EPOXY TECHNOLOGY

EPO-TEK® E2001-HV
Technical Data Sheet
For Reference Only
Electrically Conductive, Silver-Filled Epoxy (formerly EE2001-HV)

Number of Components:	Two
Mix Ratio By Weight:	100 : 3
Specific Gravity:	
Part A	2.67
Part B	1.04
Pot Life:	24 Hours
Shelf Life:	One year at room temperature

Minimum Bond Line Cure Schedule*:

180°C	2 Minutes
150°C	15 Minutes

*Note: Container(s) should be kept closed when not in use. For filled systems, mix the contents of Part A thoroughly before mixing the two parts together. *Please see Applications Note available on our website.*

Product Description:

EPO-TEK® E2001-HV Is a snap cure, two component, silver-filled die attach adhesive for semiconductor plastic IC packaging.

EPO-TEK® E2001-HV Advantages & Application Notes:

- Snap cure adhesive or fast-cure; chips can be cured in-line < 90 seconds travel time; or lead-frames can be loaded into magazines for box oven curing <15 minutes travel time at 180°C or higher; a traditional box-oven cure for several hours may also be used.
- Excellent adhesion to die-paddle on lead-frames including Cu, Alloy 42, or Ag spot ring.
- Bright and shiny silver epoxy after cure; suggested for LED die-attach packaging.
- Compatible with COB die-attach process on Au plated PCB, Au plated ceramic PCB in hybrid packages or opto-electronic packaging using hybrids.
- 24 hour pot-life for automated syringe dispensing; compatible with many dispensing methods: air pressure, positive displacement, and auger screws.
- Soft and creamy thixotropic behavior. Rheology allows for high speed dispensing of dots, dot arrays, shower head dispensing, or the writing-pen method.
- Suggested for JEDEC Level II packaging of semiconductor devices.

Typical Properties: *(To be used as a guide only, not as a specification. Data below is not guaranteed. Different batches, conditions and applications yield differing results; Cure condition: 150°C/1 hour; * denotes test on lot acceptance basis)*

Physical Properties:	
***Color:** **Part A:** Silver **Part B:** Amber	**Weight Loss:**
***Consistency:** Smooth Thixotropic Paste	**@ 200°C:**
***Viscosity (@ 20 RPM/23°C):** 11,000 – 14,000 cPs	**@ 250°C:**
Thixotropic Index: 3.9	**@ 300°C:** 0.23%
***Glass Transition Temp.(Tg):** ≥ 100°C (Dynamic Cure 20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min)	**Operating Temp:** **Continuous:** - 55°C to 200°C
Coefficient of Thermal Expansion (CTE):	**Intermittent:** - 55°C to 300°C
Below Tg: 24 x 10^{-6} in/in/°C	**Storage Modulus @ 23°C:** 311,866 psi
Above Tg: 77 x 10^{-6} in/in/°C	**Ions:** **Cl^-** 125 ppm
Shore D Hardness: 80	**Na^+** 6 ppm
Lap Shear Strength @ 23°C: 1,488 psi	**NH_4^+** 27ppm
Die Shear Strength @ 23°C: ≥ 10 Kg / 3,400 psi	**K^+** 4 ppm
Degradation Temp. (TGA): 435°C	***Particle Size:** ≤ 20 Microns
Electrical Properties:	
***Volume Resistivity @ 23°C:** ≤ 0.0005 Ohm-cm	
Thermal Properties:	
Thermal Conductivity: 1.09 W/mK	

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