

Koki no-clean & cleanable solder paste

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No-clean & Cleanable Solder paste

SS58-A230

Product information



This Product Information contains product performance assessed strictly according to our own test procedures and may not be compatible with results at end-users.



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Product features

- Solder alloy composition : 62Sn 36Pb 2Ag
- Flux residue is washed easily with various cleaning solvent.
- PERFECT MELTING and wetting at fine pitch (>0.4mm pitch) and micro components (>0.25mm dia. CSP, 1005 chip).
- Designed to prevent occurrence of HIDDEN PILLOW DEFECTS.



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Application		Printing - Stencil
Product		SS58-A230
Alloy	Alloy Composition (%)	62Sn 36Pb 2Ag
	Melting Point (°C)	179-190
	Shape	Spherical
	Particle size (µm)	20-38
Flux	Halide Content (%)	0.06 ±0.01
	Flux Type	ROL1*3
Product	Flux Content (%)	10.5±0.5
	Viscosity*1 (Pa.s)	170±20
	Copper plate corrosion*2	Passed
	Tack Time	>24 hours
	Shelf Life (below 10°C)	6 months

*1. Viscosity :

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

*2. Copper plate corrosion :

In accordance with IPC J-STD-004

*3. Flux type :

According to IPC J-STD-004



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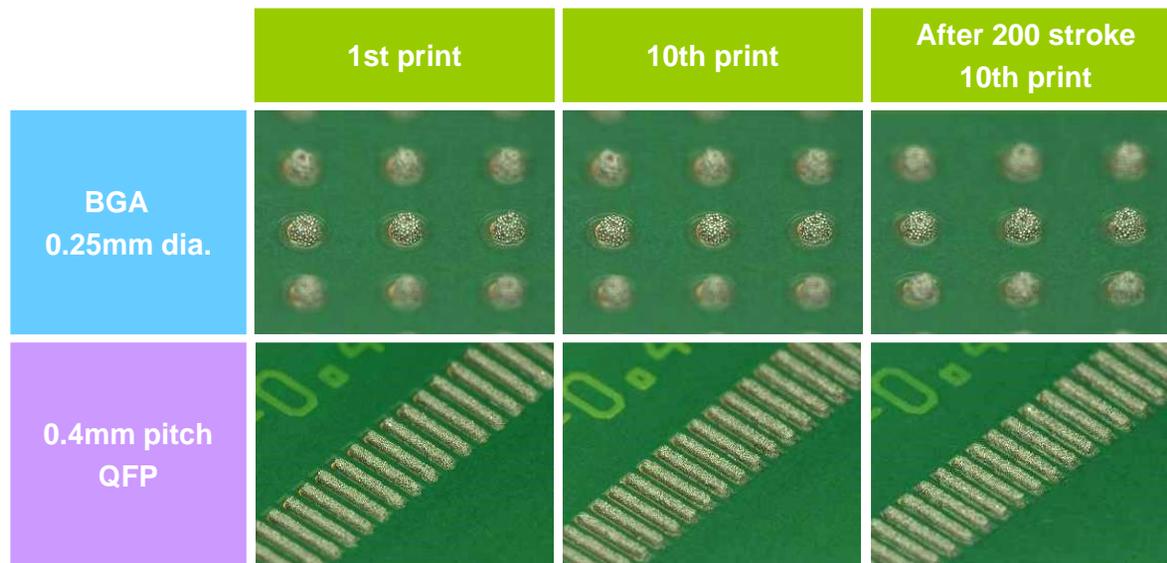
Other properties

Handling guide

Continual printing

Test condition:

- Stencil : 0.12mm thickness, laser cut stencil
- Printer : Model YVP-Xg YAMAHA Motor
- Squeegee : Metal blade, Angle - 60°
- Print speed : 40 mm/sec
- Atmosphere : 24~26 °C 40~60%RH
- Test pattern : BGA pad pattern - Diameter 0.30mm
0.4mm pitch QFP pad pattern



Assures excellent print quality with BGA.



