



# TU-872 SLK Sp

**Core: TU-872 SLK Sp****Prepreg: TU-87P SLK Sp**

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

## Applications

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

## Performance and Processing Advantages

- Excellent electrical properties
- Dielectric constant less than 3.5
- Dissipation factor less than 0.010
- Excellent, 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-4101E Type Designation : /29, /98, /99, /101, /126
- IPC-4101E/126 Validation Services QPL Certified
- 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 and 2116





Typical Properties for TU-872 SLK Sp Laminate			
	Typical Values	Test Condition	SPEC
<b>Thermal</b>			
Tg (DMA)	220 °C	E-2/105+des	N/A
Tg (DSC)	200 °C		
Tg (TMA)	190 °C		
Td (TGA)	340 °C		
CTE x-axis	12~15 ppm/°C	Ambient to Tg	N/A
CTE y-axis	12~15 ppm/°C	Ambient to Tg	N/A
CTE z-axis	2.3 %	50 to 260°C	< 3.0%
Thermal Stress, Solder Float, 288°C	> 60 sec	A	> 10 sec
T-260	60 min	E-2/105+des	> 30 min
T-288	20 min		> 15 min
Flammability	94V-0	E-24/125+des	94V-0
<b>Electrical</b>			
Permittivity (RC50%) 1GHz (SPC method/4291B) 5GHz (SPC method) 10GHz (SPC method)	3.6/3.4 3.5 3.5	C-24/23/50	N/A
Loss Tangent (RC50%) 1GHz (SPC method/4291B) 5GHz (SPC method) 10GHz (SPC method)	0.006/0.004 0.007 0.008	C-24/23/50	N/A
Volume Resistivity	> 10 <sup>10</sup> MΩ·cm	C-96/35/90	> 10 <sup>6</sup> MΩ·cm
Surface Resistivity	> 10 <sup>8</sup> MΩ	C-96/35/90	> 10 <sup>4</sup> MΩ
Electric Strength	> 40 KV/mm	-	> 30 kV/mm
Dielectric Breakdown Voltage	> 50 kV	-	> 40 kV
<b>Mechanical</b>			
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	0.13 %	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.

