

SCGA-500 GF220

SCGA-500 GF220 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
- Filers, 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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SCGA-500 GF220

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	Х	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/cm³	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	1014
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),	36″ x 48″ & 40″x48″	1/2 oz. (17µm), 1 oz. (35 µm)
0.030" (0.762mm), 0.060" (1.524mm)	Additional sizes may be available upon request	electrodeposited copper foil

⁽¹⁾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. ⁽²⁾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 materi-als. 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.



