

Conductors

C7300/C7301

(CL81-10100/CL81/10101)



Lead Free Nitrogen Fireable Copper Conductor System

Description:

C7300/C7301 is a lead free copper conductor system developed for applying thick layers of copper onto 96% alumina. It is intended for use where cost sensitive applications involving high thermal and electrical properties are required. C7300/C7301 are applied by screen printing, dried in air and fired in a Nitrogen atmosphere. C7300 forms the thick copper layers. C7301 forms the solderable top layer.

● Key Benefits:

- Lead, cadmium and nickel free
- Excellent Electrical and Thermal properties
- High fired film thickness

● Typical Properties:

Resistivity:

< 1.5 milliohms/sq.
at 24 microns fired film thickness

Solderability:

SAC 305 @ 245°C
10 sec. dip, RMA flux
> 95%

Adhesion:

80x80 mil pad
SAC 305 @ 245°C
RMA flux
Initial ≥ 6.0 lbs (>26N)

Viscosity:

C7300 350-450 Kcps
C7301 250-350 Kcps
Brookfield HBT, SC4-14 @ 10rpm, 25°C

Coverage:

> 17 cm²/g

● Recommended Processing Guidelines:

Printing:

105 stainless steel mesh, 70 micron emulsion
200 stainless steel mesh, 0.5 mil emulsion
Allow to level at room temperature for 2-5 minutes
before drying

Processing Sequence:

1. Print C7300 base layer, dry, fire
2. Overprint with subsequent layers of C7300 where increased thickness is needed, dry, fire
3. Overprint C7301 solderable layer, dry, fire

Drying:

Dry at 130°C for 10 minutes.

Firing Profile:

Fire in Nitrogen with O₂ between 2-10 ppm
900 - 950°C peak
Dwell time of 6 - 8 minutes.

Suggested Print Thickness:

C7300 with 105 mesh	FFT=75 microns
C7301 with 200 mesh	FFT= 25 microns

Thinner:

RV-252 (Butyl Carbitol Acetate)

Warranty:

Material guaranteed to meet specifications for 6 months from date of shipment.

Storage:

Store in a dry location at 5°C-25°C.

DO NOT REFRIGERATE.

Allow paste to come to room temperature prior to opening. Materials should be mixed thoroughly before using.

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The descriptions and engineering data shown here have been compiled by Heraeus using commonly-accepted procedures, in conjunction with modern testing equipment, and have been compiled as according to the latest factual knowledge in our possession. The information was up-to date on the date this document was printed (latest versions can always be supplied upon request). Although the data is considered accurate, we cannot guarantee accuracy, the results obtained from its use, or any patent infringement resulting from its use (unless this is contractually and explicitly agreed in writing, in advance). The data is supplied on the condition that the user shall conduct tests to determine materials suitability for a particular application.

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