

EPO-TEK® 301-1

Epoxy; Epoxide

Epoxy Technology Inc.

Message:

A two component, room temperature curing, optical grade epoxy, designed for optics, medical, and opto-electronic packaging of semiconductor devices, components, and electronics. It is a lower viscosity version of EPO-TEK® 301.

General Information		
Features	Low Viscosity	
Uses	Electrical/Electronic Applications	
	Medical/Healthcare Applications	
	Optical Applications	
Agency Ratings	EC 1907/2006 (REACH)	
	EU 2003/11/EC	
	EU 2006/122/EC	
RoHS Compliance	RoHS Compliant	
Forms	Liquid	
Thermal	Nominal Value	Unit
Glass Transition Temperature ¹	> 65.0	°C
CLTE - Flow		
-- ²	5.4E-5	cm/cm/°C
-- ³	1.8E-4	cm/cm/°C
Optical	Nominal Value	Unit
Refractive Index ⁴	1.517	
Transmittance		
400 to 1600 nm	> 96.0	%
1600 to 2000 nm	> 92.0	%
Thermoset	Nominal Value	Unit
Thermoset Components		
Part A	Mix Ratio by Weight: 20	
Part B	Mix Ratio by Weight: 5.0	
Shelf Life (23°C)	52	wk
Additional Information	Nominal Value	Unit
Degradation Temperature	390	°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)	1.55	GPa
Weight Loss on Heating		
200°C	0.44	%
250°C	0.84	%
300°C	1.6	%
Uncured Properties	Nominal Value	Unit
Color		
-- 5	Clear/Transparent	
-- 6	Clear/Transparent	
Density		
Part B	0.868	g/cm ³
Part A	1.14	g/cm ³
Viscosity ⁷ (23°C)	0.080 to 0.10	Pa·s
Curing Time (65°C)	2.0	hr
Pot Life	60 to 120	min
Cured Properties	Nominal Value	Unit
Shore Hardness (Shore D)	80	
Lap Shear Strength (23°C)	7.58	MPa
Relative Permittivity (1 kHz)	4.26	
Volume Resistivity (23°C)	> 3.0E+13	ohms·cm
Dissipation Factor (1 kHz)	0.021	
NOTE		
1.	Dynamic Cure 20-200°C/ISO 25 Min; Ramp -10-200°C @ 20°C/Min	
2.	Below Tg	
3.	Above Tg	
4.	589 nm	
5.	Part B	
6.	Part A	
7.	100 rpm	

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