

Pin-Testable Lead Free Solder Paste

S3X58-M650-3

■ Features

- 1) Solder alloy composition is **Sn3Ag0.5Cu**.
- 2) Specially developed flux system ensures **EXCELLENT** and **CONSISTENT ICT TESTABILITY**.
- 3) Carefully selected flux chemistry ensures extremely **LOW VOID** formation.
- 4) **PERFECT MELTING** and **WETTING** at super fine pitch (<0.4mm pitch) and micro components (<0.35mm dia. CSP, 0603 chip).
- 5) Low color and crack free flux residues offer **SUPERIOR COSMETIC** appearance.

■ Specifications

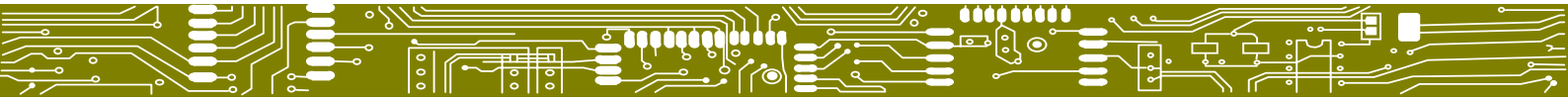
Application		Printing - Stencil		
Product		S3X58-M650-3	S3X58-M650H-3	
Alloy	Composition (%)	Sn96.5, Ag3.0, Cu0.5		
	Melting point (°C)	217 - 218		
	Shape	Spherical		
	Particle size (µm)	20 - 38		
Flux	Halide content (%)	0.0		
	Surface insulation resistance *1	Initial value (Ω)	$> 1 \times 10^{13}$	
		After humidification (Ω)	$> 1 \times 10^{12}$	
	Aqueous solution resistivity*2 (Ω cm)	$> 5 \times 10^4$		
Flux type	ROLO			
Product	Flux content (%)	12	11.7	
	Viscosity*3 (Ps.S)	170	200	
	Copper plate corrosion*4	Passed		
	Solder spread factor (%)	> 85		
	Tack time	> 48 hours		
	Shelf life (below 10°C)	6 months		
	Other alloy options	TS58- : SnAg3.5 SX58- : SnAg3.5Cu0.7 S38X58- : SnAg3.8Cu0.7 SXA58- : SnAg3.5Cu0.5Sb0.2		

1. SIR40°C×90%RH×96Hr

2. Aqueous solution resistivity.....In accordance with MIL specifications.

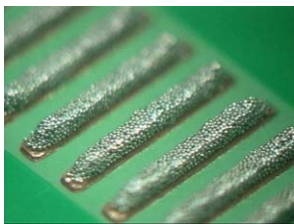
3. Viscosity.....Malcom spiral type viscometer, PCU-205 at 25°C 10rpm

4. Copper plate corrosion.....In accordance with JIS.

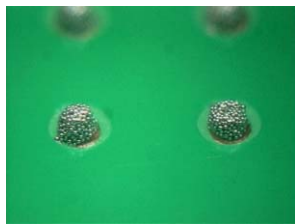


Printability

(Continual printing at 50mm/sec. stencil 130 μm laser cut)



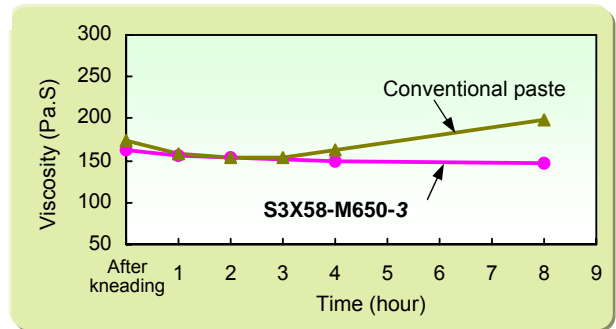
0.4mm pitch
(10th print; parallel)



0.30 mm diameter
(10th print; CSP pattern)

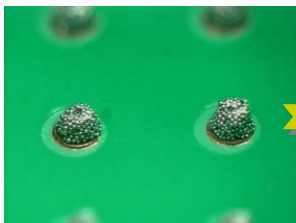
Viscosity variation in continual print

(Squeegee speed : 30mm/sec., print stroke : 300mm)

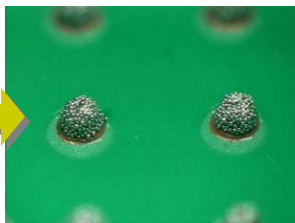


Intermittent printability

(0.3mm diameter CSP pattern)



Initial print



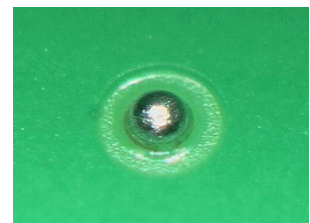
1st print after 60 min.

Solder wetting

(Cu base alloy with Sn plated)



0.65mm pitch QFP



0.3mm diameter

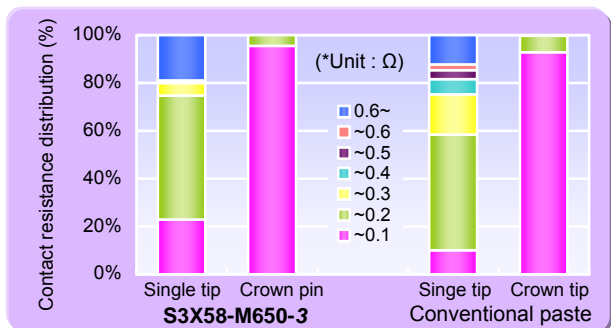
Pin-testability (after 1,000 strikes)



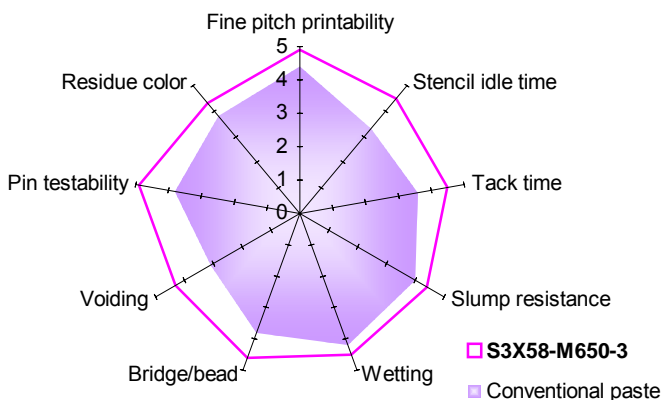
S3X58-M650-3



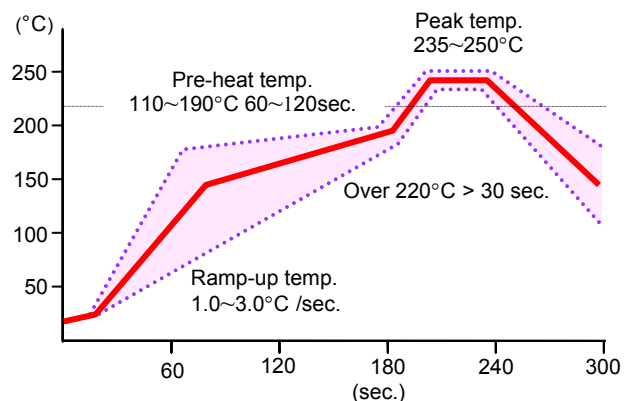
Conventional paste



Features comparison (0: Bad → 5: Good)



Recommended reflow profile



*Specifications are subject to change.

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