Micromax™ 5738

Electronic Inks and Pastes

Gold Cofireble Via Fill

Micromax™ 5738 cofireable gold conductor, part of the Micromax™ GreenTape™ 951 low temperature co-fired ceramic system, is a gold via fill ideally suited for applications requiring high conductivity and reliable interconnections between gold conductors.

Product benefits

When used with Micromax™ GreenTape™ 951 and compatible conductor pastes, Micromax™ 5738 offers the following benefits:

- High reliability, high conductivity metallization
- High circuit density
- Stacked/thermal or routing vias
- Cofired processing

Product information

Solvent or thinner	Micromax™ 9450

Rheological properties

Viscosity	5800 - 7300[1]	Pa.s

[1]: Brookfield HBT, UC&SP, 1rpm after 3 min. setting time

Application technique

Drying time	5	min
Drying temperature	120	°C
Theoretical coverage	0.15	cm^2/g
Via, diameter resolution	100	µm

Electrical properties

Surface resistivity	≤5[2]	mOhm per square

[2]: @25µm fired thickness

Storage and stability

Shelf life	6[3]	months

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

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Additional information

How to use

Design & compatibility

- Design
  - For detailed recommendations on use of Micromax™ GreenTape™ 951 and conductors such as Micromax™ 5738, see the GreenTape™ 951 Product Data Sheet. For compatible thick film compositions and their recommended use see the GreenTape™ 951 Product Selector Guide.

Processing

- Substrates
  - Micromax™ GreenTape™ 951
- Printing
  - The composition should be thoroughly mixed before use. This is best achieved by slow, gentle, hand stirring with a clean burr-free spatula (flexible plastic or stainless steel) for 1-2minutes. Care must be taken to avoid air entrapment. Printing should be performed in a clean and well-ventilated area. Optimum printing characteristics are generally achieved in the room temperature range of 20-23°C. Viscosity, and therefore printability, of thick film compositions can be affected by ambient temperatures. Form vias in unfired Micromax™ GreenTape™ 951 low temperature co-fired ceramic system. The preferred method for via filling is use of stencil masks and screen printing methods. A vacuum stone or other support structure that uniformy distributes vacuum to the GreenTape™ 951 green sheet is recommended.
- Thinning
  - Thinning thick film compositions is not recommended as material is supplied formulated for optimal performance. Improper thinning may affect printing characteristics. Thinner may be added to replenish solvent lost during normal usage but care should be taken to not over-thin.
- Clean-up solvent
  - 1-Propoxy-2-Proponal
- Drying
  - Dry in air in a well-ventilated oven or conveyor dryer. Do not over-dry.
- Lamination and firing
  - Laminate multiple sheets of Micromax™ GreenTape™ 951 into which Micromax™ 5738 has been printed according to processing

parameters detailed in the GreenTape™ 951 Design Guide and on the GreenTape™ 951 Product Data Sheet. Consult these documents as well for detalis of the recommended GreenTape™ 951 firing profile for belt or box air furnaces.

Properties

- Information in this datasheet shows anticipated typical physical properties for Micromax™ 5738 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.

Safety and handling

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