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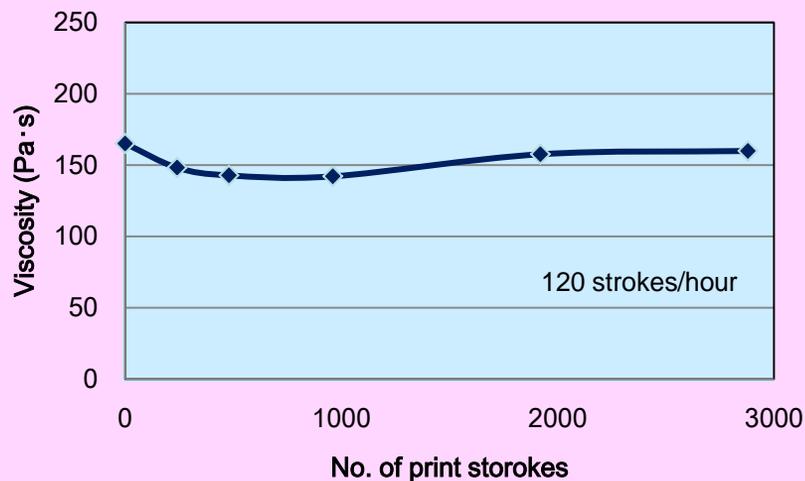
Other properties

Handling guide

Viscosity variation

Test condition

- Print (knead) solder paste on the sealed-up stencil continually up for 24 hours to observe viscosity variation.
- Squeegee : Metal blades
- Squeegee angle : 60°
- Squeegee speed : 30mm/sec.
- Print stroke : 300mm
- Printing environment : 24~26°C, 40~60%RH



A newly developed flux formula has succeeded in delivering consistent long term printability by preventing excess viscosity drop due to shear thinning. Furthermore excessive increase of viscosity due to the chemical reaction between solder powder and flux during print rolling, is also eliminated.



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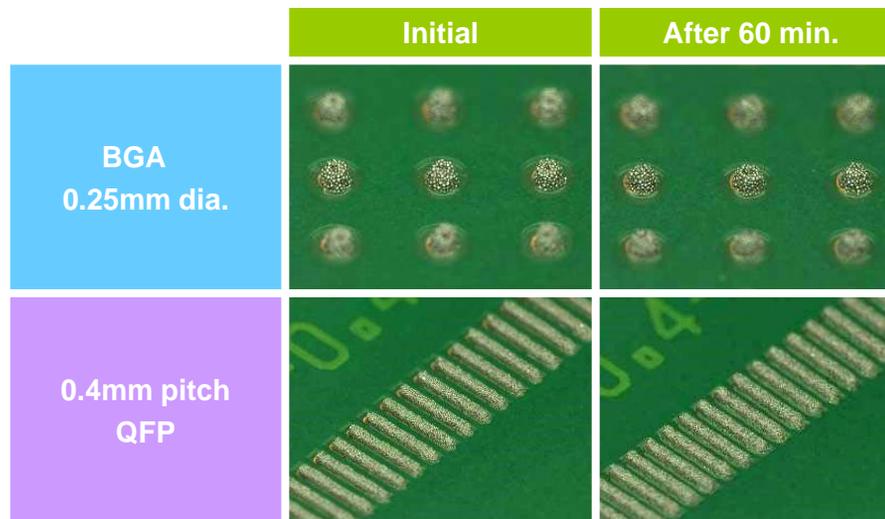
Handling guide

Intermittent printability (Stencil idle time)

Print solder paste continuously and stop to idle the paste for 60min. intervals, and resume the printing and observe the 1st print result to verify intermittent printability.

Test condition

- Squeegee : Metal blades
- Squeegee angle : 60°
- Squeegee speed : 40mm/sec.
- Print stroke : 300mm
- Printing environment : 24~26°C, 40~60%RH
- Test pattern : CSP pad pattern - Diameter 0.25mm
0.4mm pitch QFP pad pattern



Unique solvent formulation system assures extremely long stencil idle time, eliminating printing faults and improving the process window and production yields.



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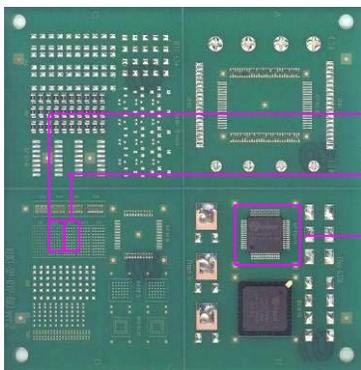
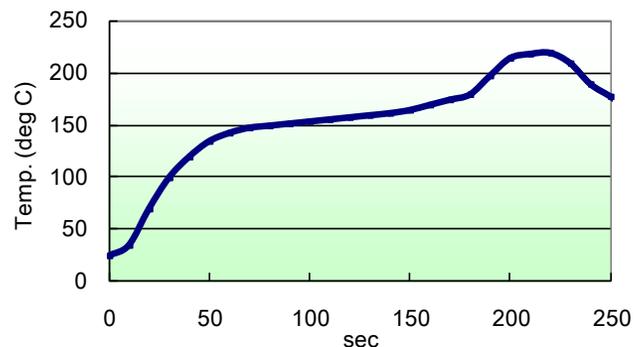
Other properties

