Celanese
The chemistry inside innovation™

Micromax™ 0022Z

Electronic Inks and Pastes

00X1Z Series Resistor Composition Positive TCR Position* 100Ω/sq

*Options with different TCR positions are available for 10Ω, 100Ω, 1KΩ, 10KΩ

Designed to give an ideal balance of properties, Micromax™ 00X1Z series has been specifically developed for Chip Resistor Applications. It meets the market needs for smaller sized resistors and lower cost of manufacturing.

Product benefits

- Excellent power handling stability
- Exceptional ESD stability
- Excellent performance with thinner thickness and smaller chip size
- High speed laser trimmable
- Good blendability with lower and higher ohm Micromax™ 00X1 resistor members through 70mΩ to 10MΩ
- Low noise (MIL-STD-202)

Processing features

- Fast firing - 850°C/30min profile
- Insensitive to firing profile / chip size
- Linear blend behavior
- Compatible with 5421E Ag/Pd termination

Product information

Solvent or thinner	Micromax™ 8250
Blend member or series	00X1Zsrs

Rheological properties

Viscosity	110 - 180[1]	Pa.s

[1]: Brookfield HAT, SC4-14/6R, @10rpm

Application technique

Mask mesh	250 - 325	
Mask emulsion	10 - 15	µm
Drying time	10 - 15	min
Drying temperature	150	°C
Recommended film thickness, dried	14 - 16	µm
Leveling time	5 - 10	min

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Electrical properties

Surface resistivity	107000 - 145000[2]	mOhm per square
Hot Temperature Coefficient Resistance	0 - 110[3]	ppm/K
Cold Temperature Coefficient Resistance	0 - 110[4]	ppm/K

[2]: Unless otherwise noted, Micromax™ 00X1Z resisters were printed on Micromax™ 5426 terminations at 14-16µm dried thickness, then fired in 30 minutes cycle with 850°C peak for 10 minutes. Resistor geometry is 0.5mm x 0.5mm.

[3]: Temperature Coefficient of Resistance from +25 to +125°C for Hot TCR.

[4]: Temperature Coefficient of Resistance from +25 to -55°C for Cold TCR.

Storage and stability

Shelf life	6[5]	months

[5]: in unopened containers, from date of shipment, at room temperature

Additional information

How to use

Processing

- Terminations
  - Micromax™ 00X1Z resistors were designed for use with high silver- containing terminations like Micromax™ 5421E Ag/Pd conductor. Reported properties were obtained using Micromax™ 5426 Ag/Pd termination. Use of different terminations may cause a shift of resistance and TCR values.
- Blendability
  - Adjacent members of Micromax™ 00X1Z series are totally blendable. It is also blendable with lower and higher ohm Micromax™ 00X1 resistor members like 0001(1Ω/sq.) and 0061(1MΩ/sq.) in good linearity through 70mΩ/sq.(00L2C) and 10MΩ/sq.(0071)
- Substrates
  - Reported properties are based on tests with 96% aluminasubstrates. Substrates of other composition may yield variation inperformance properties.
- Printing
  - Properties of Micromax™ 00X1Z series are based on resistors printed to 14~16µm dried thickness and 0.5mmsq. (10Ω ~ 100KΩ) 250 - 325 mesh screens with 10-15µm emulsion is recommended.
- Thinning
  - Micromax™ 00X1Z resistors have been optimized for screen printing and thinning is not normally required or recommended. Micromax™ 8250 thinner may be added sparingly to compensate for evaporative losses.

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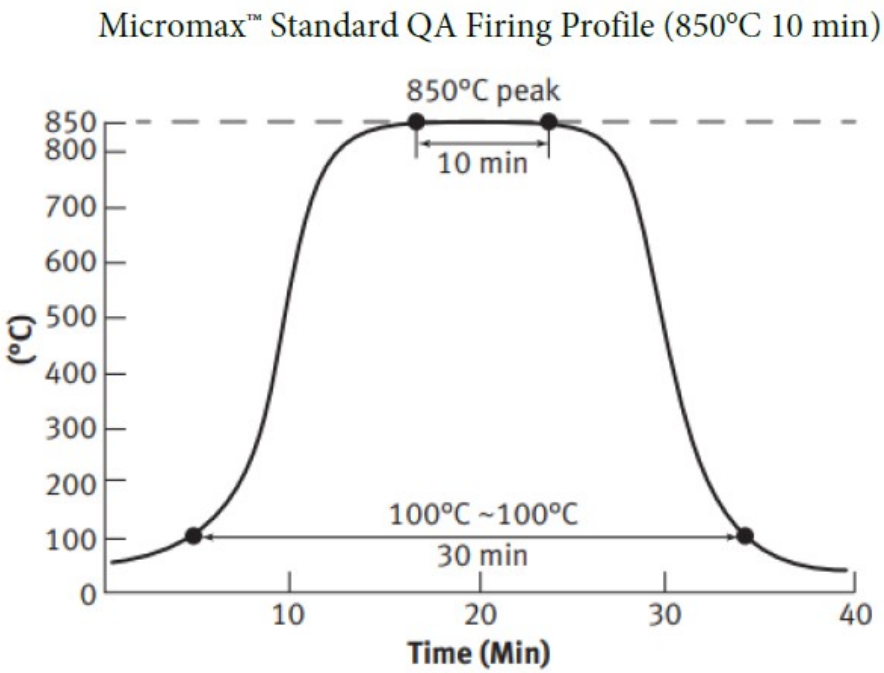
- Drying
  - Parts should be allowed to level at room temperature and then dried.
- Firing
  - Properties are based on a 30 minutes firing cycle (100 °C - 100 °C) with 10 minutes at a peak temperature of 850 °C Micromax™ standard profile.



Storage and shelf life

Containers should be stored, tightly sealed, in a clean, stable environment at room temperature. 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).