ORMET CIRCUITS, INC.

Technical Data Sheet

Ormet 265

June 2013

PRODUCT DESCRIPTION

Ormet 265 is a lead-free conductive paste used to create conductive traces and interconnections in metal-core substrates and printed circuit board applications. The innovative metal matrix incorporates Ormet Circuits' patented Thermal Liquid Phase Sintering (TLPS) technology to make robust circuit traces and pads. Ormet Circuits' TLPS compounds enable lead-free metallic bonding at temperatures as low as 200°C. The metallurgy of **Ormet 265** was specifically designed to maintain low and stable electrical resistance in lead-free component assembly cycles.

TYPICAL PROPERTIES

Property	Test Method	Value
Color	'As-received' Visual	Copper color
Color	'Post-reaction' Visual	Grey color
Filler	Type	Copper and Tin Alloy
Nominal Particle Size	Hegman Gauge	< 10 microns Maximum Particle Size < 25 microns
Viscosity	Brookfield DV-III TE spindle, 5 rpm, 25°C	400 Kcp
Specific Gravity		4.9 grams/cc
Electrical Resistivity	Volume Resistivity 4-point probe	40 µohm∗cm
Coefficient of Thermal Expansion	TMA Expansion mode	22 ppm/°C
Lap Shear Strength	Copper to Copper 0.125 in 2 overlap	1300 psi
Weight Loss on Cure	TGA	4%
Work Life	Application Testing After RT Storage	24 hours @ 25°C
Screen Life	Applications Testing	8 hours
Storage Life		12 months < -10°C

6555 Nancy Ridge Drive, Ste 200 • San Diego, CA 92121 • T: 858-831-0010 • F: 858-455-7108
Website: http://www.ormetcircuits.com

TYPICAL APPLICATIONS

Use of **Ormet 265** enables traces and pads to be formed on metal substrates bearing thin dielectric layers. This additive circuit formation technique offers a short thermal path between operating devices (e.g. LEDs) and the underlying metallic heat sink. The innovative metal matrix incorporates Ormet Circuits' patented Thermal Liquid Phase Sintering (TLPS) technology to make robust, high conductivity circuit traces and pads. **Ormet 265** is a lead-free material and is directly solderable with all common solder alloys. The metallurgy of **Ormet 265** was specifically designed to maintain low and stable electrical resistance throughout a variety of environmental conditions.

MATERIAL DEPOSITION GUIDELINES

Ormet 265 can be applied by several techniques. **Ormet 265** is often applied using a metal mesh screen or stencil printing process. It may also be dispensed.

SINTERING PROCESS GUIDELINES

	Recommended Profile	**Alternate Profiles**
Solvent Removal (Drying)	30 minutes @ 95°C	30 minutes @ 115°C 60 minutes @ 75°C
Sintering[1]	5 minutes @ 220°C[2]	20 minutes @ 200°C 15 minutes @ 210°C

STORAGE AND HANDLING

Ormet 265 is supplied in 250 gram jars. The storage temperature is -10°C MAX. **Ormet 265** must be stabilized to room temperature for 30 minutes before opening the syringes or jars for use.

GENERAL INFORMATION

The Material Safety Data Sheet (MSDS) contains safe handling information for this product. Please read carefully before handling or using this product.

The information provided in this Technical Data Sheet is believed to be correct and reliable; however, Ormet Circuits, Inc. does not assume responsibility for the user's implementation. Ormet Circuits, Inc. specifically disclaims all warranties expressed or implied including warranties for merchantability or fitness for use for a particular purpose, arising from sale or use of our products.

This product is covered by United States and foreign patents, both issued and pending, for the material compositions, applications and techniques for use. Refer to www.ormetcircuits.com for detailed patent information.

[1] Must be inert environment.

[2] Vapor phase reflow is recommended.

6555 Nancy Ridge Drive, Ste 200 • San Diego, CA 92121 • T: 858-831-0010 • F: 858-455-7108
Website: http://www.ormetcircuits.com

6555 Nancy Ridge Drive, Ste 200 • San Diego, CA 92121 • T: 858-831-0010 • F: 858-455-7108
Website: http://www.ormetcircuits.com