Arlon 84N Polyimide Laminate and Prepreg

Category : Polymer , Thermoset , Polyimide, TS

Material Notes:

84N is a high performance ceramic-filled polyimide prepreg based on Arlon's 85N pure polyimide system, designed for use in filling etched areas in polyimide multilayers that contain thick copper layers and for filling clearance holes in metal cores. The ceramic filler in the resin serves to reduce shrinkage and inhibit crack formation during through-hole drilling in filled clearance areas.High Tg polyimide (>250°C) with Thermal Decomposition temperature (Td) >400°C and T300>60 minutesLow z-expansion of 1% between 50-250°C offers superior PTH reliability through manufacture, assembly and in serviceUp to 50% or more reduction in cure time compared with traditional polyimide cyclesElectrical and mechanical properties meeting the requirements of IPC-4101/40 and /41Toughened, Non-MDA chemistry resists drill crackingHalogen-free chemistryCompatible with lead-free solder processingRoHS/WEEE compliantTypical Applications:MLB's that are designed with clearance holes in metal cores or for thick metal powder and ground planes that require the thermal stability of polyimideApplications requiring significant lifetimes at elevated temperatures, such as aircraft engine instrumentation, down hole drilling, under-hood automotive applications, industrial sensor systems and burn-in testing of IC's.This data represents typical values for the production material and should not be used as material specifications.Information provided by ARLON Silicone Technologies Division.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Arlon-84N-Polyimide-Laminate-and-Prepreg.php

Physical Properties	Metric	English	Comments
Density	1.65 g/cc	0.0596 lb/in³	ASTM D792 Method A
Water Absorption	0.15 %	0.15 %	IPC TM-650 2.6.2.1

Mechanical Properties	Metric	English	Comments
Modulus of Elasticity	20.7 GPa	3000 ksi	IPC TM-650 2.4.18.3
Poissons Ratio	0.15	0.15	ASTM D3039
Peel Strength	1.24 kN/m	7.10 pli	To Copper (1 oz./35 micron); After Process Solutions; IPC TM-650 2.4.8
	1.24 kN/m	7.10 pli	To Copper (1 oz./35 micron); After Thermal Stress; IPC TM-650 2.4.8
	1.24 kN/m	7.10 pli	To Copper (1 oz./35 micron); At Elevated Temperatures; IPC TM-650 2.4.8.2

Thermal Properties	Metric	English	Comments
CTE, linear	14.0 - 16.0 µm/m-°C	7.78 - 8.89 µin/in-°F	
CTE, linear, Transverse to Flow	48.0 µm/m-°C	26.7 µin/in-°F	z, below Tg; IPC TM-650 2.4.24
	150 µm/m-°C	83.3 µin/in-°F	z, above Tg; IPC TM-650 2.4.24
Thermal Conductivity	0.250 W/m-K	1.74 BTU-in/hr-ft²-°F	ASTM E1461

Thermal Properties	Metric	English	Comments
Glass Transition Temp, Tg	250 °C	482 °F	TMA; IPC TM-650 2.4.24
Decomposition Temperature	387 °C	729 °F	Initial; IPC TM-650 2.3.41
	407 °C	765 °F	5 percent; IPC TM-650 2.3.41
Flammability, UL94	HB	HB	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.50e+14 ohm-cm	1.50e+14 ohm-cm	C96/35/90; IPC TM-650 2.5.17.1
	3.00e+14 ohm-cm	3.00e+14 ohm-cm	E24/125; IPC TM-650 2.5.17.1
Surface Resistance	1.60e+15 ohm	1.60e+15 ohm	C96/35/90; IPC TM-650 2.5.17.1
	1.60e+15 ohm	1.60e+15 ohm	E24/125; IPC TM-650 2.5.17.1
Dielectric Constant	4.2 @Frequency 1.00e+6 Hz	4.2 @Frequency 1.00e+6 Hz	may vary with resin %; IPC TM-650 2.5.5.3
Dielectric Strength	47.2 kV/mm	1200 kV/in	IPC TM-650 2.5.6.2
Dissipation Factor	0.010 @Frequency 1.00e+6 Hz	0.010 @Frequency 1.00e+6 Hz	IPC TM-650 2.5.5.3
Arc Resistance	140 sec	140 sec	IPC TM-650 2.5.1

Descriptive Properties	Value	Comments
IPC Delamination - T260 (minutes)	>60	IPC TM-650 2.4.24.1
IPC Delamination - T288 (minutes)	>60	IPC TM-650 2.4.24.1
IPC Delamination - T300 (minutes)	>60	IPC TM-650 2.4.24.1
Z-Axis Expansion (%)	1	IPC TM-650 2.4.24 (50-260°C)

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com
Email : sales@lookpolymers.com
Tel : +86 021-51131842
Mobile : +86 13061808058
Skype : lookpolymers
Address : United North Road 215,Fengxian District, Shanghai City,China