

TLT

Low DK base material

TLT laminates can be sheared, drilled, milled and plated using standard methods for PTFE/woven fiberglass materials. The laminates are dimensionally stable, and exhibit virtually no moisture absorption during fabrication processes.

TLT laminates are generally ordered clad on both sides. Various panel sizes are available. Contact our customer service department for more information.

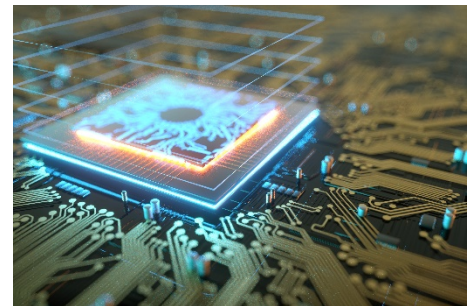
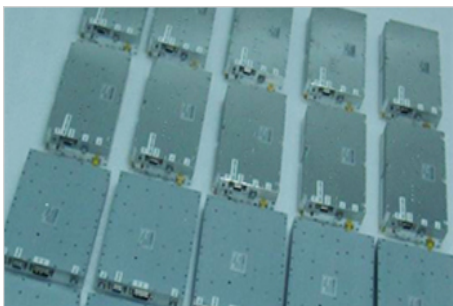
TLT laminates are tested in accordance with IPC-TM 650. A certificate of compliance containing lot-specific test data accompanies each shipment.

Benefits

- Excellent mechanical & thermal properties
- Low DF
- Low & stable DK
- UL 94 V-O rating

Applications

- High power amplifiers
- PCS/PCN large format antennas
- LNAs, LNBs and LNCs
- Passive components



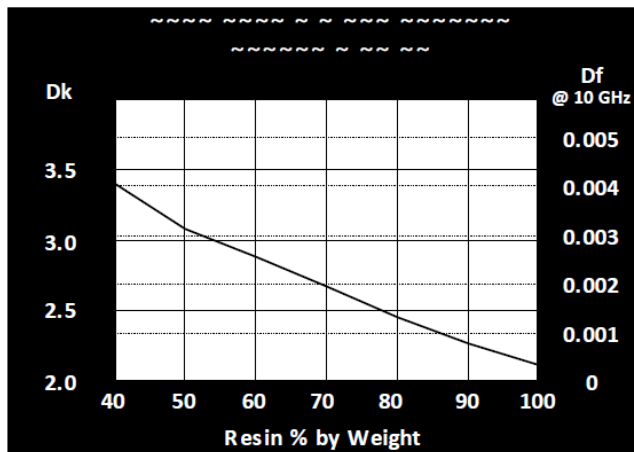
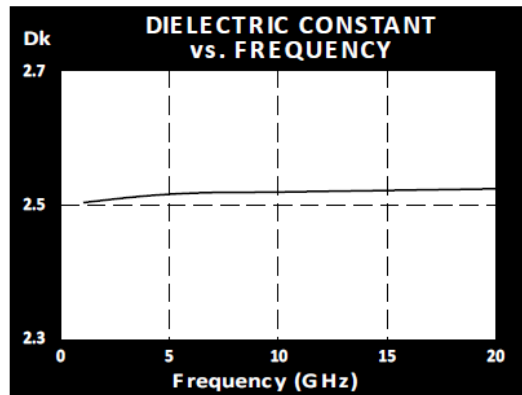
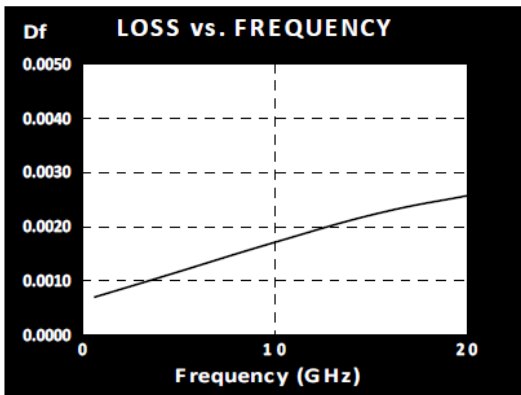
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TLT TYPICAL VALUES					
Property	Test Method	Unit	Value	Unit	Value
Dielectric Constant @ 1 MHz	IPC-TM-650 2.5.5.3		2.50		2.50
Dissipation Factor @ 1 MHz	IPC-TM-650 2.5.5.3		0.0006		0.0006
Moisture Absorption	IPC-TM-650 2.6.2.1	%	<0.02	%	<0.02
Dielectric Breakdown	IPC-TM-650 2.5.6	kV	>60	kV	>60
Volume Resistivity	IPC-TM-650 2.5.17.1	Mohm/cm	10 ⁷	Mohm/cm	10 ⁷
Surface Resistivity	IPC-TM-650 2.5.17.1	Mohm	10 ⁷	Mohm	10 ⁷
Arc Resistance	IPC-TM-650 2.5.1	Seconds	>180	Seconds	>180
Flexural Strength (MD)	IPC-TM-650 2.4.4	psi	>23,000	N/mm ²	>159
Flexural Strength (CD)	IPC-TM-650 2.4.4	psi	>19,000	N/mm ²	>131
Peel Strength (1 oz ED)	IPC-TM-650 2.4.8	lbs/linear inch	12.00	N/mm	2.1
Thermal Conductivity	ASTM F 433	W/m/K	0.19	W/m/K	0.19
CTE (x-y)	ASTM D 3386 (TMA)	ppm/°C	21-23	ppm/°C	21-23
CTE (z)	ASTM D 3386 (TMA)	ppm/°C	215	ppm/°C	215
Flammability Rating	UL 94		V-0		V-0



