

TLF-35A

Improved PTH and PIMD Performance

TLF-35d is an organic-ceramic laminate in Taconic's family of product. TLF-35 advanced is the best choice for low cost, high volume commercial microwave and radio frequency application. TLF-35 advanced has excellent peel strength for ½ ounce and 1 ounce copper and is designed to offer superior high frequency performance. Advanced TLF-35A laminates show similar electrical properties as TLF-35 but tighter DK tolerance.

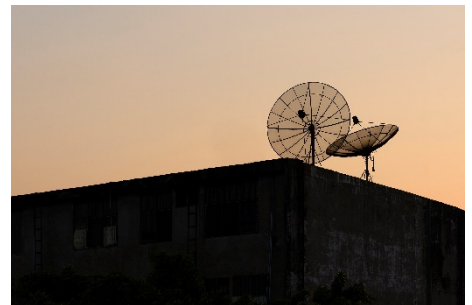
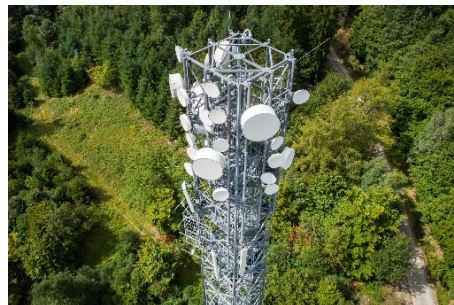
TLF-35 advanced is designed to obtaining improved PIMD performances on size effective boards for antenna application. Most of sensitive PIMD required base material's Dielectric constant is around 3.0 whereas TLF-35advanced laminates dielectric constant is 3.5 with similar PIMD levels.

Benefits

- Improved PIMD with DK3.5
- Improved PTH Quality
- Stable at high frequency
- Stable at high temp.
- Low moisture absorption
- Excellent Peel Strength
- Excellent price/performance Ratio

Applications

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



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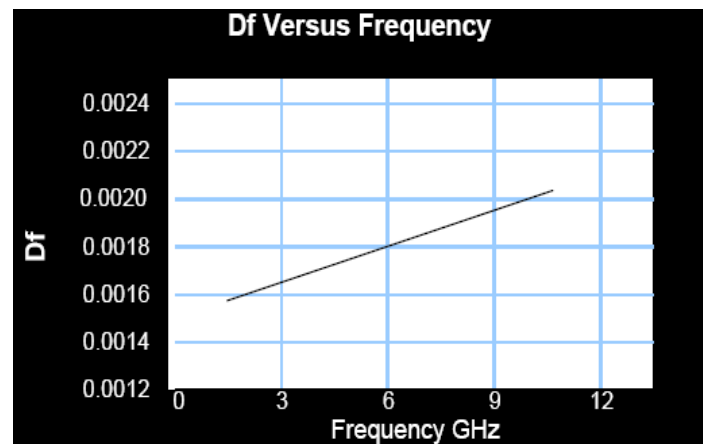
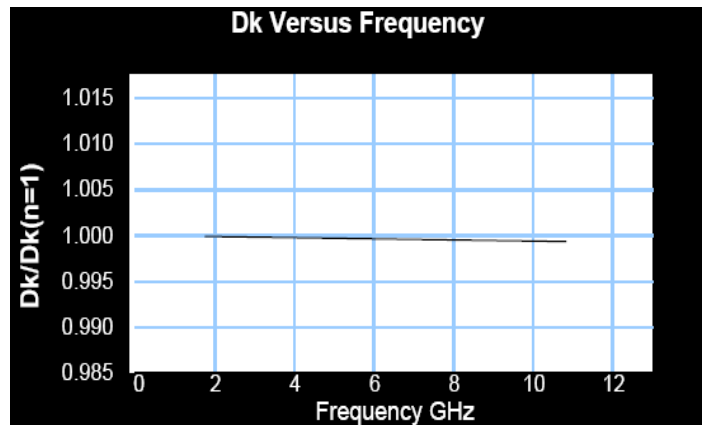
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TLF-35A TYPICAL VALUES					
Property	Test Method	Unit	Value	Unit	Value
Dielectric Constant @ 1.9 GHz	IPC-TM 650 2.5.5.5.1 Mod		3.50±0.05		3.50±0.05
Dissipation Factor @ 1.9 GHz	IPC-TM 650 2.5.5.5.1 Mod		0.0016		0.0016
Dissipation Factor @ 10 GHz	IPC-TM 650 2.5.5.5.1 Mod		0.0022		0.0022
Water absorption	IPC-TM 650 2.6.2.1	%	0.03	%	0.03
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	2.0 x 10 ⁹	Mohm-cm	2.0 x 10 ⁹
Surface Resistivity	IPC-TM 650 2.5.17.1	Mohm	3.0 x 10 ⁸	Mohm	3.0 x 10 ⁸
Flexural Strength Lengthwise	IPC-TM 650 2.4.4	psi	13,000	N/mm ²	90
Flexural Strength Crosswise	IPC-TM 650 2.4.4	psi	13,000	N/mm ²	90
Thermal Conductivity	IPC-TM-650 2.4.50	W/m/K	0.37	W/m/K	0.37
x-y CTE (50 ~ 150°C)	IPC-TM 650 2.4.41	ppm/°C	9-12	ppm/°C	9-12
z CTE (50 ~ 150°C)	IPC-TM 650 2.4.41	ppm/°C	80	ppm/°C	80
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-35	3.50	
TLF-35A	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

