EPO-TEK® H20E

Epoxy; Epoxide

Epoxy Technology Inc.

Message:

EPO-TEK® H20E is a two component, 100% solids silver-filled epoxy system designed specifically for chip bonding in microelectronic and optoelectronic applications. It is also used extensively for thermal management applications due to its high thermal conductivity. It has proven itself to be extremely reliable over many years of service and is still the conductive adhesive of choice for new applications. Also available in a single component frozen syringe.

General Information			
Filler / Reinforcement	Silver		
Features	Biocompatible Electrically Conductive Electromagnetic Shielding (EMI) Low to No Outgassing Radio Frequency Shielding (RFI) Thermally Conductive Thixotropic		
Uses	Adhesives Automotive Applications Bonding Electrical/Electronic Applications Medical/Healthcare Applications Printed Circuit Boards		
Agency Ratings	EC 1907/2006 (REACH) EU 2003/11/EC EU 2006/122/EC USP Class VI		
RoHS Compliance	RoHS Compliant		
Forms	Paste		
Physical	**Nominal Value**	**Unit**	
Ion Type			
Cl-	73	ppm	
K+	3	ppm	
Na+	2	ppm	
NH4+	98	ppm	
Particle Size	< 45.0	µm	
Degradation Temperature	425	°C	TGA
Die Shear Strength - >10 kg (23°C)	23.4	MPa	

Operating Temperature			
Continuous	-55 to 200	°C	
Intermittent	-55 to 300	°C	
Storage Modulus (23°C)	5.58	GPa	
Thixotropic Index	4.63		
Weight Loss on Heating			
200°C	0.59	%	
250°C	1.1	%	
300°C	1.7	%	
Thermal	**Nominal Value**	**Unit**	
Glass Transition Temperature [1]	> 80.0	°C	
CLTE - Flow			
-- [2]	3.1E-5	cm/cm/°C	
-- [3]	1.6E-4	cm/cm/°C	
Thermal Conductivity			
-- [4]	2.5	W/m/K	
-- [5]	29	W/m/K	
Thermoset	**Nominal Value**	**Unit**	**Test Method**
Thermoset Components			
Part A	Mix Ratio by Weight: 1.0		
Part B	Mix Ratio by Weight: 1.0		
Shelf Life (23°C)	52	wk	
Uncured Properties	**Nominal Value**	**Unit**	**Test Method**
Color			
-- [6]	Silver		
-- [7]	Silver		
Density			
Part A	2.02	g/cm³	
Part B	3.06	g/cm³	
Viscosity [8] (23°C)	2.2 to 3.2	Pa·s	
Curing Time (150°C)	1.0	hr	
Pot Life	3600	min	
Cured Properties	**Nominal Value**	**Unit**	**Test Method**
Shore Hardness (Shore D)	75		
Lap Shear Strength (23°C)	10.2	MPa	
Volume Resistivity (23°C)	< 4.0E-4	ohms·cm	
NOTE			
1.	Dynamic Cure 20-200°C/ISO 25 Min; Ramp -10-200°C @ 20°C/Min		
2.	Below Tg		
3.	Above Tg		
4.	Based on standard method: Laser Flash		

5.	Based on Thermal Resistance Data: R = L x K^-1 x A^-1
6.	Part B
7.	Part A
8.	100 rpm

Recommended distributors for this material

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