Remark : All reported values are typical and should not be used for specification purposes. In all instances, the user shall determine suitability in any given application.

How to Order			
Designation		Dielectric	
TLT-0		2.45 +/- 0.05	
TLT-9		2.50 +/- 0.05	
TLT-8		2.55 +/- 0.05	
TLT-7		2.60 +/- 0.05	
TLT-6		2.65 +/- 0.05	
Typical Thicknesses 1		Typical Thicknesses 2	
Inches	mm	Inches	mm
0.0014 ~ 0.1250	0.04 ~ 3.18	12 x 18	304 x 457
		16 x 18	406 x 457
		18 x 24	457 x 610
		16 x 36	406 x 914
		24 x 36	610 x 914

- 1) Other thicknesses may be available. Please call for information.
- 2) Our standard sheet size is 36" x 48" (457mm x 610mm). Please contact our customer service department for availability of other sizes.

Available Copper Cladding						
Designation	Weight	Copper Thickness		RMS Treated Side		Description
RH	1/2 oz / ft ²	~0.0007"	~18 μm	16 μin	0.4 μm	Rolled annealed
R1	1 oz / ft ²	~0.0014"	~35 μm	11 μin	0.3 μm	Rolled annealed
CLH	1/2 oz / ft ²	~0.0007"	~18 μm	13 μin	0.3 μm	Reverse treated / Electrodeposited
CL1	1 oz / ft ²	~0.0014"	~35 μm	13 μin	0.3 μm	Reverse treated / Electrodeposited
CVH (CH)	1/2 oz / ft ²	~0.0007"	~18 μm	27 μin	0.7 μm	Very low profile / Electrodeposited
CV1 (C1)	1 oz / ft ²	~0.0014"	~35 μm	25 μin	0.6 μm	Very low profile / Electrodeposited
C2	2 oz / ft ²	~0.0028"	~70 μm	77 μin	2.0 μm	Electrodeposited

Heavy metal claddings (aluminum, brass & copper) may also be available upon request. Please call for information.

An example of our part number is : **TLT-9-0310-CV1/CV1 - 18" x 24" (457 mm x 610 mm)**