Tg 260°C Halogen Free Laminate and Prepreg

TU-900

Core: TU-900

Prepreg: TU-900P

TU-900 Tg260 material is made of BT-like high performance resin system and E-glass fabric. It's a halogen free material and design to have both features for high elastic modulus, high reliability and low Dk/Df, low loss category electrical performance at the same time. TU-900 laminate and TU-900P prepreg designed for high reliability multilayer, substrate or, SiP, radio frequency and ultra-thin HDI boards design and applications. The product is suitable for boards that need stringent X, Y dimensional stability, low board distortion or need to experience excessive harsh environmental work. TU-900 materials also exhibit superior chemical resistance, high rigidity, low thermal expansion and excellent long term reliability and CAF performance.

Applications

- Substrate
- HDI, ELIC Design
- Aerospace & Military -Harsh environments

Performance and Processing Advantages

- Halogen free and antimony, red phosphorous free
- Ultra High Tg characteristics
- Low-loss category material
- Low coefficient of thermal expansion
- Excellent moisture resistance
- Lead free processing compatible
- Anti-CAF capability
- Environmental friendly materials

Industry Approvals

- IPC-4101 Type Designation : /127, /128, /130
- UL Designation - No ANSI grade
- UL File Number: E189572
- Flammability Rating: 94V-0
- Maximum Operating Temperature: 150°C

Standard Availability

- Thickness: 0.0012" [0.03mm] to 0.062" [1.58mm], available in sheet or panel form
- Copper Foil cladding: 1/3 to 3 oz
- Prepregs: Available in roll or panel form
- Glass Styles: 1017, 1027, 1037, 1067, 1078, 3313 and 2116 etc. and others upon request

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Typical Properties for TU-900 Laminate			
	Typical Values	Test Condition	IPC-4101 /130
Thermal			
Tg (DMA) Tg (TMA) Td (TGA)	260 °C 220 °C 390 °C	E-2/105	> 170°C > 340°C
CTE x-axis CTE y-axis CTE z-axis	7~10 ppm/°C 7~10 ppm/°C 1.3 %	Ambient to Tg Ambient to Tg 50 to 260°C	N/A N/A < 3.0%
Thermal Stress, Solder Float, 288°C	 > 60 sec	 A	 > 10 sec
T260 T288 T300	> 60 min > 60 min > 30 min	E-2/105	> 30 min > 15 min > 2 min
Flammability	94V-0	E-24/125	94V-0
Electrical			
Permittivity (RC70%) 1GHz (SPC method) 10GHz (SPC method)	 3.8 3.7	E-2/105	 < 5.4
Loss Tangent (RC70%) 1GHz (SPC method) 10GHz (SPC method)	 0.0045 0.0055	E-2/105	 < 0.015
Volume Resistivity	> 10^{10} MΩ·cm	C-96/35/90	> 10^{6} MΩ·cm
Surface Resistivity	> 10^{8} MΩ	C-96/35/90	> 10^{4} MΩ
Electric Strength	> 40 kV/mm	A	> 30 KV/mm
Dielectric Breakdown Voltage	> 50 KV	A	> 40 KV
Mechanical			
Flexural Strength Lengthwise Crosswise	 > 60,000 psi > 50,000 psi	 A A	 > 60,000 psi > 50,000 psi
Peel Strength 1 oz Cu foil	 5~7 lb/in	 A	 > 4 lb/in
Water Absorption	0.08 %	E-1/105+D-24/23	< 0.8 %