

Number of Components:	Single	Minimum Bond Line Cure Schedule*:	
Mix Ratio By Weight:	N/A	200°C	1 Hour
Specific Gravity:	2.81	180°C	2 Hours
Part A			
Part B			
Pot Life (closed container):	28 Days	Dry Time:	5 Days
Shelf Life:	One year refrigerated		

*Note: Container(s) should be kept closed when not in use. For filled systems, mix contents thoroughly.
Please see Applications Note available on our website.

Product Description:

EPO-TEK[®] E3081 is a single component, high temperature grade, silver-filled, electrically and thermally conductive adhesive designed for semiconductor die-attach and hybrid microelectronics packaging applications found in military, medical, industrial and aerospace industries.

EPO-TEK[®] E3081 Advantages & Application Notes:

- Passes NASA low outgassing standard ASTM E595 with proper cure - <http://outgassing.nasa.gov/>
- Product yields a long pot-life of several days.
- The viscosity and thixotropic nature allow it to be screen printed, or automatic dispensed in mass production, although other techniques can be used.
- Suggested applications:
 - Semiconductor:
 - Low modulus, low stress die attach adhesive for large chips, components, or PCB/substrates exceeding 500 mil x 500 mil.
 - Advanced packaging such as μ BGAs, μ CSP, SiP, and 3D stacked die. Adhesion to Au, lead-frames, Ag-Pd, Cu, Ag and lead-frames.
 - Compatible with substrates such as ceramic, FR4, and BT.
 - Hybrids: Bonding die and SMDs onto the circuit: making electrical interconnects.
 - Thermal Management: A high temperature heat-sink for hostile environments and packages.
- A faster cure version is available: 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: 200°C/1 Hour ; * denotes test on lot acceptance basis)*

Physical Properties:	
*Color: Silver	Weight Loss:
*Consistency: Smooth paste	@ 200°C: 0.03%
*Viscosity (@ 50 RPM/23°C): 5,000 – 8,000 cPs	@ 250°C: 0.14%
Thixotropic Index: 6.3	@ 300°C: 0.40%
Glass Transition Temp.(Tg): 177°C	Operating Temp:
(Oven Cure Ramp -10—300°C @ 20°C/Min)	Continuous: - 55°C to 225°C
Coefficient of Thermal Expansion (CTE):	Intermittent: - 55°C to 325°C
Below Tg: 27×10^{-6} in/in/°C	Storage Modulus @ 23°C: 277,864 psi
Above Tg: 86×10^{-6} in/in/°C	Ions: Cl ⁻ 55 ppm
Shore D Hardness: 50	Na ⁺ 22 ppm
Lap Shear Strength @ 23°C: 416 psi	NH ₄ ⁺ 3 ppm
Die Shear Strength @ 23°C: ≥ 5 Kg / 1,700 psi	K ⁺ 1 ppm
Degradation Temp. (TGA): 382°C	*Particle Size: ≤ 20 Microns
Electrical Properties:	
*Volume Resistivity @ 23°C: ≤ 0.00009 Ohm-cm	
Thermal Properties:	
Thermal Conductivity: 10.6 W/mK	

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