

EPO-TEK® ED1020

Epoxy; Epoxide

Epoxy Technology Inc.

Message:

A single component, silver-filled epoxy designed for low power semiconductor LED die attach applications. Its unique features include excellent adhesion and stress relief through mechanical reliability testing. Other attributes include long pot-life, low viscosity and high thixotropy making it ideal for a wide range of application methods including wafer level stamping and syringe dispensing.

Formerly 77-189

General Information		
Filler / Reinforcement	Silver	
Features	Good Adhesion	
	Low Viscosity	
	Thixotropic	
Uses	Adhesives	
	Electrical/Electronic Applications	
	LEDs	
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-	169	ppm
K+	4	ppm
Na+	0	ppm
NH4+	67	ppm
Particle Size	< 20.0	µm
Degradation Temperature	333	°C
Operating Temperature		
Continuous	-55 to 150	°C
Intermittent	-55 to 250	°C
Storage Modulus (23°C)	249	MPa
Thixotropic Index	3.00	
Weight Loss on Heating		
200°C	0.68	%
250°C	1.2	%

300°C	1.7	%
Thermal	Nominal Value	Unit
Glass Transition Temperature ¹	> 46.0	°C
CLTE - Flow		
-- ²	4.5E-5	cm/cm/°C
-- ³	1.8E-4	cm/cm/°C
Thermal Conductivity	1.9	W/m/K
Thermoset	Nominal Value	Unit
Shelf Life (-40°C)	52	wk
Uncured Properties	Nominal Value	Unit
Color	Silver	
Density	2.88	g/cm ³
Viscosity		
23°C ⁴	1.5	Pa·s
23°C ⁵	9.6	Pa·s
23°C ⁶	29	Pa·s
Curing Time (150°C)	1.0	hr
Pot Life	40000	min
Cured Properties	Nominal Value	Unit
Shore Hardness (Shore D)	40	
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.	100 rpm	
5.	10 rpm	
6.	1 rpm	

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