Keep time:25degC 50%RH 24hours

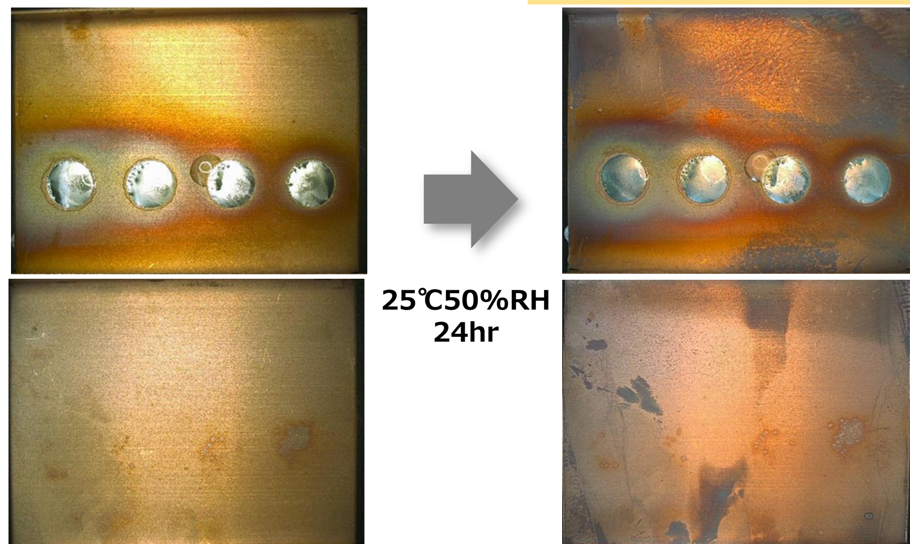
PASS No evidence of mirror breakthrough



◆ Copper plate corrosion test

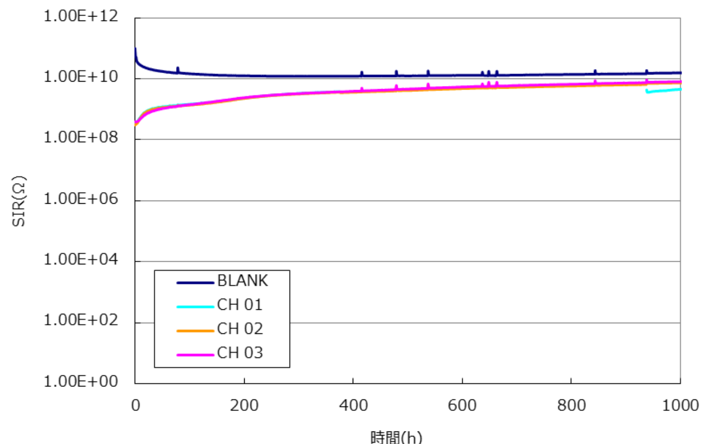
- Reference：JIS Z 3197

PASS No corrosion



◆Electrochemical migration test

- Reference: JIS Z 3197
- Test environment : 85℃85%RH
- Test / Bias voltage: DC100V/DC45V
- Test time： 1000hr



PASS
No migration

Data sheet

	Item	M705-NXD300-T7M	Test Method
Solder powder	Alloy composition	Ag3.0-Cu0.5-SnBal.	– – –
	Melting temp.	217～220℃	DSC
	Powder shape	Spherical	SEM
	Powder size	20~38um	SEM / Screen method
Flux	Halide content	<0.05%	JIS Z 3197
	Electro migration	Over 10^9 ohm No migration	JIS Z 3284 (85℃85%RH, Bias DC45V, 1000h.)
	Copper mirror test	Pass	JIS Z 3197
Solder Paste	Viscosity	120 Pa·s	JIS Z 3284
	Thixotropic index	0.5	JIS Z 3284
	Flux content	13.0%	JIS Z 3197
	Hot slump	0.6mm MAX	JIS Z 3284
	Tackness	Over 1.0 N	JIS Z 3284
	Copper plate corrosion test	PASS	JIS Z 3197
	Shelf-life	3 month	Unopened,0～10℃ refrigeration