

Number of Components:	Single	Minimum Bond Line Cure Schedule*:	
Mix Ratio By Weight:	N/A	170°C	45 Seconds
Specific Gravity:	2.76	160°C	5 Minutes
Part A	N/A	150°C	15 Minutes
Part B	N/A		
Pot Life:	1 Day		
Shelf Life:	One year at -40°C		

Note: Container(s) should be kept closed when not in use. BRING TO ROOM TEMPERATURE BEFORE OPENING CONTAINER

*Please see Applications Note available on our website.

Product Description:

EPO-TEK[®] E3001 is a one component, silver-filled, electrically conductive epoxy designed for semiconductor die attach applications using a snap-cure profile.

EPO-TEK[®] E3001 Advantages & Application Notes:

- This product is the one component version of EPO-TEK[®] E2001.
- Versatility & Cure: snap cures of 90 seconds, fast cures of 15 minutes and traditional oven cures of 1-3 hours can be realized.
- Designed for JEDEC Level III and II packaging criteria.
- Compatible with die sizes up to 250 mil x 250 mil. Also recommended for small die such as LEDs and GaAs devices like 10 mil x 10 mil.
- Beneficial radius of curvature after die-attach cure.
- Compatible with high volume, automated syringe dispensing manufacturing processes.
- Suggested applications:
 - Semiconductor: die attach onto lead-frames such as Ag spot die paddle, COB, advanced packages, and hybrid circuits.
 - Hybrid Microelectronics: die attach bonding onto ceramic PCB, as well as attaching SMDs onto the same substrate.
 - Opto-electronics:
 - Die attach of LEDs, LED arrays, LED on PCB, or packaged onto lead-frames.
 - Die attach epoxy for near-IR chips used in IRDA (Infra Red Data Acquisition).
 - Die-attach bonding of laser diode or photo-diode for fiber optics packaging.
- Many modifications are available, including lower temperature cure, lower stress, longer pot-life, and higher thixotropic index. Contact techserv@epotek.com for your best recommendation.

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: 0.04%
*Viscosity (@ 100 RPM/23°C): 2,000 – 4,100 cPs	@ 250°C:
Thixotropic Index: 2.7	@ 300°C: 0.22%
*Glass Transition Temp.(Tg): ≥ 90°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: 50 x 10 ⁻⁶ in/in/°C	Intermittent: - 55°C to 300°C
Above Tg: 124 x 10 ⁻⁶ in/in/°C	Storage Modulus @ 23°C: 374,999 psi
Shore D Hardness: 78	Ions: Cl ⁻
Lap Shear Strength @ 23°C: 1,391 psi	Na ⁺
Die Shear Strength @ 23°C: ≥ 5 Kg / 1,700 psi	NH ₄ ⁺
Degradation Temp. (TGA): 428°C	K ⁺
	*Particle Size: ≤ 45 Microns
Electrical Properties:	
*Volume Resistivity @ 23°C: ≤ 0.0005 Ohm-cm	Volume Resistivity @ 23°C (200°C/2 Minutes): 0.0007 Ohm-cm
Thermal Properties:	
Thermal Conductivity: 0.93 W/mK	

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