Handling guide

Wetting test

Test conditions

- Material : Glass epoxy FR-4
- Surface treatment : OSP,
- Stencil thickness : 0.12mm (laser cut)
- Pad size : 0.30mm diameter
0.25mm diameter
- Component: 0.4mm pitch QFP(Sn100)
- Stencil aperture : 100% aperture opening to pad
- Heat source : Hot air convection
- Zone structure : 5 pre-heat zones +2 peak zones
- Atmosphere : Air
- Reflow profile : See the reflow profile on the right



0.25mmdia.

0.3mmdia.

0.4mm pitch
QFP



Larger relative surface areas of solder paste exposed due to miniaturization of components , often cause incomplete melting due to excess oxidation during the reflow. An improved flux formula ensures complete coalescence by minimum deterioration of barrier performances .



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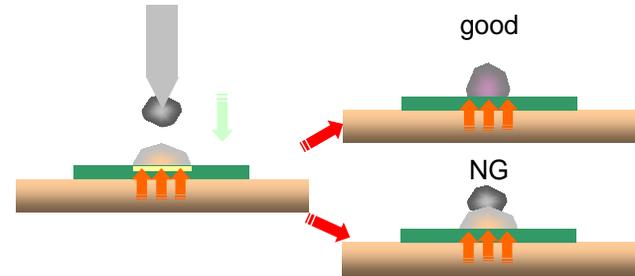
Other properties

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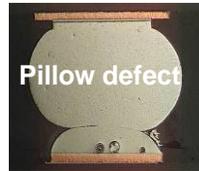
Anti-pillow test

Test condition

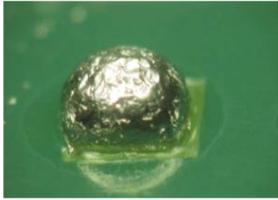
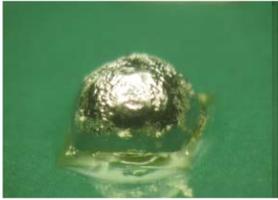
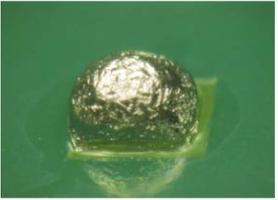
- Material : Glass epoxy FR-4
- Surface treatment : OSP
- Stencil thickness : 0.12mm (laser cut)
- Pad size : 0.8 x 0.8mm diameter
- Component : 0.76mm ball Sn-Pb
- Stencil aperture : 100% aperture opening to pad
- Heat source : Solder pod 250°C
- mount interval : 10sec.



Drop a solder ball every 10 sec. after the solder paste has melted to see the heat durability of flux.



Pillow defect

	10sec	30sec	50sec
SS58-A230			
Other company Product			

SS58-A230 indicates much longer heat durability up to 50sec. The results demonstrates that SS58-A230 effectively prevents the occurrence of head-in-pillow defects.



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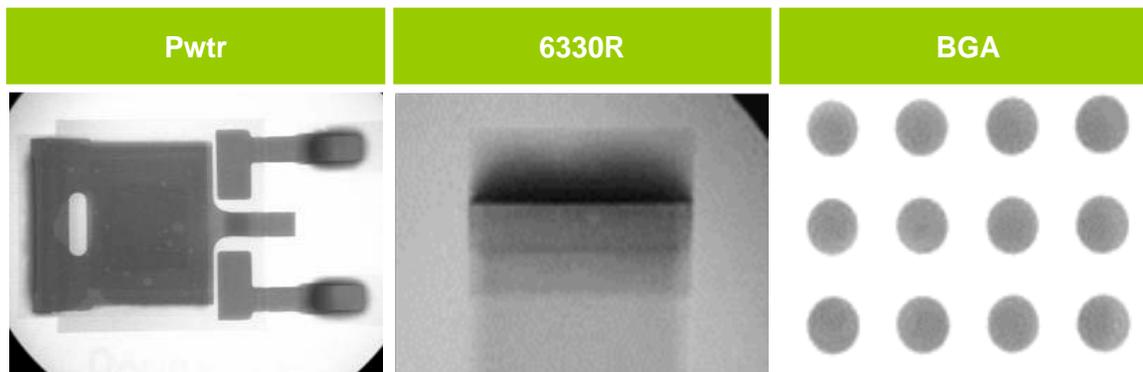
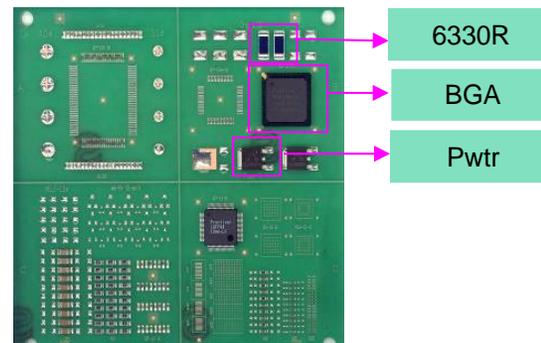
Other properties

