

Micromax™ 5739

Electronic Inks & Pastes

PRODUCT DESCRIPTION

Gold/Platinum Cofireable Solderable Conductor

Micromax™ 5739 is an external gold/platinum conductor compatible with Micromax™ GreenTape™ 951 low temperature co-fired ceramic system. Micromax™ 5739 is ideally suited for solder applications.

Product benefits

When used with GreenTape™ 951 and compatible via fill pastes, Micromax™ 5739 offers the following benefits:

- High reliability
- Superior solder acceptance
- Cofire processing

Typical Fired Properties*

Initial Adhesion	≥ 25 N
Aged Adhesion, 240 hrs at 150°C	≥ 20 N

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

PRODUCT INFORMATION

General Properties	Value Unit
Application	Gold conductor
Solvent or thinner	Micromax™ 8250

TECHNICAL DATA

Rheological Properties	Value Unit
Viscosity ¹	175 to 300 Pa.s

Application Technique	Value Unit
Mask mesh	325

Application Technique	Value	Unit
Mask emulsion	12	µm
Drying time	5	min
Drying temperature	120	°C
Theoretical coverage ²	80 to 90	cm ² /g
Recommended film thickness	19 to 25	µm
Recommended film thickness	10 to 15	µm
Print resolution ³	125	µm
Print resolution ⁴	125	µm
Specific Application Suitability	Value	Unit
Solder acceptance	≥95	%
Electrical Properties	Value	Unit
Resistivity ⁵	≤85	mOhm per square
Storage and Stability	Value	Unit
Shelf life ⁶	6	months

¹Brookfield 2xHAT, UC&SP; 10 rpm, 25°C

²calculated at a wet thickness of 25µm

³Dried Line Resolution

⁴Dried Line Resolution

⁵at 22µm fired film thickness

⁶in unopened containers, from date of shipment, stable environment at room temperature between 5°C - 30°C

PROCESSING GUIDELINES

Design & compatibility

Design

For detailed recommendations on use of Micromax™ GreenTape™ 951 and conductors such as Micromax™ 5739, see the Micromax™ GreenTape™ 951 design guide and Micromax™ GreenTape™ 951 product data sheet. For compatible thick film compositions and their recommended use see the Micromax™ GreenTape™ 951 product selector guide.

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 1-2 minutes. 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.

Print Micromax™ 5739 directly onto unfired Micromax™ GreenTape™ 951 using thick film printing methods and a vacuum stone or other support structure that uniformly distributes vacuum. A 325-mesh stainless steel screen with 12 µm emulsion is standard.

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-Propanol

Drying

Dry in air in a well-ventilated oven or conveyor dryer for 5 minutes at 120°C. Do not over-dry.

Lamination and firing

Laminate multiple sheets of Micromax™ GreenTape™ 951 onto which Micromax™ 5739 has been printed according to processing parameters detailed in the Micromax™ GreenTape™ 951 design guide and on the Micromax™ GreenTape™ 951 product data sheet. Consult these documents as well for details of the recommended Micromax™ GreenTape™ 951 firing profile for belt or box air furnaces.

Micromax™ 5739 performs well with up to two refires under optimal conditions. It is important to ensure adequate air-flow to the part during both firing and refiring. Micromax™ 5739 is not recommended for use buried or in completely enclosed cavities.

Properties

Information in this datasheet shows anticipated typical physical properties for Micromax™ 5739 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 between 5°C - 30°C. Shelf life of material in unopened containers is 6 months from date of shipment. Some settling of solids may occur and compositions should be thoroughly mixed prior to use.

Storage conditions on the product data sheets are intended to represent long-term material storage recommendations and not a shipping or temperature-at-receipt requirement.

Transportation: Under normal shipping conditions, without temperature control, Micromax™ products are not expected to exhibit a change in quality or fitness for use. Should extraordinary

events result in extended transportation periods, Micromax™ recommends customers confirm products remain suitable for the intended application.

Safety and handling

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

SAFETY & WARNING

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use.

Safety Data Sheets are available.

WASTE TREATMENT

Prior to using any recommendations or suggestions for waste treatment, the user is required to know the appropriate local/state/federal regulations for on-site or off-site treatment which may require permits. If there is any conflict regarding our recommendations, local/state/federal regulations take precedence.

CONTACT INFORMATION

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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE. Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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