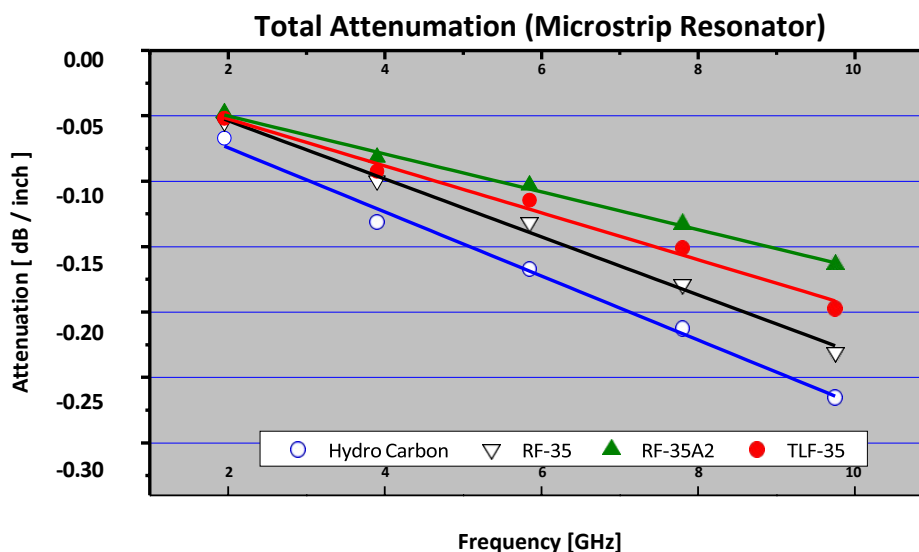


Remarks : All reported values are typical and should not be used for specification purposes. In all instances, the user shall determine suitability in any given application.

How to Order			
Designation		Dielectric Constant	
TLF-35A		3.5 +/- 0.05	
Typical Thicknesses 1		Typical Thicknesses 2	
Inches	mm	Inches	mm
0.030	0.76	12 x 18	305 x 457
		16 x 18	406 x 457
0.060	1.52	18 x 24	457 x 610
		36 x 48	914 x 1220

- 1) TLF-35-xxxx-A series can be manufactured in increments of 0.030". 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 sizes.

Available Copper Cladding						
Designation	Weight	Copper Thickness		Rms Treated Side		Description
CVH (CH)	½ oz./sq. ft.	~ .0007"	~ 18µm	19µin	0.48µm	Very low profile / Electrodeposited
CV1 (C1)	1 oz./sq. ft.	~ .0014"	~ 35µm	25µin	0.64µm	Very low profile / Electrodeposited
CLH	½ oz./sq. ft.	~ .0007"	~ 18µm	18µin	0.46µm	Reverse Treated / Electrodeposited
CL1	1 oz./sq. ft.	~ .0014"	~ 35µm	16µin	0.41µm	Reverse Treated / Electrodeposited
C2	2 oz./sq. ft.	~ .0028"	~ 70µm	27µin	0.69µm	Electrodeposited
CVH (CH)	½ oz./sq. ft.	~ .0007"	~ 18µm	19µin	0.48µm	Very low profile / Electrodeposited
CV1 (C1)	1 oz./sq. ft.	~ .0014"	~ 35µm	25µin	0.64µm	Very low profile / Electrodeposited



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

An example of a 30mil material with 1 oz. RTF Copper on both sides is part# :
TLF-35-0300-A-CL1/CL1-18" x 24"(TLF-35-0300-A-CL1/CL1-457mm x 610mm)