Handling guide

Voiding

Test condition

- Material : Glass epoxy FR-4
- Surface treatment : OSP
- Stencil thickness : 0.12mm (laser cut)
- Components : PwTr, 6330R (Sn 100)
BGA ball – SnPb
- Heat source : Hot air convection
- Atmosphere : Air
- Reflow profile : Same as "Wetting test"



Specially formulated flux chemistry ensures extremely Low Voiding with BGA and broad contact area components.



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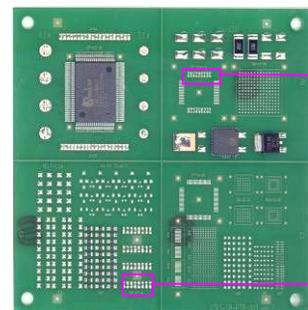
Other properties

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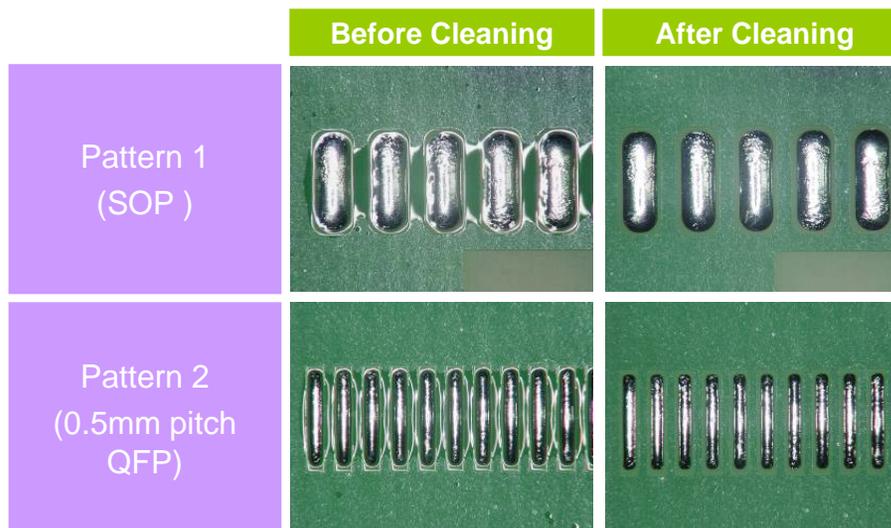
Test condition

- Material : Glass epoxy FR-4
- Surface treatment : OSP
- Stencil thickness : 0.12mm (laser cut)
- Confirmative pattern : SOP pad pattern
0.5mm pitch QFP pad pattern
- Stencil aperture : 100% aperture opening to pad
- Heat source : Hot air convection
- Zone structure : 5 pre-heat zones +2 peak zones
- Atmosphere : Air
- Reflow profile : Same as "Wetting test"
- Cleaning test : Dipping and stirring for 4 min in Vigon A250



Pattern 2
(0.5mm pitch QFP)

Pattern 1
(SOP)



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Item	Result	Method
Tack time	> 24 hours	JIS Z 3284
Heat slump	Pattern(1) 0.2mm pass Pattern(2) 0.3mm pass	JIS Z 3284
Solder balling	Category 3	JIS Z 3284
Copper mirror corrosion	Type L	IPC-JSTD-004
Copper plate corrosion	Pass	IPC-JSTD-004 JIS Z 3194
Voltage applied SIR	> 1E+9	IPC-JSTD-004 JIS Z 3194



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1. Printing

1) Recommended printing parameters

(1) Squeegee

- 1. Kind : Flat
- 2. Material : Rubber or metal blade
- 3. Angle : 60° (rubber) or metal blade
- 4. Pressure : Lowest
- 5. Squeegee speed : 20~80mm/sec.

