AGC
Your Dreams, Our Challenge

TACONIC
Finding a better way

TLF

Base material for Power Amplifier

TLF is an organic-ceramic laminate in Taconic's family of products. It is based on woven glass reinforcement. And is the best choice for low cost, high volume commercial microwave and radio frequency application.

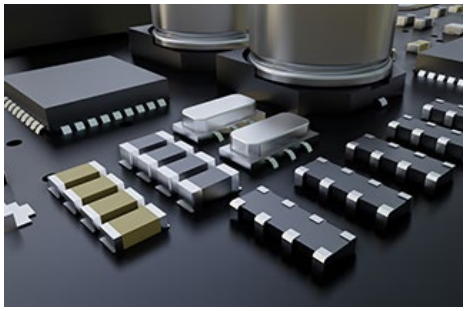
TLF has excellent peel strength for ½ ounce and 1 ounce copper(even in comparison to standard epoxy materials), a critical aspect whenever rework is required. And is designed to offer superior high frequency performance. And ultra low moisture absorption rate and low dissipation factor minimize phase shift with frequency. TLF is dimensionally stable due to the use of woven fabrics in its design.

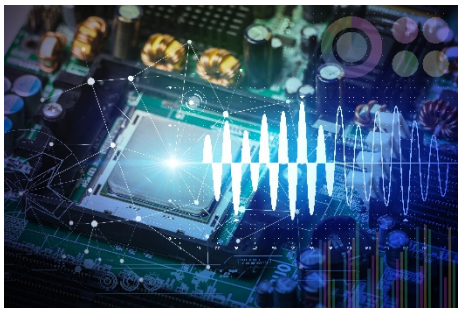
Benefits

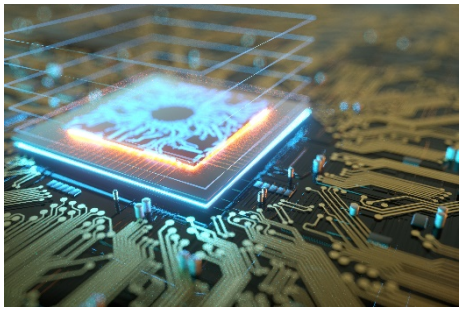
- Exceptionally low loss
- Stable at high frequency
- Stable at high temp.
- Low moisture absorption
- Excellent Peel Strength
- Excellent price/performance Ratio

Applications

- Power Amplifiers
- LNA, Repeater PA
- Passive Components
- Filters/Couplers







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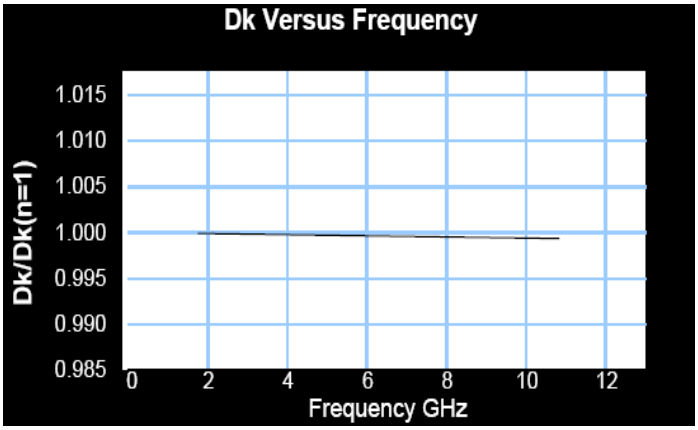
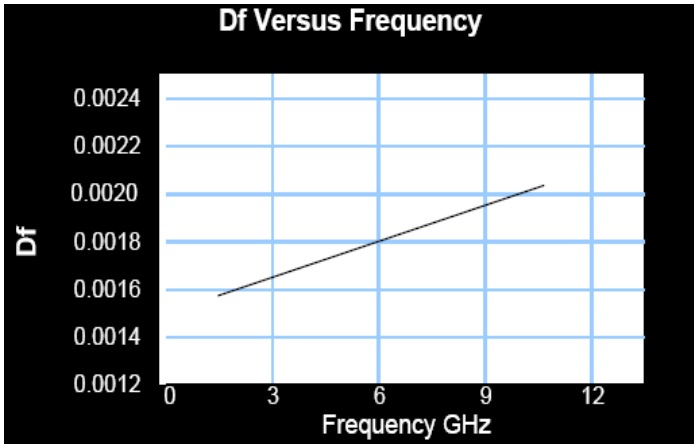
TLF TYPICAL VALUES					
Property	**Test Method**	**Unit**	**Value**	**Unit**	**Value**
Dielectric Constant @ 1.9 GHz	IPC-TM 650 2.5.5.5.1 Mod		TLF-34 : 3.40 TLF-35 : 3.50		TLF-34 : 3.40 TLF-35 : 3.50
Dissipation Factor @ 1.9 GHz	IPC-TM 650 2.5.5.5.1 Mod		0.0016		0.0016
Dissipation Factor @ 10 GHz	IPC-TM 650 2.5.5.5.1 Mod		0.0020		0.0020
Water absorption	IPC-TM 650 2.6.2.1	%	0.02	%	0.02
Peel Strength (1 oz. copper)	IPC-TM 650 2.4.8	Lbs./linear inch	10	N/mm	1.8
Volume Resistivity	IPC-TM 650 2.5.17.1	Mohm·cm	1.7×10^9	Mohm·cm	1.7×10^9
Surface Resistivity	IPC-TM 650 2.5.17.1	Mohm	2.8×10^8	Mohm	2.8×10^8
Flexural Strength Lengthwise	IPC-TM 650 2.4.4	psi	18,500	N/mm^2	128
Flexural Strength Crosswise	IPC-TM 650 2.4.4	psi	14,500	N/mm^2	100
Thermal Conductivity	ASTM F433	W/m/K	0.36	W/m/K	0.36
x-y CTE (50 ~ 150℃)	ASTM D3386 (TMA)	ppm/℃	21-23	ppm/℃	21-23
z CTE (50 ~ 150℃)	ASTM D3386 (TMA)	ppm/℃	85	ppm/℃	85
Flammability	UL-94		V-0		V-0

