

Arlon 35N Fast Cure Polyimide Laminate and Prepreg

Category : Polymer , Thermoset , Polyimide, TS

Material Notes:

High reliability and high temperature material 35N is a pure polyimide laminate and prepreg system for applications requiring high temperature performance. High Tg results in low Z-direction expansion for resistance to PTH failure during PWB processing, and minimizes risk of latent PTH defects in service. Reduced temperature and time to cure offers improved throughput compared to traditional polyimide cycles. Low Z-expansion minimizes the risk of PTH defects caused during solder reflow and device attachment. Electrical and mechanical properties meeting the requirements of IPC-4101/40 and /41 Toughened. Non-MDA chemistry resists drill cracking. Compatible with lead-free processing. RoHS/WEEE compliant. Typical Applications: PCBs that are subjected to high temperatures during processing, such as lead-free soldering. Applications with significant lifetimes at high temperatures, such as aircraft engine instrumentation, down hole drilling, under-hood automotive controls, burn-in boards, or industrial sensors. 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-35N-Fast-Cure-Polyimide-Laminate-and-Prepreg.php

Physical Properties	Metric	English	Comments
Density	1.60 g/cc	0.0578 lb/in ³	ASTM D792 Method A
Water Absorption	0.26 %	0.26 %	IPC TM-650 2.6.2.1

Mechanical Properties	Metric	English	Comments
Tensile Strength	250 MPa	36300 psi	y; IPC TM-650 2.4.18.3
	476 MPa	69000 psi	x; IPC TM-650 2.4.18.3
Modulus of Elasticity	26.2 GPa	3800 ksi	y; IPC TM-650 2.4.18.3
	29.6 GPa	4300 ksi	x; IPC TM-650 2.4.18.3
Poissons Ratio	0.15	0.15	y; ASTM D3039
	0.16	0.16	x; ASTM D3039
Peel Strength	1.05 kN/m	6.00 pli	To Copper (1 oz./35 micron); After Process Solutions; IPC TM-650 2.4.8
	1.10 kN/m	6.30 pli	To Copper (1 oz./35 micron); After Thermal Stress; IPC TM-650 2.4.8
	1.10 kN/m	6.30 pli	To Copper (1 oz./35 micron); At Elevated Temperatures; IPC TM-650 2.4.8.2

Thermal Properties	Metric	English	Comments
CTE, linear	16.0 μm/m-°C	8.89 μin/in-°F	IPC TM-650 2.4.41

Thermal Properties	Metric	English	Comments
CTE, linear, Transverse to Flow	@Temperature <=250 °C	@Temperature <=482 °F	z (< Tg); IPC TM-650 2.4.24
	158 µm/m-°C	87.8 µin/in-°F	z (> Tg); IPC TM-650 2.4.24
	@Temperature >=250 °C	@Temperature >=482 °F	
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft²-°F	ASTM E1461
Glass Transition Temp, Tg	250 °C	482 °F	TMA; IPC TM-650 2.4.24
Decomposition Temperature	363 °C	685 °F	Onset; IPC TM-650 2.3.41
	407 °C	765 °F	5 percent; IPC TM-650 2.3.41
Flammability, UL94	V-1	V-1	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.20e+14 ohm-cm	1.20e+14 ohm-cm	E24/125; IPC TM-650 2.5.17.1
	1.60e+14 ohm-cm	1.60e+14 ohm-cm	C96/35/90; IPC TM-650 2.5.17.1
Surface Resistance	3.70e+14 ohm	3.70e+14 ohm	E24/125; IPC TM-650 2.5.17.1
	5.00e+14 ohm	5.00e+14 ohm	C96/35/90; IPC TM-650 2.5.17.1
Dielectric Constant	4.2	4.2	May vary with resin %; IPC TM-650 2.5.5.3
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	55.1 kV/mm	1400 kV/in	IPC TM-650 2.5.6.2
Dissipation Factor	0.010	0.010	IPC TM-650 2.5.5.3
Arc Resistance	165 sec	165 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)	11	IPC TM-650 2.4.24.1
Z-Axis Expansion (%)	1.2	IPC TM-650 2.4.24 (50-260°C)

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