(2) Stencil

- 1. Thickness : 150~100μm for 0.65~0.4mm pitch pattern
- 2. Type : Laser or electroform
- 3. Separation speed : 3.0~10.0mm/sec.
- 4. Snap-off distance : 0mm

(3) Ambiance

- 1. Temperature : 23~27°C
- 2. Humidity : 40~60%RH
- 3. Air Flow : Excessive air flow in the printer badly affects stencil life and tack performance of solder pastes.

2. Shelf life

0~10°C : 6 months from manufacturing date

* Manufacturing date can be obtained from the lot number

ex. **Lot No. 3 03 06 2**

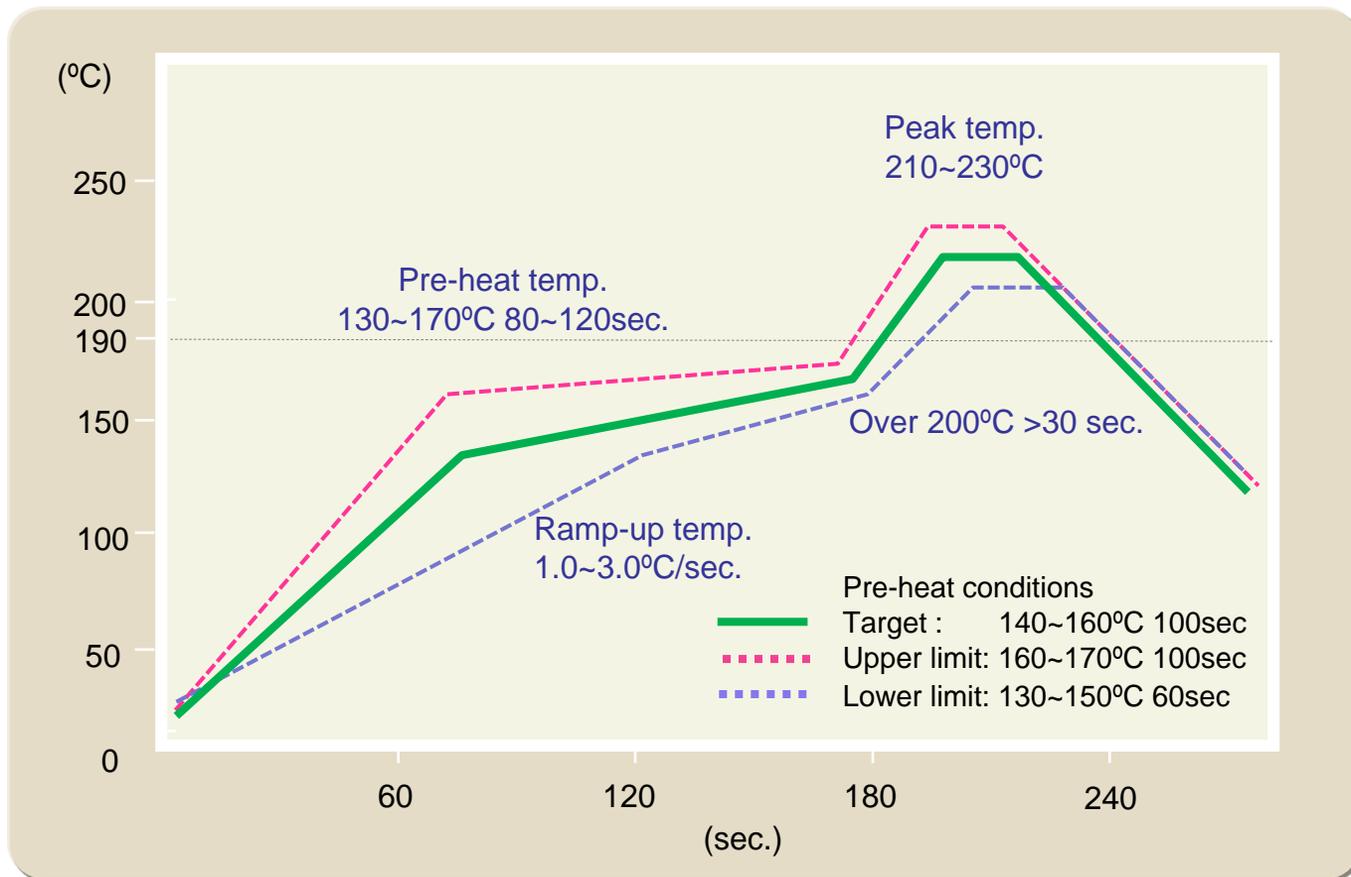
				No. of lot : 2nd
				Date : 6th
				Month : Mar.
				Year : 2013



Handling guide – Recommended reflow profile

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