Type		Dk
TLY-5A		2.17
TLY-5		2.20
TLY-3		2.33
TLT-0	TLX-0	2.45
TLT-9	TLX-9	2.50
TLT-8	TLX-8	2.55
TLT-7	TLX-7	2.60
TLT-6	TLX-6	2.65
TLE-95		2.95
TLC-27		2.75
TLC-30	RF-30	3.00
TLC-32		3.20
TLF-34		**3.40**
TLF-35		**3.50**
RF-35	RF-35A2	3.50
TRF-41		4.10
TRF-43		4.30
TRF-45		4.50
RF-60A		6.15
CER-10		10





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.

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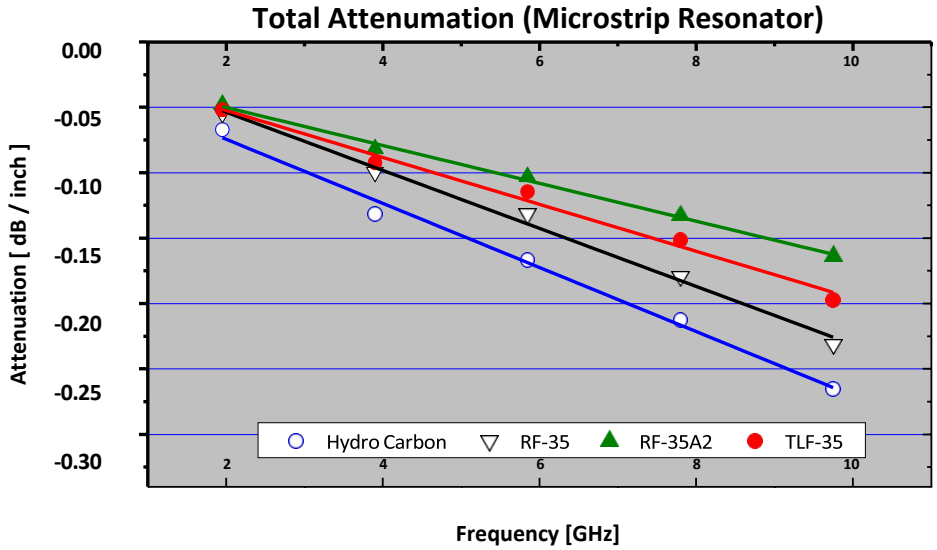
How to Order			
Designation		**Dielectric**	
TLF-34		3.4 +/- .07	
TLF-35		3.5 +/- .07	
Typical Thicknesses 1		**Typical Thicknesses 2**	
Inches	**mm**	**Inches**	**mm**
0.0100	0.25	12 x 18	305 x 457
		16 x 18	406 x 457
0.0200	0.51	18 x 24	457 x 610
		16 x 36	406 x 914
0.0300	0.76	24 x 36	610 x 914
0.0600	1.52	18 x 48	457 x 1220

1) **TLF series can be manufactured in increments of 0.0100".**
   Please call for availability of additional thicknesses.
2) **Our Standard sheet size is 36"*48"(914mm X 1220mm).**
   Please contact our customer service department for availability of other size.

Available Copper Cladding						
Designation	**Weight**	**Copper Thickness**		**Rms Treated Side**		**Description**
CH	½ oz./sq. ft.	~ .0007"	~ 18㎛	27µin	0.7㎛	Very low profile / Electrodeposited
C1	1 oz./sq. ft.	~ .0014"	~ 35㎛	25µin	0.6㎛	Very low profile / Electrodeposited
C2	2 oz./sq. ft.	~ .0028"	~ 70㎛	77µin	2.0㎛	Electrodeposited



Total Attenuation were measured with microstrip ring resonator. Material under test were 20mil dielectric thickness and 1 oz. copper.

An example of a 60mil material with 1 oz. copper on both sides is part # :
TLF-35-0200-C1/C1-18" x 24"(TLF-35-0200-C1/C1-457mm x 610mm)