Siemens AG

Heraeus F 620 eglisch.xls

CT MM 6 Berlin

Test certificate for solder paste

Manufacturer: Heraeus
Trade name: F 620 Cu 0,5-88 M3
Alloy: Sn 95,5 Ag 4 Cu 0,5
Flux:1.2.2.C (DIN EN 29454-1)
Application: Stencil printing
Charge: PS 8967

Date: 14.04.04
Tested by: Meier

Note:Sample preparation following SN 59650

Test	Required Value	Results
3.2 % Metal	>= 88 % +- 0,3% deviation from the nominal value	88
3.3 Metal powder shape	ball shaped /spherical	sphärisch
Metal powder size	Chief ingrendient mid. 80%	Powder type 3
Powder type 1	75 - 150 µm	-----
Powder type 2	45 - 75 µm	-----
Powder type 3	25 - 45 µm	25 - 45 µm
Metal powder size	Chief ingredient mid. 90%	Powder type 3
Powder type 4	20 - 38 µm	-----
Powder type 5	15 - 25 µm	-----
4.1 Slumping	Bridging between prints separated by the distances is not allowed	Minimum spacing between deposits are not run together
Powder type 1 (Stencil thickness 200 µm)	I :>= 0,5 mm II:>= 0,6 mm	I : ----- II: -----
Powder type 2 (Stencil thickness 200 µm)	I :>= 0,3 mm II:>= 0,4 mm	I : ----- II: -----
Powder type 3 (Stencil thickness 150 µm)	I: >= 0,2 mm II:>= 0,3 mm	I : 0,2 mm II: 0,2 mm
Powder type 4 (Stencil thickness 150 µm)	I: >= 0,2 mm II:>= 0,2 mm	I : ----- II: -----
Powder type 5 (Stencil thickness 120 µm)	I:>= 0,2 mm II:>= 0,2 mm	I : ----- II: -----
4.2.1 Solder balling after storage in climate chamber 23°C/50% r.H after 1h	Class	Class
Temperature profil P1	1 or 2	-----
Temperature profil P2	1 or 2	-----
Temperature profil P3	1 or 2	2
Temperature profil P4	1 or 2	-----
Temperature profil P5	1 or 2	3
Temperature profil low	1 or 2	-----
Temperature profil high	1 or 2	-----
4.2.2 Solderballing after storage in climatic chamber 23°C/83% r.H. after storage 1h	Class	Class
Temperature profil P1	1 or 2	-----
Temperature profil P2	1 or 2	-----
Temperature profil P3	1 or 2	2
Temperature profil P4	1 or 2	-----
Temperature profil P5	1 or 2	3
Temperature profil low	1 or 2	-----
Temperature profil high	1 or 2	-----

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Test	Required Value	Actuel value
4.3.1 Wetting after storage in climate chamber 23°C/50% r.H. after 1h	Class	Class
Temperature profil P1	1 or 2	-----
Temperature profil P2	1 or 2	-----
Temperature profil P3	1 or 2	2
Temperature profil P4	1 or 2	-----
Temperature profil P5	1 or 2	3
Temperature profil low	1 or 2	-----
Temperature profil high	1 or 2	-----
4.3.2 Wetting after storage in climate chamber 23°C/83% r.H. after 1h	Class	Class
Temperature profil P1	1 or 2	-----
Temperature profil P2	1 or 2	-----
Temperature profil P3	1 or 2	2
Temperature profil P4	1 or 2	-----
Temperature profil P5	1 or 2	3
Temperature profil low	1 or 2	-----
Temperature profil high	1 or 2	-----
4.4 Corrosion characteristic of flux (Copper mirror test)	Class 1 oder 2	Class 2
4.5 Surface insolation resistance R in Ohm after storage in climatic chamber 40°C/93 % r.H. with 5 V DC	R Ref. >=1,0E+10 R solder paste >=1.0E+8	*) R Ref. :> 1,0E+10 **) R solder paste 1,5 E + 9
4.6 Elektrolytic corrosion effect after 168h storage in climatic chamber 40°C/93 % r.H. with 5 V DC	No dendritic growth	Pass
4.7 Tackiness after component placement	No movement during transport	Pass
4.8 Condition of flux after soldering	Dust dry	Pass
4.9 Cleanability of flux residues	Removeable	Pass
4.10 Ability to remove solder paste	Removeable	Pass
4.11 Viskosität	Upon agreement	-----

*) Reference value after 16 h on the testboard which was not prepared with solder paste
**) Minimum value after 168h for the test board prepared with solder paste
Class 1 or 2 : useable
Class 3 or 4 : useless