

Epoxy Technology EPO-TEK® E2001 Electrically Conductive, Silver-Filled Epoxy

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

Material Notes:

Product Description: EPO-TEK® E2001 is a two component, silver-filled, electrically conductive epoxy designed for semiconductor die attach applications using a snap-cure profile. **Advantages & Application Notes:**•This product is the two component version of EPO-TEK® E3001. The two component version can offer advantages such as: lower cost, room temperature shipment instead of pre-mixed and frozen dry ice shipments, and maximum pot-life observed at site. **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. Information Provided by Epoxy Technology

Order this product through the following link:

http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-E2001-Electrically-Conductive-Silver-Filled-Epoxy.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.04 g/cc	1.04 g/cc	Part B
	2.78 g/cc	2.78 g/cc	Part A
Viscosity	2000 - 4100 cP	2000 - 4100 cP	100 rpm
	@Temperature 23.0 °C	@Temperature 73.4 °F	

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 Thermal Properties	200 °C Metric	392 °F English	Continuous Comments
	300 °C	572 °F	Intermittent
Minimum Service Temperature, Air	-55.0 °C	-67.0 °F	Continuous
	-55.0 °C	-67.0 °F	Intermittent
Glass Transition Temp, Tg	>= 90.0 °C	>= 194 °F	Dynamic Cure 20–200°C /ISO 25 Min; Ramp -10–200°C @ 20°C/Min
Decomposition Temperature	428 °C	802 °F	Degradation Temperature; TGA

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 0.00050 ohm-cm	>= 0.00050 ohm-cm	
	>= 0.00070 ohm-cm	>= 0.00070 ohm-cm	200°C/2 min

Chemical Properties	Metric	English	Comments
Ionic Impurities - Cl (Chloride)	45 ppm	45 ppm	

Processing Properties	Metric	English	Comments
Cure Time	0.750 min	0.0125 hour	Bond Line
	@Temperature 170 °C	@Temperature 338 °F	
	5.00 min	0.0833 hour	
	@Temperature 160 °C	@Temperature 320 °F	Bond Line
	15.0 min	0.250 hour	Bond Line
	@Temperature 150 °C	@Temperature 302 °F	
Pot Life	1440 min	1440 min	
Shelf Life	12.0 Month	12.0 Month	
	@Temperature 25.0 °C	@Temperature 77.0 °F	

Descriptive Properties	Value	Comments
Color	Amber	Part B
	Silver	Part A
Consistency	Smooth Thixotropic Paste	
Mix Ratio By Weight	100:3	
Number of Components	Two	

Descriptive Properties	Value	Comments
	0.22%	300°C

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