SHENGYI TECHNOLOGY

S7136H

S7136H
HIGH FREQUENCY LOW LOSS MATERIALS

S7136H is a hydrocarbon woven glass-reinforced ceramic UL 94 V-0 circuit materials present a strong value proposition for today's designer where cost, performance and manufacturability are paramount. S7136H materials can be fabricated using standard FR-4 printed circuitry fabrication processes.

The S7136H materials are well suited for use in Hybrid multi-layer printed circuit configurations and are compatible for use in lead free assembly processes.

S7136H materials exhibit excellent electrical and mechanical properties with a consistent and stable dielectric constant and dissipation factor over a wide range of frequencies (1GHz to 20 GHz) and temperatures (-40 °C to +125 °C).

S7136H low loss, (0.003 @ 10 GHz values) controlled dielectric materials (+/- 0.05) are available in a broad range of nominal cores and pre-pregs. These products have been developed to provide unique material solutions for current and emerging RF/Microwave design requirements.

S7136H RF/Microwave low loss, controlled dielectric materials exhibit exceptional dimensional stability, chemical resistance, low moisture absorption, and copper peel strength.

APPLICATIONS

- Auto Radar
- Base Station Antennas
- Power Amplifiers
- RFID
- Telemetry
- DAS & CPE Antenna
- LNB

FEATURES

- Stable Dk/Df over Frequency and Temperature
- Low dielectric tolerance +/- 0.05
- Low Moisture absorption
- Passive Inter-modulation -158 dBc
- Excellent Copper Peel Strength
- UL 94 V-0 Flame Rating

PRODUCT CONTACTS

DAVID BARRELL
Senior Director, OEM Marketing
RF Products North America
Email: DavidBarrell@syst.com.cn
Phone: 626-327-2056

TRUMAN MA
Senior FAE engineer, Marketing
Shengyi Technology Co., Ltd. (China)
Email: majf@syst.com.cn
Mobile: +86 135 0920 1181
Phone: +86 (769) 22271828 ext. 2203

Web: www.shengyi-usa.com

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GENERAL PROPERTIES

PROPERTY	TYPICAL VALUE	DIRECTION	UNITS	CONDITION	TEST METHOD
Dielectric Constant, εr (Process specification)	3.42±0.05	Z		10GHz/23°C	IPC-TM-650 2.5.5.5 (1) Clamped Stripline
Dielectric Constant, εr (Design specification)	3.61	Z		COND A	Differential Phase Length Method
Dissipation Factor tan, δ	0.0030	-		10GHz/23°C	IPC-TM-650 2.5.5.5
Thermal Coefficient of εr	50	Z	ppm/°C	-40~+150°C	IPC-TM-650 2.5.5.5
Volume Resistivity	1.1×10^{8}		MΩ·cm	COND A	IPC-TM-650 2.5.17.1
Surface Resistivity	$1.6X10^{7}$		MΩ	COND A	IPC-TM-650 2.5.17.1
Electrical Strength	40	Z	KV/mm	0.51mm (0.020")	IPC-TM-650 2.5.6.2
Tensile Modulus	16,120	Y	MPa	RT	ASTM D638
Tensile Strength	175	Y	MPa	RT	ASTM D638
Flexural Strength	260	X	MPa		IPC-TM-650 2.4.4
Tg(DSC)	>280		°C	A	IPC-TM-650 2.4.24
Td (TGA)	390		°C		ASTM D3850
Thermal Conductivity	0.66		W/m°K	100°C	ASTM D5470
Moisture Absorption	0.06		%		IPC-TM-650 2.6.2.1
Copper Peel Strength	0.72 (4.11)		N/mm (lb/in.)	A	IPC-TM-650 2.4.8
Flammability	94V-0				UL

PRODUCT SPECIFICATION

STANDARD THICKNESS OFFERINGS	STANDARD PANEL SIZES	STANDARD COPPER CLADDING
0.010" (0.254mm) 0.020" (0.51mm) 0.030" (0.76mm) 0.060" (1.52mm)	36"X48", 40" x 48" & 42"x48" Additional panel sizes may be available upon request.	1/2 oz. (17μm), 1 oz. (35 μm) electrodeposited copper foil

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(1)Clamped stripline method can potentially lower the actual dielectric constant due to presence of airgap. Dielectric constant in practice may be higher than the values listed.
(2) All the typical value is based on the 0.508mm(0.020") specimen,and the specification sheet is based on IPC4103/11.
(3)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.