

TLF-35A

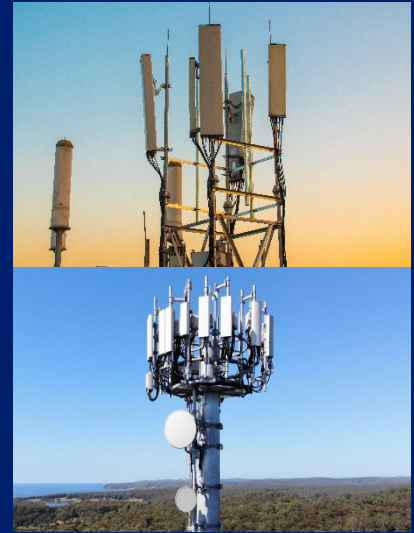
Improved PTH and PIMD Performance

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

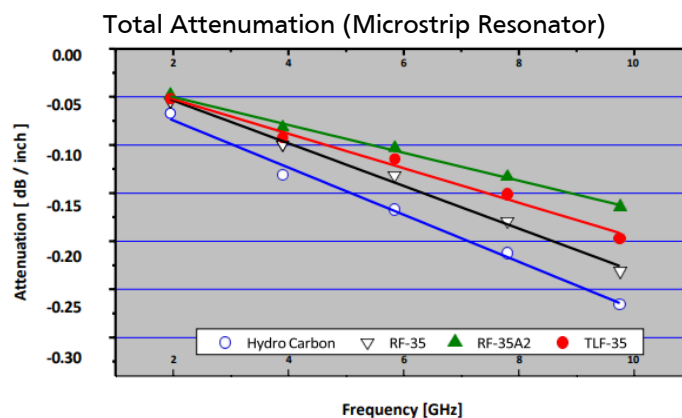
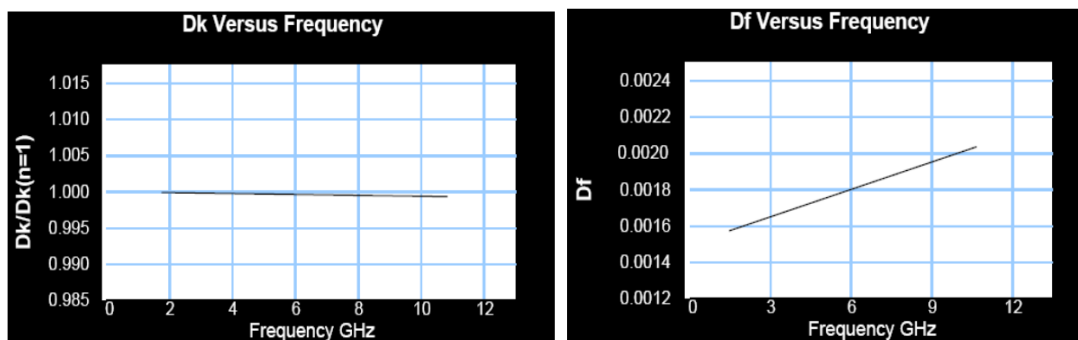
Applications

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



TLF-35A is an organic-ceramic laminate in Taconic's family of product. TLF-35A advanced is the best choice for low cost, high volume commercial microwave and radio frequency application. TLF-35A advanced has excellent peel strength for 1/2 ounce and 1 ounce copper and is designed to offer superior high frequency performance. Advanced TLF-35A laminates show similar electrical properties as TLF-35A but tighter DK tolerance.

TLF-35A 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-35A advanced laminates dielectric constant is 3.5 with similar PIMD levels.



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

Properties	Conditions	Typical Value	Unit	Test Method
Electrical Properties				
Dielectric Constant	@ 10 GHz	3.50 ± 0.05		IPC-TM 650 2.5.5.5.1 Mod
Dissipation Factor	@ 10 GHz	0.0026		IPC-TM 650 2.5.5.5.1 Mod
Surface Resistivity		3.0 x 10 ⁹	Mohms	IPC-TM 650 2.5.17.1
Volume Resistivity		2.0 x 10 ⁸	Mohms/cm	IPC-TM 650 2.5.17.1
Thermal Properties				
Thermal Conductivity		0.37	W/m/K	IPC-TM-650 2.4.50
CTE (50 to 150 °C)	X	9	ppm/°C	IPC-650 2.4.41
	Y	12		
	Z	80		
Mechanical Properties				
Peel Strength	1 oz. copper	1.8 (10)	N/mm (Lbs./linear in)	IPC-TM 650 2.4.8
Flexural Strength	Lengthwise	90 (13,000)	N/mm ² (psi)	IPC-TM 650 2.4.4
	Crosswise	90 (13,000)	N/mm ² (psi)	
Chemical / Physical Properties				
Flammability			V-0	UL-94
Water Absorption		0.03	%	IPC-TM 650 2.6.2.1

Typical Thicknesses¹

Inches	mm
0.030	0.76
0.060	1.52

Typical Panel Sizes²

Inches	mm	Inches	mm
12 x 18	305 x 457	18 x 24	457 x 610
16 x 18	406 x 457	36 x 48	914 x 1,220

Available Copper Cladding

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

* All test data provided are typical values and not intended to be specification values. For review of critical specification tolerances, please contact a company representative directly.

* TLF-35A can be manufactured in increments of 0.030"(0.76mm).

* Standard panel size is 18" x 24" (457 mm x 610 mm).

* Please contact AGC for availability of additional thicknesses, other sizes & any other type of cladding.

