

EPO-TEK® H31D

Epoxy; Epoxide

Epoxy Technology Inc.

Message:

EPO-TEK® H31D is a single component, electrically conductive silver epoxy designed for die-bonding of semiconductors, including IC's, resistors, capacitors, transistors, and diodes which may be found in opto-electronics packaging or hybrid micro-electronics.

General Information		
Features	Electrically Conductive	
	Thixotropic	
Uses	Adhesives	
	Bonding	
	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
Ion Type		
Cl-	19	ppm
K+	36	ppm
Na+	222	ppm
Particle Size	< 20.0	µm
Degradation Temperature	350	°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)	6.25	GPa
Thixotropic Index	3.90	
Weight Loss on Heating		
200°C	0.080	%
250°C	0.18	%
300°C	0.43	%
Thermal	Nominal Value	Unit
Glass Transition Temperature ¹	> 110	°C

CLTE - Flow			
-- ²	4.2E-5	cm/cm/°C	
-- ³	1.8E-4	cm/cm/°C	
Thermal Conductivity	3.5	W/m/K	
Thermoset	Nominal Value	Unit	Test Method
Shelf Life (-40°C)	26	wk	
Uncured Properties	Nominal Value	Unit	Test Method
Color	Silver		
Density	2.84	g/cm ³	
Viscosity ⁴ (23°C)	40 to 70	Pa·s	
Curing Time (150°C)	1.0	hr	
Pot Life ⁵	130000	min	
Cured Properties	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	85		
Lap Shear Strength (23°C)	7.94	MPa	
Volume Resistivity (23°C)	< 5.0E-4	ohms·cm	
NOTE			
1.	Dynamic Cure 20-200°C/ISO 25 Min; Ramp -10-250°C @ 20°C/Min		
2.	Below Tg		
3.	Above Tg		
4.	5 rpm		
5.	Closed Container		

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

