SHENGYI TECHNOLOGY

mmWave77

mmWave77

mmWave77 HIGH FREQUENCY LOW LOSS MATERIALS

mmWave77 materials exhibits excellent electrical and mechanical properties with a consistent and stable Dielectric Constant and Dissipation Factor over a wide range of frequency (1 GHz to 100 GHz) and temperature (-55℃ to +150℃).

mmWave77 low loss (0.0010 @ 10 GHz values) controlled dielectric materials (DK 3.0 +/- 0.04) are available in cores and pre-preg. These products were developed to provide unique material solutions for current and emerging RF/Microwave design requirements.

mmWave77 RF/Microwave low loss controlled dielectric materials exhibit exceptional dimensional stability, chemical resistance, low moisture absorption, and copper peel strength.

APPLICATIONS

- Automotive radar applications
- Cellular telecommunications system
- Global positioning satellite antennas
- Patch antenna for wireless communications
- Remote meter readers
- Direct broadcast satellites

FEATURES

- Stable Dk/Df over Frequency and Temperature
- Low dielectric tolerance DK 3.0 +/- 0.04
- Low Moisture Absorption
- Passive Inter-modulation -165 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

Oliver Zhu
VP of Global OEM Marketing
RF Products
Email: oliverzhu@syst.com.cn
Phone: +1 518 704-1007

Web: www.shengyi-usa.com

SHENGYI TECHNOLOGY

mmWAVE77

GENERAL PROPERTIES

PROPERTY	TYPICAL VALUE	DIRECTION	UNITS	CONDITION	TEST METHOD
Dielectric Constant, εr (Process specification)	3.0±0.04	Z	-	10GHz/23℃	IPC-TM-650 2.5.5.5 (1)Clamped Stripline
Dissipation Factor tan, δ	0.0010	Z	-	10GHz/23℃	IPC-TM-650 2.5.5.5 (1)Clamped Stripline
Volume Resistivity	$1.04X10^8$	-	MΩ.cm	COND A	IPC-TM-650 2.5.17.1
Surface Resistivity	$4.38X10^8$	-	MΩ	COND A	IPC-TM-650 2.5.17.1
Electrical Strength	60	Z	KV/mm	0.51mm (0.020")	IPC-TM-650 2.5.6.2
Coefficient of Thermal Expansion	16 16 22	X Y Z	ppm/℃	-55 to 260℃	IPC-TM-650 2.4.41
Td	538	-	℃TGA	-	ASTM D3850
Thermal Conductivity	0.50	-	W/m/°K	100℃	ASTM D5470
Moisture Absorption	0.01	-	%	-	IPC-TM-650 2.6.2.1
Copper Peel Strength	1.64	-	N/mm	after solder float HVLP Foil	IPC-TM-650 2.4.8
Density	2.15	-	g/cm^3	A	ASTM D792
Flammability	94V-0	-	Rating	-	UL
Lead Free Process Compatible	YES	-	-	-	-

PRODUCT SPECIFICATION

PRODUCT	STANDARD THICKNESS	STANDARD PANEL SIZE	COPPER FOIL
mmWave77	0.005"(0.127mm), 0.010"(0.254mm), 0.020"(0.508mm), 0.030"(0.762mm).	18"×24"(457mmx610mm), 21"×24"(534mmx610mm).	½ oz. (18μm) HVLP copper foil, 1 oz. (35μm) HVLP copper foil.

SHENGYI TECHNOLOGY

(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 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.