

Micromax™ QM34

Electronic Inks and Pastes

Silver/Palladium Via Fill Conductor

Micromax™ QM34 silver/palladium (20:1) via fill conductor is part of the Micromax™ QM System, a silver-based system for low cost multilayer. Micromax™ QM34 is recommended as a via fill for buried vias. In addition, Micromax™ QM34 may be used as a top layer via interconnection to silver, silver/platinum, silver/palladium external conductors.

Product benefits

- Thermal expansion coefficient adjusted for compatibility with Micromax™ QM44, Micromax™ QM42 & their variants.
- Crack-free via connections.
- Suitable to fill two dielectric layers with single via print.
- Co-fireable with top silver or silver/palladium conductors.
- Co-fireable with dielectric layer.
- Provides excellent surface planarity for staggered or stacked via arrangements.
- 15x refire capability:
 - Sequential or co-fired (Dielectric/Micromax™ QM14)
 - Sequential silver/palladium Top Conductor.

Product information

Solvent or thinner

Micromax™ 4553

Rheological properties

Viscosity

60 - 90^[1] Pa.s

[1]: Brookfield HBT, UC&SP, 10 rpm, 25°C

Application technique

Mask mesh

325

Mask emulsion

12.5 µm

Drying time

10 - 15 min

Drying temperature

150 °C

Via, diameter resolution

125 - 500 µm

Leveling time

5 - 10 min

Electrical properties

Surface resistivity

5 - 10^[2] mOhm per square

[2]: at 25µm fired thickness

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Storage and stability

Shelf life

6^[3] months

[3]: in unopened containers, from date of shipment, at temperature <25 °C

Additional information

How to use

Processing

- **Substrates**
 - Properties are based on tests on 96% alumina substrates. Substrates of other compositions and from various manufacturers may result in variations in performance properties.
- **Printing**
 - Screen-print with a 325-mesh stainless steel screen with a 12.5µm emulsion thickness.
- **Drying**
 - Allow prints to level for 5-10 minutes at room temperature. Then dry for 10-15 minutes at 150 °C.
- **Firing**
 - Fire in well-ventilated moving conveyor furnace, in air with a 30-minute cycle, to a peak temperature of 850 °C.

Properties

Typical Fired & Composition Properties

Test	Properties
Planarity (µm)	< 5
#Stacked Vias (layers)	< 10
Coverage (vias/g) 300µm diameter vias	106000

Information in this datasheet shows anticipated typical physical properties for Micromax™ QM34 based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

Storage and shelf life

Containers should be stored, tightly sealed, in a clean, stable environment at room temperature (<25 °C). Shelf life of material in unopened containers is six months from date of shipment. Some settling of solids may occur and compositions should be thoroughly mixed prior to use.

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Safely and handling

For safety and handling information pertaining to this product, read Safety Data Sheet (SDS).

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