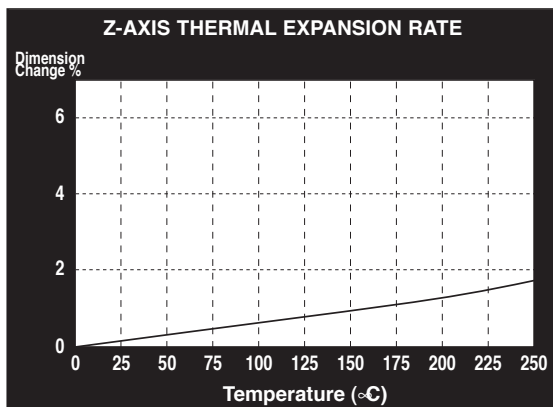


TLC Specialty Products

TLC Specialty Products (TLC-338 and 35) join the TLC family of laminates (TLC-27, 30 & 32) to extend our line of cost effective substrates suitable for a wide range of microwave applications. Available with a Dk range of 3.38 to 3.50, TLC specialty products offer superior electrical performance compared to thermoset laminates (e.g. FR-4, PPO, BT, polyimide and cyanate ester). TLC's construction also provides exceptional mechanical stability.

TLC specialty products 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.

Taconic is a world leader in RF laminates and high speed digital materials, offering a wide range of high frequency laminates and prepregs. These advanced materials are used in the fabrication of antennas, multilayer RF and high speed digital boards, interconnections and devices.



TLC Specialty Products exceed PIM requirements in PCBs of -153 dBc (measured between 880 and 960 MHz, between 1710 and 1880 MHz and between 1920 and 2170 MHz at 20 W power) with CL1/CL1 cladding when processed with today's state-of-the-art processes and process parameters.

Benefits & Applications:

- Low cost
- Tightly controlled Dk
- Low Df
- Excellent dimensional stability
- High flexural strength
- UL 94 V-0 rating
- Dk is flat over frequency

- LNBS
- Power amplifiers
- PCS/PCN large format antennas
- Passive components



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An ISO 9001 Registered Company

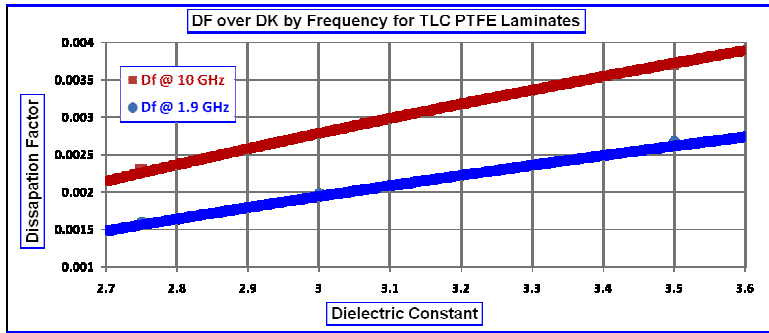
www.taconic-add.com

Commercial and Government Entity (CAGE) Code: 1C6Q9

TLC-338 & 35 Typical Values

Property	Test Method	Unit	Value	Unit	Value
Dk @ 10 GHz	IPC-650 2.5.5.5		3.38, 3.50		3.38, 3.50
Df @ 10 GHz	IPC-650 2.5.5.5		0.0034, 0.0037		0.0034, 0.0037
Moisture Absorption	IPC-650 2.6.2.1	%	<0.02	%	<0.02
Dielectric Breakdown	IPC-650 2.5.6	Kv	>45	Kv	>45
Volume Resistivity	IPC-650 2.5.17.1	Mohms/cm	10 ⁸	Mohms/cm	10 ⁸
Surface Resistivity	IPC-650 2.5.17.1	Mohms	10 ⁸	Mohms	10 ⁸
Arc Resistance	IPC-650 2.5.1	seconds	>180	seconds	>180
Flexural Strength (MD)	IPC-650 2.4.4	lbs./inch	>24,000	N/mm ²	>165
Flexural Strength (CD)	IPC-650 2.4.4	lbs./inch	19,000	N/mm ²	131
Peel Strength (1 oz. copper)	IPC-650 2.4.8	lbs./linear inch	12.0	N/mm	2.1
Thermal Conductivity	ASTM F 433	W/m/K	0.24	W/m/K	0.24
CTE (x-y axis)	ASTM D 3386/TMA	ppm/°C	9 - 12	ppm/°C	9 - 12
CTE (z axis)	ASTM D 3386/TMA	ppm/°C	70	ppm/°C	70
UL-94 Flammability Rating	UL-94		V-0		V-0

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.



Designation	Dk	Dielectric Thickness inches	Dielectric Thickness mm
TLC-338	3.38 +/-0.05	≥0.0080	≥0.20
TLC-35	3.50 +/-0.05	≥0.0100	≥0.25

Available Sheet Sizes	
Inches	mm
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
18 x 48	457 x 1220

Please see our Product Selector Guide for information on available copper cladding.

An example of our part number is: **TLC-35-0620-CH/CH - 18" x 24"**(457 mm x 610 mm)

