Park Electrochemical Nelco® N7000-2 V0 Toughened Polyimide Laminate and Prepreg

Category : Polymer , Thermoset , Polyimide, TS

Material Notes:

The Nelco N7000-2 V0 series is a next-generation high-Tg polyimide using a toughened resin chemistry to achieve a UL 94-V0 designation. This advanced material is designed for use in a wide variety of applications that include fine geometry multilayer constructions and extreme reliability.Key Features and Benefits:Polyimide resin chemistryLead-free assembly compatibilitySupports current and previous military and industrial standardsReliable plated-through holesReliable processingApplications/Qualifications:Fine-Line MultilayersBackplanesSurface-Mount MultilayersBGA MultilayersAvionicsDown-well PetroleumBurn-in BoardsInformation provided by Park Electrochemical Corp.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Park-Electrochemical-Nelco-N7000-2-V0-Toughened-Polyimide-Laminate-and-Prepreg.php

Physical Properties	Metric	English	Comments
Density	1.93 g/cc	0.0697 lb/in³	50% Resin Content; Internal Method
Water Absorption	0.32 %	0.32 %	IPC-TM-650.2.6.2.1

Mechanical Properties	Metric	English	Comments
Modulus of Elasticity	26.2 GPa	3800 ksi	Y; ASTM D3039
	31.0 GPa	4500 ksi	X; ASTM D3039
Poissons Ratio	0.16	0.16	Y; ASTM D3039
	0.183	0.183	X; ASTM D3039
Peel Strength	0.912 kN/m	5.20 pli	at elevated temperature; IPC-TM-650.2.4.8.2a
	0.999 kN/m	5.70 pli	after exposure to process solutions; IPC-TM-650.2.4.8
	1.02 kN/m	5.80 pli	after solder float; IPC-TM-650.2.4.8

Thermal Properties	Metric	English	Comments
CTE, linear	10.0 - 12.0 µm/m-°C @Temperature -40.0 - 125 °C	5.56 - 6.67 µin/in-°F @Temperature -40.0 - 257 °F	IPC-TM-650.2.4.41
Glass Transition Temp, Tg	243 °C	469 °F	TMA; IPC-TM-650.2.4.24c
	250 °C	482 °F	DSC; IPC-TM-650.2.4.25c
Decomposition Temperature	390 °C	734 °F	5% weight loss; TGA; IPC-TM-650.2.4.24.6

Thermal Properties	Metric	English	Comments
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+12 ohm-cm	1.00e+12 ohm-cm	C - 96/35/90; IPC-TM-650.2.5.17.1
	1.00e+14 ohm-cm	1.00e+14 ohm-cm	E - 24/125; IPC-TM-650.2.5.17.1
Surface Resistance	1.00e+12 ohm	1.00e+12 ohm	C - 96/35/90; IPC-TM-650.2.5.17.1
	1.00e+12 ohm	1.00e+12 ohm	E - 24/125; IPC-TM-650.2.5.17.1
Dielectric Constant	3.8 @Frequency 1.00e+9 Hz	3.8 @Frequency 1.00e+9 Hz	RF Impedance; IPC-TM-650.2.5.5.9
	3.8 @Frequency 1.00e+10 Hz	3.8 @Frequency 1.00e+10 Hz	Split Post Cavity
	4.0 @Frequency 1.00e+6 Hz	4.0 @Frequency 1.00e+6 Hz	TFC/LCR Meter; IPC-TM-650.2.5.5.3
Dielectric Strength	47.2 kV/mm	1200 kV/in	IPC-TM-650.2.5.6.2
Dielectric Breakdown	>= 50000 V	>= 50000 V	IPC-TM-650.2.5.6
Dissipation Factor	0.0090 @Frequency 1.00e+6 Hz	0.0090 @Frequency 1.00e+6 Hz	TFC/LCR Meter; IPC-TM-650.2.5.5.3
	0.010 @Frequency 1.00e+10 Hz	0.010 @Frequency 1.00e+10 Hz	Split Post Cavity
Arc Resistance	124 sec	124 sec	IPC-TM-650.2.5.1

Descriptive Properties	Value	Comments
Methylene Chloride Resistance (% Weight Change)	0.4	IPC-TM-650.2.3.4.3
Pressure Cooker	Pass	60 min then solder dip @288°C until failure (max 10 min.); IPC-TM-650.2.6.16 (modified)
T260 (minutes)	30+	IPC-TM-650.2.4.24.1
T300 (minutes)	3.5	
Z Axis Expansion (%)	1.7	50°C to 260°C; IPC-TM-650.2.4.41

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