TU-872 LK

Core: TU-872 LK

Prepreg: TU-87P LK

TU-872 LK is based on a high performance modified epoxy FR-4 resin. This material is reinforced with regular woven E-glass and designed with low dielectric constant and low dissipation factor for high speed low loss and high frequency multilayer circuit board application. TU-872 LK material is suitable for environmental protection lead free process and also compatible with FR-4 processes. TU-872 LK laminates also exhibit excellent CTE, superior chemical resistance, thermal stability, CAF resistance, and toughness enhanced by an allyl network forming compound.

Applications

- Backpanel, High performance computing
- Line cards, Storage
- Servers, Telecom, Base station
- Office Routers

Performance and Processing Advantages

- Excellent electrical properties
- Dielectric constant less than 4.0
- Dissipation factor less than 0.010
- Stable and flat Dk/Df performance
- Compatible with most FR-4 processes
- Lead free process compatible
- Improved z-axis thermal expansion
- Anti-CAF capability
- Superior dimensional stability, thickness uniformity and flatness
- Excellent through-hole and soldering reliability

Industry Approvals

- IPC-4101 Type Designation : /29, /98, /99, /101, /126
- UL Designation - ANSI Grade: FR-4.0
- 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 for built-up & double sides
- Prepregs: Available in roll or panel form
- Glass Styles: 106, 1080, 3313, 2116 and other prepreg grades are available upon request

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Typical Properties for TU-872 LK Laminate

	Typical Values	Test Condition	SPEC
Thermal			
Tg (DMA) Tg (DSC) Tg (TMA) Td (TGA)	220 °C 200 °C 190 °C 340 °C	E-2/105+des	N/A
CTE x-axis CTE y-axis CTE z-axis	12~15 ppm/°C 12~15 ppm/°C 2.5 %	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 20 min	E-2/105+des	> 30 min > 15 min
Flammability	94V-0	E-24/125+des	94V-0
Electrical			
Permittivity (RC50%) 1GHz (SPC method/4291B) 5GHz (SPC method) 10GHz (SPC method)	 4.0/3.8 3.8 3.8	C-24/23/50	N/A
Loss Tangent (RC50%) 1GHz (SPC method/4291B) 5GHz (SPC method) 10GHz (SPC method)	 0.008/0.006 0.008 0.009	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
Electric Strength	> 40 KV/mm	-	> 30 KV/mm
Dielectric Breakdown Voltage	> 50 KV	-	> 40 KV
Mechanical			
Young's Modulus Warp Direction Fill Direction	 26 GPa 24 GPa	A	N/A
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	5~7 lb/in	A	> 4 lb/in
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.

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