P25N

Polyimide UL HB No Flow Prepreg

Tg 250°C Td 383°C Dk 3.67 Df 0.0187

IPC-4101 /42 UL - File Number E41625

Isola offers a P25N product line of polyimide-based no flow prepreg materials for high temperature printed circuit applications.

PRODUCT FEATURES

Industry Recognition

- UL File Number: E41625
- RoHS Compliant

Performance Attributes

- Lead-free assembly compatible

Processing Advantages

- Minimal, uniform resin flow

No-flow Prepreg

- Adhesion to wide range of materials
- Flex films – (Mylar®, Kapton®, etc.)
- Treated or untreated copper
- Plated metals (tin, solder, nickel, etc.)
- Conventional laminate surfaces

PRODUCT AVAILABILITY

Standard Material Offering: Prepreg

- Roll or panel form
- Tooling of prepreg panels

Glass Fabric Availability

- E-glass

These products consist of a polyimide resin system suitable for military, commercial or industrial electronic applications requiring superior performance and the utmost in thermal properties. These products utilize a polyimide and thermoplastic blend resin, fully cured without the use of Methylenedianiline (MDA). This results in a polymer with a high Tg without the characteristic difficulties of brittleness and low initial bond strength associated with traditional thermoset polyimides.

PRODUCT ATTRIBUTES

NO / LOW FLOW PREPREG

HIGH TEMPERATURE

TYPICAL MARKET APPLICATIONS

AEROSPACE & DEFENSE

CONSUMER ELECTRONICS

MEDICAL, INDUSTRIAL & INSTRUMENTATION

ORDERING INFORMATION:

Contact your local sales representative or contact info@isola-group.com for further information.

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Typical Values Table

Property		Typical Value	Units	Test Method
			Metric (English)	IPC-TM-650 (or as noted)
Glass Transition Temperature (Tg) by DSC		250	°C	2.4.25C
Decomposition Temperature (Td) by TGA @ 5% weight loss		383	°C	2.4.24.6
Time to Delaminate by TMA (Copper removed)	A. T260 B. T288	60	Minutes	2.4.24.1
Z-Axis CTE	A. Pre-Tg B. Post-Tg C. 50 to 260°C, (Total Expansion)	55 TBD --	ppm/°C ppm/°C %	2.4.24C
X/Y-Axis CTE	Pre-Tg	13/14	ppm/°C	2.4.24C
Thermal Conductivity		0.4	W/m·K	ASTM E1952
Thermal Stress 10 sec @ 288°C (550.4°F)	A. Unetched B. Etched	Pass	Pass Visual	2.4.13.1
Dk, Permittivity	A. @ 100 MHz B. @ 500 MHz C. @ 1 GHz D. @ 2 GHz	3.75 3.72 3.70 3.67	--	2.5.5.9 2.5.5.9 2.5.5.9 Bereskin Stripline
Df, Loss Tangent	A. @ 100 MHz B. @ 500 MHz C. @ 1 GHz D. @ 2 GHz	0.0140 0.0157 0.0180 0.0198	--	2.5.5.9 2.5.5.9 2.5.5.9 Bereskin Stripline
Volume Resistivity	A. After moisture resistance B. At elevated temperature	3.0×10^8 7.0×10^8	MΩ-cm	2.5.17.1
Surface Resistivity	A. After moisture resistance B. At elevated temperature	3.0×10^6 2.0×10^8	MΩ	2.5.17.1
Dielectric Breakdown		>55	kV	2.5.6B
Arc Resistance		130	Seconds	2.5.1B
Electric Strength (Laminate & laminated prepreg)		44 (1100)	kV/mm (V/mil)	2.5.6.2A
Comparative Tracking Index (CTI)		4 (100-174)	Class (Volts)	UL 746A ASTM D3638
Flexural Strength	A. Length direction B. Cross direction	83.6 55.5	ksi	2.4.4B
Tensile Strength	A. Length direction B. Cross direction	55.0 35.4	ksi	ASTM D3039
Moisture Absorption		0.5	%	2.6.2.1A
Flammability (Laminate & laminated prepreg)		HB	Rating	UL 94
Max Operating Temperature		140	°C	UL 796

NOTES

Visit our site http://www.isola-group.com for more details.
Revisions:
A: Original
B: Corrected units for Flexural and Tensile Strength 10/18
C: Corrected product availability. No foil is offered for P25N 6/20