



PRELIMINARY TECHNICAL DATA SHEET

MRA Laboratories, Inc.

Materials, Research & Applications

MRA Product No. LF-212

Product Description

LF-212 is believed to be the first environmentally friendly, low firing X8R dielectric available from the merchant materials market. It is RoHS compliant (not formulated with lead or cadmium). LF-212 meets the EIA X8R temperature characteristic and exhibits very good insulation resistance to 200°C. This dielectric is compatible with 70 Ag/30 Pd electrode systems.

Key Features

- Meets EIA X8R temperature characteristic
- Good high temperature characteristics to 200°C
- RoHS compliant

Typical Powder Properties

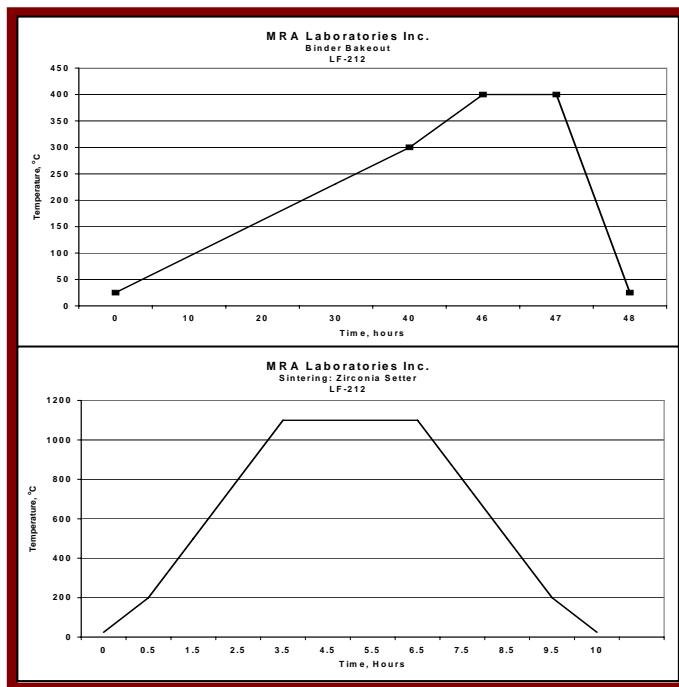
Powder Density ≥ 5.8 gm/cc
 Surface Area 2.5 ± 0.5 M²/gm
 Particle Size, microns
 D₉₀ ≤ 1.5
 D₅₀ 0.60 ± 0.10
 D₁₀ 0.40 ± 0.10
 LOI (650°C, 6 hours) $\leq 0.3\%$

Sintering Conditions

Binder burnout to 400°C
 Sintering 1100°C ($\pm 20^\circ\text{C}$)/3 hours (Zr setter)
 Fired density(ceramic) ≥ 5.7 gm/cc

Typical MLCC Characteristics

Chip Size 0805 Active Layers 10 (70 Ag/30 Pd)
 Dielectric Thickness 0.8 mil
 K 2200 ± 200
 Dissipation Factor $< 2\%$ @ 1Vrms
 Insulation Resistance at 200V, 180°C $> 1 \times 10^{10}$ Ω
 Dielectric Withstanding Voltage > 1000 V/mil



The data presented is based on our research and is considered to be fair representation of this product. MRA makes no warranties, expressed or implied, as to its accuracy and assumes no liability out of its use by others.