

SCGA-500 GF220

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ULTRA LOW LOSS PTFE WOVEN GLASS MATERIALS

SCGA-500 GF220 Ultra 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 that extend into the millimeter range.

SCGA-500 GF220 PTFE Woven Glass Controlled Dielectric Materials provide excellent electrical and mechanical properties with a consistent and stable Dielectric Constant (2.20 Dk +/- 0.02) and Dissipation Factor (0.0009) over a wide range of frequencies (1 GHz to 20 GHz) and Temperatures (-40 °C to +125 °C).

SCGA-500 GF220 materials exhibit excellent dimensional stability, chemical resistance, low moisture absorption and copper peels strength.

SCGA-500F GF220 Ultra 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 Automotive Radar, Satellite Communications, Filters, Couplers, LNAs, Phased Array Antennas, Power Amplifiers, Avionics and Aerospace.

SCGA-500 GF220 materials 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

- Automotive Radar
- Satellite Communications
- Filters, Couplers, LNAs
- Phased Array Antennas
- Power Amplifiers
- Avionics and Aerospace

FEATURES

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

PRODUCT CONTACTS

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GENERAL PROPERTIES

PROPERTY		TEST METHOD	UNIT	TYPICAL VALUE
Dielectric Constant, Dk (@10GHz)		IPC-TM650 2.5.5.5	-	2.20±0.02
Dissipation Factor, Df (@10GHz)		IPC-TM650 2.5.5.5	-	0.0009
Passive Inter-Modulation, PIM		Summitek 1900b PIM Analyzer	dBc	-163
Thermal Expansion, CTE	X	IPC-TM650 2.4.24	PPM/°C	41
	Y	IPC-TM650 2.4.24		30
	Z	IPC-TM650 2.4.24		217
Peel Strength		IPC-TM650 2.4.8	N/mm	1.2
Water Absorption		IPC-TM650 2.6.2.1	%	0.007
Density		ASTM D-792	g/cm ³	2.18
Thermal Conductivity		ASTM C518	W/m·K	0.27
Surface Resistivity		IPC-TM650 2.5.17.1	Ω	10 ¹³
Volume Resistivity		IPC-TM650 2.5.17.1	Ω • mm	10 ¹⁴
Tensile Modulus (filling)		IPC-TM650 2.4.4	GPa	2.6
Tensile Strength (filling)		IPC-TM650 2.4.4	MPa	76
Tensile Modulus (warp)		IPC-TM650 2.4.4	GPa	1.9
Tensile Strength (warp)		IPC-TM650 2.4.4	MPa	60
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