

# SCGA-500 GF300

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### LOW LOSS PTFE WOVEN GLASS MATERIALS

SCGA-500 GF300 Low Loss PTFE Woven Glass UL 94 V-0 circuit materials have been designed for use in many of today's demanding and highly challenging RF/Microwave design platforms.

SCGA-500 GF300 PTFE Woven Glass Controlled Dielectric Materials provide excellent electrical and mechanical properties with a consistent and stable Dielectric Constant (3.00 Dk +/- 0.04) and Dissipation Factor (0.0023) over a wide range of frequencies (1 GHz to 20 GHz) and Temperatures (-40 °C to +125 °C).

SCGA-500 GF300 RF/Microwave Low Loss controlled dielectric Materials exhibit exceptional dimensional stability, chemical resistance, low moisture absorption and copper peel strength. Passive Inter-Modulation (PIM) performance values -163 dBc are typical (RTF and VLP type copper foils).

SCGA-500 GF300 Low Loss Materials are an excellent choice for high volume manufacturing requirements where a balance of cost and performance are of paramount importance. Typical applications include Base Station Antennas, Power Amplifiers, Antenna Feed Networks, Passive Components, Telemetry, DAS and CPE Antennas.

SCGA-500 GF300 are compatible with processes used in the fabrication of standard PTFE Woven Glass materials.

Based in Dongguan since 1985, Shengyi Technology Co., Ltd. (SYTECH) is a world leader in the development and production of laminates. The company maintains a high commitment to on-going R&D efforts and provides a complete portfolio of products ranging from composites to high reliability, thermal management, HSD and RF/PTFE laminate materials.

## APPLICATIONS

- Base Station Antennas
- Power Amplifiers
- Antenna Feed Networks
- Passive Components
- Telemetry
- DAS and CPE Antennas

## FEATURES

- Consistent and Stable Dk/Df over Frequency and Temperature
- Extremely Low Loss
- Excellent Electrical and Mechanical Properties
- Dimensionally Stable
- Low Moisture Absorption
- Passive Inter-Modulation -163 dBc
- Excellent Chemical Resistance
- UL 94 V-0 Flame Rating
- Excellent Price Performance Value

## PRODUCT CONTACTS

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# SCGA-500 GF300

## GENERAL PROPERTIES

PROPERTY		TEST METHOD	UNIT	TYPICAL VALUE
Dielectric Constant, Dk (@10GHz)		IPC-TM650 2.5.5.5	-	3.00±0.04
Dissipation Factor, Df (@10GHz)		IPC-TM650 2.5.5.5	-	0.0023
Passive Inter-Modulation, PIM		Summitek 1900b PIM Analyzer	dBc	-163
Thermal Expansion, CTE	X	IPC-TM650 2.4.24	PPM/°C	6.2
	Y	IPC-TM650 2.4.24		8.6
	Z	IPC-TM650 2.4.24		95
Peel Strength		IPC-TM650 2.4.8	N/mm	1.2
Water Absorption		IPC-TM650 2.6.2.1	%	0.01
Density		ASTM D-792	g/cm <sup>3</sup>	2.27
Thermal Conductivity		ASTM C518	W/mK	0.28
Surface Resistivity		IPC-TM650 2.5.17.1	Ω	10 <sup>14</sup>
Volume Resistivity		IPC-TM650 2.5.17.1	Ω • mm	10 <sup>14</sup>
Tensile Modulus (filling)		IPC-TM650 2.4.4	GPa	8.8
Tensile Strength (filling)		IPC-TM650 2.4.4	MPa	279
Tensile Modulus (warp)		IPC-TM650 2.4.4	GPa	7.9
Tensile Strength (warp)		IPC-TM650 2.4.4	MPa	254
Flammability		UL-94	V-0	V-0

## PRODUCT SPECIFICATION

STANDARD THICKNESS OFFERINGS	STANDARD PANEL SIZES	STANDARD COPPER CLADDING
0.010" (0.254mm), 0.020" (0.508mm), 0.030" (0.762mm), 0.060" (1.524mm)	36" x 48" & 40"x48" Additional sizes may be available upon request	1/2 oz. (17µm), 1 oz. (35 µm) electrodeposited copper foil

<sup>(1)</sup>Clamped strip line method can potentially lower the actual dielectric constant due to presence of air gap. Dielectric constant in practice may be higher than the values listed.

<sup>(2)</sup>Typical values are a representation of an average value for the population of the property. For specification values contact SYTECH Corporation. The information in this data sheet is intended to assist you in designing with SYTECH's circuit materials. It is not intended to and does not create any warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose or that any results shown in this data sheet will be achieved by a user for a particular purpose. The user is responsible for determining the suitability of SYTECH's circuit materials for each application.