TU-742 HF

Core: TU-742 HF

Prepreg: TU-74P HF

TU-742 HF/TU-74P HF halogen free materials are made of epoxy resin and E-glass fabric. Unlike conventional FR-4 material using brominated resin as flame retardant, TU-742 HF/TU-74P HF achieve flammability class of UL94V-0 by incorporating nitrogen compounds in the materials. The materials are compatible with the AOI process and exhibit the UV-block characteristic. TU-74P HF is designed for use with TU-742 HF for making multilayer printed wire boards. TU-742 HF is also available for single/double sided application. This series of green materials are designed to eliminate the use of halogenated resins due to the potential hazardous effects from the environmental concerns. TU-742 HF laminates also exhibit superior chemical resistance, thermal stability and CAF resistance.

Applications

- NB, PC, consumer
- Server, workstation
- Mobile Communication

Performance and Processing Advantages

- Halogen, antimony and red phosphorous free
- Environmental friendly materials
- Compatible to PCB processes
- Low coefficient of thermal expansion
- Anti-CAF capability

Industry Approvals

- IPC-4101 Type Designation : /127, /128
- UL Designation - ANSI Grade: FR-4.1
- UL File Number: E189572
- Flammability Rating: 94V-0
- Maximum Operating Temperature: 130°C

Standard Availability

- Thickness: 0.002" [0.05mm] to 0.062" [1.58mm], available in sheet or panel form
- Copper Foil Cladding: 1/3 to 5 oz (HTE) for built-up; 1/3 to 3 oz (HTE) for double sides and H to 2 oz (MLS)
- Prepregs: Available in roll or panel form
- Glass Styles: 106, 1080, 2113, 2116, 1506 and 7628 etc.

Taiwan Union Technology Corporation (TUC)
TUC Taiwan +886 3 555 1103 . TUC Changshu, China +86 512 5230 1688 . TUC Zhongshan, China +86 760 2813 6688

Typical Properties For TU-742 HF Laminate

	Typical Values	Test Condition	SPEC
Thermal			
Tg (TMA) Td (TGA)	150 °C 370 °C	E-2/105+des	N/A > 325°C
CTE x-axis CTE y-axis CTE z-axis	11~15 ppm/°C 11~15 ppm/°C 3.1 %	Ambient to Tg Ambient to Tg 50 to 260°C	N/A N/A < 3.5%
Thermal Stress, Solder Float, 288°C	> 60 sec	A	> 10 sec
T-260 T-288	> 60 min > 60 min	E-2/105+des	> 30 min > 5 min
Flammability	94V-0	E-24/125+des	94V-0
Electrical			
Permittivity (RC50%) 1MHz (LCR meter) 1GHz (SPC method/HP4291B)	 4.7 4.6/4.4	C-24/23/50	 < 5.4 N/A
Loss Tangent (RC50%) 1MHz (LCR meter) 1GHz (SPC method/HP4291B)	 0.013 0.012/0.010	C-24/23/50	 < 0.035 N/A
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
Mechanical			
Flexural Strength Lengthwise Crosswise	 > 60,000 psi > 50,000 psi	 A A	 > 60,000 psi > 50,000 psi
Peel Strength, 1.0 oz. Cu foil	8~11 lb/in	A	> 4 lb/in
Bow and Twist 0.020" ~ 0.031" 0.032" ~ 0.065" > 0.066"	 < 0.8% < 0.8% < 0.8%	A	 Max 1.5 Max 1.0 Max 1.0
Water Absorption	0.15 %	E-1/105+des+D-24/23	< 0.8 %

NOTE:
1. Property values are for information purposes only and not intended for specification.
2. Any sales of these products will be governed by the terms and conditions of the agreement under which they are sold.
3. This product is based on a patent pending technology.

Taiwan Union Technology Corporation (TUC)
TUC Taiwan +886 3 555 1103 . TUC Changshu, China +86 512 5230 1688 . TUC Zhongshan, China +86 760 2813 6688