

Epoxy Technology EPO-TEK® E3001-HV Electrically Conductive, Silver Epoxy

Category : Polymer , Thermoset , Epoxy , Epoxy, Electrically Conductive

Material Notes:

Product Description: EPO-TEK® E3001-HV is a snap cure, single component, silver-filled die attach adhesive for semiconductor plastic IC packaging. Also available in a frozen syringe. **Advantages & Application Notes:** The thixotropic and paste-like rheology allows for application by screen or stencil printing techniques. It was designed to be printed for SMT joining similar to printing solder paste. It may also be hand applied or dispensed. A "lead-free" solution for PCB level circuit assemblies. It is suggested to use this epoxy with SMDs that do not contain Pb plated leads. Preferable to solder: 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

Order this product through the following link:

http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-E3001-HV-Electrically-Conductive-Silver-Epoxy.php

Physical Properties	Metric	English	Comments
Specific Gravity	2.84 g/cc	2.84 g/cc	
Particle Size	<= 20 µm	<= 20 µm	
Viscosity	11000 - 14000 cP @Temperature 23.0 °C	11000 - 14000 cP @Temperature 73.4 °F	20 rpm

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	80	80	
Tensile Modulus	2.15 GPa	312 ksi	Storage
Shear Strength	10.26 MPa	1488 psi	Lap
	>= 23.4 MPa	>= 3400 psi	Die

Thermal Properties	Metric	English	Comments
CTE, linear	24.0 µm/m-°C	13.3 µin/in-°F	Below Tg
	77.0 µm/m-°C	42.8 µin/in-°F	Above Tg
Thermal Conductivity	1.09 W/m-K	7.56 BTU-in/hr-ft²-°F	
Maximum Service Temperature, Air	200 °C	392 °F	Continuous
	300 °C	572 °F	Intermittent
Minimum Service Temperature, Air	-55.0 °C	-67.0 °F	Continuous
	-55.0 °C	-67.0 °F	Intermittent
	>= 100 °C	>= 212 °F	Dynamic Cure 20–200°C /ISO 25 Min;

Glass Transition Temp, Tg Thermal Properties	Metric	English	Ramp - 10–200 °C @ 20 °C/Min Comments
Decomposition Temperature	435 °C	815 °F	Degradation Temperature; TGA

Electrical Properties	Metric	English	Comments
Volume Resistivity	<= 0.00050 ohm-cm	<= 0.00050 ohm-cm	

Chemical Properties	Metric	English	Comments
Ionic Impurities - Na (Sodium)	6.0 ppm	6.0 ppm	
Ionic Impurities - K (Potassium)	4.0 ppm	4.0 ppm	
Ionic Impurities - Cl (Chloride)	125 ppm	125 ppm	

Processing Properties	Metric	English	Comments
Cure Time	2.00 min	0.0333 hour	Minimum Bond Line
	@Temperature 180 °C	@Temperature 356 °F	
	15.0 min	0.250 hour	Minimum Bond Line
	@Temperature 150 °C	@Temperature 302 °F	
Pot Life	1440 min	1440 min	
Shelf Life	12.0 Month	12.0 Month	
	@Temperature -40.0 °C	@Temperature -40.0 °F	

Descriptive Properties	Value	Comments
Color	Silver	
Consistency	Smooth, Thixotropic Paste	
Ionic Impurities NH4	27 ppm	
Number of Components	Single	
Thixotropic Index	3.9	
Weight Loss	0.23%	300 °C

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