

Number of Components:	Single	Minimum Bond Line Cure Schedule*:	
Mix Ratio By Weight:	N/A	180°C	2 Minutes
Specific Gravity:	2.84	150°C	15 Minutes
Part A:			
Part B:			
Pot Life:	24 Hours		
Shelf Life:	One year at -40°C		

Note: Container(s) should be kept closed when not in use.

\*Please see Applications Note available on our website.

#### Product Description:

EPO-TEK<sup>®</sup> E3001-HV is a snap cure, single component, silver-filled die attach adhesive for semiconductor plastic IC packaging. Also available in a frozen syringe.

#### EPO-TEK<sup>®</sup> E3001-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: Silver	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:
Coefficient of Thermal Expansion (CTE):	Continuous: - 55°C to 200°C
Below Tg: 24 x 10 <sup>-6</sup> in/in/°C	Intermittent: - 55°C to 300°C
Above Tg: 77 x 10 <sup>-6</sup> in/in/°C	Storage Modulus @ 23°C: 311,866 psi
Shore D Hardness: 80	Ions: Cl <sup>-</sup> 125 ppm
Lap Shear Strength @ 23°C: 1,488 psi	Na <sup>+</sup> 6 ppm
Die Shear Strength @ 23°C: ≥ 10 Kg/3,400 psi	NH <sub>4</sub> <sup>+</sup> 27 ppm
Degradation Temp. (TGA): 435°C	K <sup>+</sup> 4 ppm
	*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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