



mmWave G

Glass Reinforced Non-PTFE MMW Radar Material

FEATURES

- Stable Dk/Df over frequency and temperature.
- Low dielectric tolerance ± 0.05 .
- Low moisture absorption.
- Excellent thermal aging properties.

APPLICATIONS

- Automotive Radar Applications.
- Base Station Antennas.
- Cellular Telecommunications Systems.
- Global Positioning Satellite Antennas.
- Direct Broadcast Satellites.

GENERAL PROPERTIES

Property	Test Items		Test Method	Test Condition	Unit	Typical Value
Thermal	Tg	DMA	2.4.24	E-2/105	°C	200
	CTE	X-axis	2.4.41	E-1/105+C-40/23/50	ppm/°C	20
		Y-axis	2.4.41	E-1/105+C-40/23/50	ppm/°C	20
		Z-axis	2.4.24	E-2/105, Before Tg	ppm/°C	80
		Z-axis	2.4.24	E-2/105, After Tg	ppm/°C	300
		Z-axis	2.4.24	E-2/105 (50°C ~ 260°C)	ppm/°C	3.5
	Td (5% wt. loss)		2.4.24.6	E-24/110	°C	395
T288		2.4.24.1	E-2/105	min	60	
Electrical	Dk(RC78%)	10GHz	2.5.5.5	C-24/23/50	-	3.16
		77GHz	Resonator Ring	C-24/23/50	-	3.18
	Df(RC78%)	10GHz	2.5.5.5	C-24/23/50	-	0.002
	Volume Resistivity		2.5.17.1	After moisture resistance	MΩ·cm	1.56X10 ¹⁰
	Surface Resistivity		2.5.17.1	After moisture resistance	MΩ	9.36X10 ⁹
	Dielectric Breakdown		2.5.6	D-48/50+D-0.5/23	kV	40
	Electric Strength		2.5.6.2	D-48/50+D-0.5/23	kV/mm	75
Physical	Peel Strength(HVLP Hoz)		2.4.8	288°C/10s	N/mm[lb/in]	0.60 [3.43]
	Water Absorption		2.6.2.1	E-1/105+D-24/23	%	0.06
	Thermal Conductivity		ASTM D5470	As Received	W/m·K	0.4
	Young's Modulus	Length	ASTM D882	As Received	GPa [kpsi]	7.6 [1102]
		Cross	ASTM D882	As Received	GPa[kpsi]	7.3 [1058]
	Flexural Strength	Length	2.4.4	As Received	MPa	260
Cross		2.4.4	As Received	MPa	250	
Chemical	Flammability		UL94	C-48/23/50, E-24/125	Rating	V-0

Remarks:

1. Unless otherwise specified, all test methods follow IPC-TM-650.
2. All typical value is based on the 0.127mm (0.005") and 0.508mm (0.020") specimen, but not guarantee data.
3. All typical values listed above are for your reference only and not intended for specification.
4. Please contact Shengyi Technology Co., Ltd. for detailed information.

PRODUCT SPECIFICATION

Standard Thickness	Standard Panel Size	Copper Foil
0.004" (0.102mm);0.005" (0.127mm)	18" x24"	1/2 oz (17μm), HVLP type 1 oz (35μm), HVLP type
0.010" (0.254mm);0.015" (0.381mm)	21" x24"	
0.020" (0.508mm);0.030" (0.762mm)	Additional panel sizes may be available	
0.060" (1.524mm)	upon request.	