SHENGYI TECHNOLOGY

S7439

S7439

HIGH SPEED LOW LOSS LAMINATES AND PREPREGS

S7439 is a proprietary high performance 200°C(DSC) glass transition temperature (Tg) FR-4 system for multilayer Printed Wiring Board (PWB) engineered for applications that require excellent electrical, thermal and reliability performance.

S7439 has a Dielectric Constant (Dk) and Dissipation Factor (Df) of 3.80 and 0.0068 at 10 GHz using the IPC 2.5.5.5 test method. The system also exhibits a stable Dk & Df over a wide range of frequencies (1 GHz to 20 GHz) and temperatures (-40 °C to +125 °C). It is also compatible with high layer count applications that require multiple 2 oz. copper layers and that have 0.8mm pitch. It also has demonstrated excellent CAF resistance down to 0.7mm pitch when tested using industry standard CAF TVs across multiple OEMs.

The S7439 system is available in spread and standard E-Glass. It is supplied with a 3um Rz roughness VLP copper as the default offering. A 2um VLP copper is also available if additional electrical bandwidth is needed.

APPLICATIONS

- High Speed Servers
- High Speed SANs
- Switches & Routers
- High Layer Count Backplanes
- High Layer Count Line Cards
- Multiple 2 oz. Copper Layers
- 0.8mm Pitch
- Burn-in Boards
- HDI Builds
- Hybrid Builds
- Military & Aerospace

FEATURES

- Excellent Thermal Performance
- High Tg: 200°C (DSC)
- Low CTE @ 45/210 ppm/°C
- High Td: 385°C (TGA @ 5% wt loss)
- Excellent Electrical Performance
- 3.8 Dk & 0.0068 Df @ 10 GHz (IPC 2.5.5.5)
- Stable Dk/Df over Frequency and Temperature
- Superior CAF Performance
- Excellent Performance in Hybrid and HDI Designs
- UL 94 V-0 Flame Rating
- Standard FR-4 PCB processes

PRODUCT CONTACTS

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GENERAL PROPERTIES

	PROPERTY	TYPICAL VALUE	UNIT	CONDITION	TEST METHOD
Thermal	Glass Transition Temperature, Tg	205	°C	A	DMA IPC-TM-650 2.4.24.2
		200	°C	A	DSC IPC-TM-650 2.4.25
	Thermal Expansion, Z CTE	45	ppm/°C	A	Before Tg, IPC-TM-650 2.4.24
		210	ppm/°C	A	After Tg, IPC-TM-650 2.4.24
	Decomposition Temperature, Td	385	°C	A	TMA IPC-TM650 2.4.24.6
	Delamination Time, T288	120	minutes	A	TMA IPC-TM650 2.4.24
	Delamination Time, T300	60	minutes	A	TMA IPC-TM650 2.4.24
	Humidity Resistance	>10	cycles	85°C/85%RH/168 Hours 288°C/10sec Dipping	-
Electrical	Dielectric Constant (Dk)	3.85	-	1 GHz	IPC-TM-650 2.5.5.9
		3.80	-	10 GHz	IPC-TM-650 2.5.5.5
	Dissipation Factor (Df)	0.0045	-	1 GHz	IPC-TM-650 2.5.5.9
		0.0068	-	10 GHz	IPC-TM-650 2.5.5.5
	Volume Resistivity	1.26E+08	MΩ·cm	COND A	IPC-TM-650 2.5.17.1
	Surface Resistivity	8.67E+06	MΩ	COND A	IPC-TM-650 2.5.17.1
	Electrical Strength	34.7	kV/mm	0.51mm (0.020")	IPC-TM-650 2.5.6.2
Physical	Thermal Conductivity	0.60	W/m·K	100°C	ASTM D5470
	Water Absorption	0.09	%	D-24/23	IPC-TM-650 2.6.2.1
	Copper Peel Strength	0.95 (5.4)	N/mm (lb/in.)	after solder float 1 oz. EDC Foil	IPC-TM-650 2.4.8
	Flammability	94V-0	-	A	UL

PRODUCT SPECIFICATION

STANDARD OFFERINGS	STANDARD PANEL SIZES
Thickness - 0.002"(0.05mm) to 0.060" (1.5mm) Copper - VLP with 3um Rz E-Glass - Spread & Standard	18" x 24", 21"x24" & 27" x 24" Additional panel sizes may be available upon request For most application the standard EDC foil should be used. When PIM and insertion loss is critic the RTF low profile copper foil should be considered.

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