Epoxy Technology EPO-TEK® E3001 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-Electrically-Conductive-Silver-Epoxy.php

Physical Properties	Metric	English	Comments
Specific Gravity	2.76 g/cc	2.76 g/cc	
Particle Size	<= 45 µm	<= 45 µm	
Viscosity	2000 - 4100 cP @Temperature 23.0 °C	2000 - 4100 cP @Temperature 73.4 °F	100 rpm

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	78	78	
Tensile Modulus	2.59 GPa	375 ksi	Storage
Shear Strength	9.591 MPa	1391 psi	Lap
	>= 11.7 MPa	>= 1700 psi	Die

Thermal Properties	Metric	English	Comments
CTE, linear	50.0 µm/m-°C	27.8 µin/in-°F	Below Tg
	124 µm/m-°C	68.9 µin/in-°F	Above Tg
Thermal Conductivity	0.930 W/m-K	6.45 BTU-in/hr-ft^2-°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
	>= 90.0 °C	>= 194 °F	Dynamic Cure 20—200°C /ISO 25 Min;

Glass Transition Temp, Tg Ramp -10—200°C @ 20°C/Min

Thermal Properties	Metric	English	Comments
Decomposition Temperature	428 °C	802 °F	Degradation Temperature; TGA

Electrical Properties	Metric	English	Comments
Volume Resistivity	<= 0.00070 ohm-cm	<= 0.00070 ohm-cm	

Processing Properties	Metric	English	Comments
Cure Time	0.750 min @Temperature 170 °C	0.0125 hour @Temperature 338 °F	Minimum Bond Line
	5.00 min @Temperature 160 °C	0.0833 hour @Temperature 320 °F	Minimum Bond Line
	15.0 min @Temperature 150 °C	0.250 hour @Temperature 302 °F	Minimum Bond Line
Pot Life	1440 min	1440 min	
Shelf Life	12.0 Month @Temperature -40.0 °C	12.0 Month @Temperature -40.0 °F	

Descriptive Properties	Value	Comments
Color	Silver	
Consistency	Smooth, Thixotropic Paste	
Number of Components	Single	
Thixotropic Index	2.7	
Weight Loss	0.04%	200°C
	0.22%	300°C

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