TU-747 LK

Core: TU-747 LK

Prepreg: TU-747P LK

TU-747 LK mid-Tg halogen free material is formulated with novel epoxy resin, non-PN (free phenolic group containing) curing agent and impregnated onto standard E-glass fabric to achieve Dk 3.3 and Df 0.011 electrical performances than conventional halogen free FR-4. TU-747 LK targets the material for advanced mobile devices application which features short signal rising time, ultra thin dielectric thickness and excellent dimensional stability. TU-747 LK achieves 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-747P LK is designed for use with TU-747 LK 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-747 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
- 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
- Prepregs: Available in roll or panel form
- Glass Styles: 1027, 1037, 1067, 1078, 3313, etc.

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Typical Properties for TU-747 LK Laminate

	Typical Values	Test Condition	SPEC
Thermal			
Tg (TMA) Td (TGA)	150 °C 360 °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 230 ppm/°C 2.8 %	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			
Permittivity @ 1GHz Loss Tangent @ 1GHz (4291B @ RC75%)	3.3 0.011	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	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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