

# Micromax<sup>TM</sup> 6277

# Microcircuit and Component Materials

#### Silver/Palladium Conductor

Micromax<sup>TM</sup> 6277 is a general purpose microcircuit conductor offering excellent adhesion, fired density and wide processing latitude. It has been designed to give high yields and to be cost-effective in demanding, commercial circuit applications.

#### Product benefits

- High thermal cycle and long term aged adhesion
- Broad process latitude: insensitive to firing temperature, profile, refiring and thickness
- · Excellent solderability
- Compatible with Micromax™ QS87 Resistor Series

### **Product information**

Solvent or thinner Micromax<sup>™</sup> 4553

## Rheological properties

Viscosity	100 - 180 <sup>[1]</sup> Pa.s
[1]: Brookfield HBT, UC&SP, #14, 10rpm, 25°C	

### Application technique

Mask mesh	200 - 325 <sup>[2]</sup>
Mask emulsion	10 - 15 μm
Drying time	10 - 15 min
Drying temperature	150 °C
Recommended film thickness, fired	13 - 17 μm
Print resolution, lines	110 - 140 <sup>[3]</sup> μm
Leveling time	5 - 10 min
F01	

[2]: stainless steel[3]: using 125μm/125μm

## **Electrical properties**

Surface resistivity	≤18 <sup>[4]</sup> mOhm per
	square

[4]: @15µm

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## Storage and stability

Shelf life 6<sup>[5]</sup> months

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

#### Additional information

How to use

## Design & compatibility

### Compatibility

 No significant shifts in Resistivity or TCR when used to terminate Micromax<sup>TM</sup> QS87 Resistors.

### **Processing**

### Printing

 $\circ$  Micromax<sup>TM</sup> 6277 prints easily using 200-325 mesh stainless steel screens with a 10-15  $\mu m$  emulsion, at printing speeds up to 25 cm/s (10in/s).

## Drying

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

# Firing

• Fire in well ventilated moving conveyor furnace, in air with a 30-60 minute cycle to a peak temperature of 850 °C.

# **Properties**

Typical Physical Properties

Test	Properties
Solder Acceptance*1 on Al <sub>2</sub> O <sub>3</sub>	Excellent
Solder Leach Resistance*2 on Al <sub>2</sub> O <sub>3</sub>	6 - 8 cycles
Adhesion*3 Initial (N)	34
Adhesion*3 after 5000 thermal cycles (N)	19
Adhesion*3 after 3000 hours at 150°C (N)	> 18
Line Resolution (μm) [lines/spaces] using 125μm/125μm	140 - 110

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- \*1 Excellent characterized as greater than 95%, wetting smooth solder film after 5 seconds dip in 62Sn/36Pb/2Ag solder at 220°C using mildiy-activated flux. Equivalent results for 30 or 60 minute firing prosiles.
- \*2 Cycle consists of dip in mildly-activated flux (Alpha 611), 10-second dip in solder (62Sn/36Pb/2Ag solder at 230°C) and washing off flux residue. Equivalent results for 30 or 60 firing profiles.
- $^*3$  90° wire peel test on 2 mm x 2 mm pads soldered with 62Sn/36Pb/2Ag solder at 220°C and mildly-activated flux. Equivalent results for 30 or 60 minute firing profiles. Average values are stated. Thermal Cycle Conditions: -40/+125°C with 30 minutes at each temperature and approximately 10 minute transition time between temperatures.

Information in this datasheet shows anticipated typical physical properties for Micromax<sup>TM</sup> 6277 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 shlef 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).

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