TU-787 LK

Core: TU-787 LK

Prepreg: TU-787P LK

TU-787 LK halogen free material is formulated with novel low Dk/Df epoxy resin, curing agent and impregnated onto standard E-glass fabric to achieve low loss category high performances material. TU-787 LK targets the material for advanced mobile devices application which features short signal rising time, ultra-thin dielectric thickness, excellent dimensional stability and high material modulus. TU-787P LK prepreg is designed for use with TU-787 LK laminate for making multilayer printed wire boards. 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-787 LK laminates also exhibit superior chemical resistance, thermal stability and CAF resistance.

Applications

- Smart phone, Telecom
- Office Routers
- Mobile Communication

Performance and Processing Advantages

- Halogen, antimony and red phosphorous free
- Halogen, antimony, PN (phenolic group) resin and red phosphorous free
- Low and stable Dk/Df
- Ultra thin core and prepreg design
- Superior dimensional stability
- Compatible to PCB processes
- Low coefficient of thermal expansion
- High modulus properties

Industry Approvals

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

Standard Availability

- Thickness: 0.002" [0.05mm] to 0.006" [0.15mm], available in sheet or panel form
- Copper Foil Cladding: 1/3 to 2 oz
- Prepregs: Available in roll or panel form
- Glass Styles: 1017, 1027, 1037, 1067, 1078, etc.

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Typical Properties for TU-787 LK Laminate

	Typical Values	Test Condition	SPEC
Thermal			
Tg (TMA) Td (TGA)	160 °C 380 °C	E-2/105+des	N/A > 325°C
CTE x-axis CTE y-axis	11~15 ppm/°C 11~15 ppm/°C	Ambient to Tg Ambient to Tg	N/A N/A
CTE z-axis α1 CTE z-axis α2 CTE z-axis	40 ppm/°C 220 ppm/°C 2.7 %	Pre-Tg Post-Tg 50 to 260°C	< 60 ppm/°C < 300 ppm/°C < 3.5%
Thermal Stress, Solder Float, 288°C	> 60 sec	A	> 10 sec
T-288	> 60 min	E-2/105+des	> 5 min
Flammability	94V-0	E-24/125+des	94V-0
Electrical			
Dk/Df @ RC75 Dk@1GHz (4291B/SPC) DK@10GHz (SPC) Df@1GHz (4291B/SPC) Df@10GHz (SPC)	 3.2 / 3.4 3.4 0.005 / 0.007 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
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	5~7 lb/in	A	> 4 lb/in
Water Absorption	0.08 %	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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