

Micromax™ 5740A

Electronic Inks & Pastes

PRODUCT DESCRIPTION

Au Co-fire Conductor Micromax™ GreeTape™ System

Micromax™ 5704A is a co-fire inner and top layer gold conductor, which is applied by screen printing. It has been developed to be compatible with Micromax™ 951 Low Temperature Co-fired Dielectric Tape.

Product benefits

- Co-fire processing
- Au wire bondable
- High reliability
- High yield
- High circuit density
- Lead, Cadmium, Nickel and Phthalate free*

* Lead, Cadmium, Nickel and Phthalate 'free' as used herein means that lead, cadmium, nickel and phthalate are not intentional ingredients in and are not intentionally added to the referenced product. Trace amount however may be present.

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	200 to 270 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
Recommended film thickness	4 to 8	µm
Print resolution	125	µm
Print resolution	125	µm
Leveling time	5 to 10	min

Electrical Properties	Value	Unit
Resistivity ²	≤5	mOhm per square

Storage and Stability	Value	Unit
Shelf life ³	6	months

¹Brookfield HBT, SC4-14/6R, 10 rpm

²at 5µm fired thickness

³in unopened containers, from date of shipment, stable environment at room temperature between 5°C - 30°C

PROCESSING GUIDELINES

Design and compatibility

Design

Properties are based on laboratory data using recommended processing procedures for manufacturing test vehicles. To achieve the required fired thickness screen mesh counts of 200-400 mesh stainless steel have been found to be suitable. Recommended processing procedures for Tape are detailed in the 951 Low-Temperature Co fire Dielectric Tape Technical Datasheet.

Compatibility

Whilst Micromax™ has tested this composition with the materials specified above and the recommended processing conditions, it is impossible or impractical to cover every combination of materials, customer processing conditions and circuit layouts. It is therefore essential that customers thoroughly evaluate the material in their specific situations in order to completely satisfy themselves with the overall quality and suitability of the composition for its intended application(s).

Screen types

325 mesh stainless steel screen. (30µm wire; 12µm emulsion build up)

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 about 1-2 minutes. Care must be taken to avoid air entrapment.

Printing should be performed in a well-ventilated area.

Note: Optimum printing characteristics are generally achieved in the room temperature range of 20°C - 23°C. It is therefore important that the material, in its container, is at the temperature prior to commencement of printing. Class 10,000 printing area is recommended for building complex hybrids and multilayer circuits, otherwise severe yield losses could occur.

Thinning

Micromax™ 5740A composition is optimized for screen printing and thinning is not normally required. Use the Micromax™ recommended thinner for slight adjustments to viscosity or to replace evaporation losses. The use of too much thinner or the use of a non recommended thinner may affect the rheological behavior of the material and its printing characteristics.

Drying

Allow prints to level for 5-10 minutes at room temperature, then dry for 5 minutes at 120°C.

Allow prints to level at room temperature, then dry in a well-ventilated oven or conveyor dryer.

Firing

Consult 951 Low Temperature Co-fire Dielectric Tape Technical Datasheet for firing details. Fire in well-ventilated belt, conveyor furnace or static furnace. Air flows and extraction rates should be optimized to ensure that oxidizing conditions exist within the muffle and that no exhaust gases enter the room.

Properties

Information in this datasheet shows anticipated typical physical properties for Micromax™ 5740A based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

General

Performance will depend to a large degree on care exercised in screen printing. Scrupulous care should be taken to keep the composition, printing screens and other tools free of metal contamination. Dust, lint and other particulate matter may also contribute to poor yields.

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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