



TU-84P NF

Prepreg: TU-84P NF

TU-84P NF no-flow, halogen-free prepreg consist of optimal resin flow specially formulated for unique purpose bonding application. The special design TU-84P NF no-flow, halogen-free prepreg is appropriate for applying in multiple layer rigid-flex bonding, heat sink bonding and die cavity board application. TU-84P NF no-flow prepreg also provide excellent bonding performance with a variety of polyimide materials and with excellent high Tg, low CTE thermal performance for sequential lamination and lead-free processes.

Applications

- Rigid-flex
- Heat sink, Cavity

Performance and Processing Advantages

- Stable resin flow
- Excellent bonding strength with polyimide materials
- Low resin powder dust generation
- Higher Tg and halogen free characteristics
- Lead Free process compatible
- Reduced z-axis thermal expansion
- Superior dimensional stability, thickness uniformity and flatness
- Good drilling processability
- Excellent through-hole and soldering reliability
- Superior dielectric thickness control
- Compatible with AOI process with UV-block property

Industry Approvals

- IPC-4101E Type Designation : /127, /128, /130
- IPC-4101E/130 Validation Services QPL Certified
- 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] (106 type x 1 ply) to 0.003" [0.08mm] (1080 type x 1 ply)
- Prepregs: Available in roll or panel form
- Glass Styles: 106 and 1080, other prepreg grades are available upon request



Typical Properties for TU-84P NF Prepreg			
	Typical Values	Test Condition	SPEC
Thermal			
Tg (DMA) Tg (TMA) Td (TGA)	190 °C 165 °C 390 °C	E-2/105+des	N/A
CTE x-axis CTE y-axis CTE z-axis	11~15 ppm/°C 11~15 ppm/°C 2.1 %	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
T-260 T-288	> 60 min > 60 min	E-2/105+des	> 30 min > 15 min
Flammability	94V-0	E-24/125+des	94V-0
Electrical			
Permittivity (RC50%) 1GHz (HP4291B) 5GHz (SPC method) 10GHz (SPC method)	4.4 4.5 4.4	C-24/23/50	N/A
Loss Tangent (RC50%) 1GHz (HP4291B) 5GHz (SPC method) 10GHz (SPC method)	0.010 0.014 0.015	C-24/23/50	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			
Young's Modulus Warp Direction Fill Direction	26 GPa 24 GPa	A	N/A
Flexural Strength Lengthwise Crosswise	> 75,000 psi > 65,000 psi	A A	> 60,000 psi > 50,000 psi
Peel Strength, 1.0 oz. Cu foil	9~12 lb/in	A	> 4 lb/in
Dimensional Stability	< 0.03%	E-4/105+E-2/150	< 0.03 %
Water Absorption	0.15 %	E-1/105+des+D-24/23	< 0.8 %

NOTE:

- Property values are for information purposes only and not intended for specification.
- Any sales of these products will be governed by the terms and conditions of the agreement under which they are sold.

