



# P25N

## Polyimide-based No Flow Prepreg

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

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 Methylene dianiline (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 , Polyimide , Halogen Free

### Typical Market Applications

Aerospace & Defense , Consumer Electronics , Medical, Industrial & Instrumentation

#### ORDERING INFORMATION:

Contact your local sales representative or contact [info@isola-group.com](mailto:info@isola-group.com) for further information.

Isola Group  
6565 West Frye Road  
Chandler, AZ 85226  
Phone: 480-893-6527  
Fax: 480-893-1409

Isola Asia Pacific  
(Hong Kong) Ltd.  
12/F, Kin Sang  
Commercial Centre,  
49 King Yip Street, Kwun Tong,  
Kowloon, Hong Kong  
Phone: 852-2418-1318  
Fax: 852-2418-1533

Isola GmbH  
Isola Strasse 2  
D-52348 Düren,  
Germany  
Phone: 49-2421-8080  
Fax: 49-2421-808164

No / Low Flow Prepreg

# Data Sheet

Tg 250°C

Td 383°C

Dk 3.67

Df 0.0187

IPC-4101 - / 42

UL - File Number E41625

Last Updated July 1, 2020  
Revision No: C

## 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

# P25N Typical Values

Last Updated Jul 1, 2020

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/mK	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	$3.0 \times 10^8$ $7.0 \times 10^8$	MΩ-cm	2.5.17.1
Surface Resistivity	A. After moisture resistance B. At elevated temperature	$3.0 \times 10^6$ $2.0 \times 10^8$	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
Relative Thermal Index (RTI)		140	°C	UL 796

The data, while believed to be accurate and based on analytical methods considered to be reliable, is for information purposes only. Any sales of these products will be governed by the terms and conditions of the agreement under which they are sold.

<https://www.isola-group.com/products/all-printed-circuit-materials/p25n/>

The Isola name and logo are registered trademarks of Isola Corp. USA in the USA and other countries. P25N is a registered trademark of Isola USA Corp. in the USA. All other trademarks mentioned herein are property of their respective owners.

© 2020, Isola Group, All rights reserved.



## NOTE

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