

Park Electrochemical Nelco® N4000-29 BC® Buried Capacitance™ Multifunctional Epoxy

Category : Polymer , Thermoset , Epoxy

Material Notes:

The Nelco N4000-29 is a lead-free, low-CTE, high Tg multifunctional epoxy substrate which has been designed for use in standard multilayer PWB designs and today's toughest, high-performance, lead-free applications. The Nelco N4000-29 BC® is offered as a buried capacitance solution, offering a greater degree of design freedom for smaller, more reliable assemblies. Key Features and Benefits: Low Z-axis expansion High Tg, excellent thermal stability and moisture resistance CAF Resistant Proprietary resin chemistry Buried Capacitance Solution Optimized FR-4 processing Applications/Qualifications: High Density Interconnects Advanced Lead-Free Assembly Substrate Large Format Backplanes Tight Tolerance Via to Via Applications High I / O Count BGA Substrates Extreme Layer Count Multilayers Lead-Free DCA Applications High Temperature Underhood Automotive Telecommunications Infrastructure Sophisticated Data Storage Applications RoHS Compliant Meets IPC-4101/28, /98, /99 and /126 Specifications Information provided by Park Electrochemical Corp.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Park-Electrochemical-Nelco-N4000-29-BC-Buried-Capacitance-Multifunctional-Epoxy.php

Physical Properties	Metric	English	Comments
Density	1.99 g/cc	0.0719 lb/in ³	50% Resin Content; Internal Method
Water Absorption	0.15 %	0.15 %	IPC-TM-650.2.6.2.1

Mechanical Properties	Metric	English	Comments
Peel Strength	1.56 kN/m	8.90 pli	at elevated temperature; IPC-TM-650.2.4.8.2a
	1.70 kN/m	9.70 pli	after exposure to process solutions; IPC-TM-650.2.4.8
	1.77 kN/m	10.1 pli	after solder float; IPC-TM-650.2.4.8

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	0.920 J/g-°C	0.220 BTU/lb-°F	ASTM E1461-92
Thermal Conductivity	0.460 W/m-K	3.19 BTU-in/hr-ft ² -°F	ASTM E1461-92
Glass Transition Temp, Tg	>= 175 °C	>= 347 °F	TMA; IPC-TM-650.2.4.24c
	>= 185 °C	>= 365 °F	DSC; IPC-TM-650.2.4.25c
Decomposition Temperature	350 °C	662 °F	5% weight loss; TGA; IPC-TM-650.2.4.24.6
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
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Electrical Properties	Metric	English	Comments
Dielectric Constant	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	Split Post Cavity
	3.9	3.9	RF Impedance; IPC-TM-650.2.5.5.9
	@Frequency 1.00e+9 Hz	@Frequency 1.00e+9 Hz	
Dielectric Strength	43.3 kV/mm	1100 kV/in	IPC-TM-650.2.5.6.2
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	TFC/LCR Meter; IPC-TM-650.2.5.5.3
Dissipation Factor	0.016	0.016	Split Post Cavity; IPC-TM-650.2.5.5.9
	@Frequency 2.50e+10 Hz	@Frequency 2.50e+10 Hz	
	0.022	0.022	TFC/LCR Meter; IPC-TM-650.2.5.5.3
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Descriptive Properties	Value	Comments
Methylene Chloride Resistance (% Weight Change)	0.01	IPC-TM-650.2.3.4.3
T260 (minutes)	>60	IPC-TM-650.2.4.24.1
T288 (minutes)	15	IPC-TM-650.2.4.24.1

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