



# S7136

## High Frequency Circuit Materials

### FEATURES

- Glass-reinforced hydrocarbon and ceramic dielectric.
- Excellent high frequency performance due to low dielectric tolerance and loss.
- Stable electrical properties versus frequency.
- Low Z-axis expansion and excellent dimensional stability.

### APPLICATIONS

- High frequency wireless communication
- High speed computer.
- Satellite signal transmission equipment.
- Microstrip and Cellular Base Station
- Antennas and Power Amplifiers.
- LNA/LNB

## GENERAL PROPERTIES

Property	Typical Value	Direction	Units	Condition	Test Method
Dielectric Constant, $\epsilon_r$ (Process)	3.42±0.05	Z		10GHz/23°C	IPC-TM-650 2.5.5.5 (1)Clamped Stripline
Dielectric Constant, $\epsilon_r$ (Design)	3.60	Z		-	-
Dielectric Constant, $\epsilon_r$	3.68±0.05	-		10GHz/23°C	SPDR
Dissipation Factor tan, $\delta$	0.0030	-		10GHz/23°C	IPC-TM-650 2.5.5.5
	0.0035			10GHz/23°C	SPDR
Volume Resistivity	1.3×10 <sup>8</sup>		MΩ·cm	E-24/125	IPC-TM-650 2.5.17.1
Surface Resistivity	9.2×10 <sup>8</sup>		MΩ	E-24/125	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	12,135	Y	MPa	RT	ASTM D638
Tensile Strength	182	Y	MPa	RT	ASTM D638
Flexural Strength	260		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	0.65		W/m/ °K	100°C	ASTM D5470
Moisture Absorption	0.06		%		IPC-TM-650 2.6.2.1
Copper Peel Strength	0.80		N/mm	after solder float 1 oz. EDC Foil	IPC-TM-650 2.4.8
Flammability	94V-0				UL

- (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 SHENGYI corporation. The information in this data sheet is intended to assist you in designing with SHENGYI's circuit materials. The user is responsible for determining the suitability of SHENGYI's circuit materials for each application.

## PURCHASING INFORMATION

Standard Thickness	Standard Panel Size	Standard Copper Cladding
0.010" (0.254mm), 0.020" (0.508mm), 0.030" (0.762mm), 0.060" (1.524mm).	36"×48", 42"×48" Additional panel sizes may be available upon request.	½ oz. (17 μ m), 1 oz. (35 μ m) electrodeposited copper foil.