EPO-TEK® H70E-1

Epoxy; Epoxide

Epoxy Technology Inc.

Message:

A two component, thermally conductive, electrically insulating epoxy adhesive designed for semiconductor and microelectronic packaging. It is most commonly used for die-attach and heat sinking applications.

General Information	
Features	Electrically Insulating Thermally Conductive
Uses	Adhesives Electrical/Electronic Applications
Agency Ratings	EC 1907/2006 (REACH) EU 2003/11/EC EU 2006/122/EC
RoHS Compliance	RoHS Compliant
Forms	Paste

Physical	Nominal Value	Unit
Particle Size	< 50.0	µm
Degradation Temperature	450	°C
Die Shear Strength - >5 kg (23°C)	11.7	MPa
Operating Temperature		
Continuous	-55 to 200	°C
Intermittent	-55 to 300	°C
Storage Modulus (23°C)	6.67	GPa
Thixotropic Index	4.92	
Weight Loss on Heating		
200°C	0.060	%
250°C	0.34	%
300°C	1.2	%

Thermal	Nominal Value	Unit
Glass Transition Temperature [1]	> 80.0	°C
CLTE - Flow		
-- [2]	2.1E-5	cm/cm/°C
-- [3]	1.1E-4	cm/cm/°C
Thermal Conductivity	0.71	W/m/K

Thermoset	Nominal Value	Unit

Thermoset Components		
Part A	Mix Ratio by Weight: 1.0	
Part B	Mix Ratio by Weight: 1.0	
Shelf Life (23°C)	26	wk
Uncured Properties	**Nominal Value**	**Unit**
Color		
-- [4]	Grey	
-- [5]	Grey, Light	
Density		
Part A	1.63	g/cm³
Part B	2.37	g/cm³
Viscosity [6] (23°C)	24 to 34	Pa·s
Curing Time (150°C)	1.0	hr
Pot Life	2900	min
Cured Properties	**Nominal Value**	**Unit**
Shore Hardness (Shore D)	88	
Lap Shear Strength (23°C)	12.5	MPa
Relative Permittivity (1 kHz)	4.47	
Volume Resistivity (23°C)	> 1.5E+13	ohms·cm
Dissipation Factor (1 kHz)	8.7E-3	
NOTE		
1.	Dynamic Cure 20-200°C/ISO 25 Min; Ramp -10-200°C @ 20°C/Min	
2.	Below Tg	
3.	Above Tg	
4.	Part B	
5.	Part A	
6.	10 rpm	

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