



S1190G

(UL ANSI: FR-15.1)High Tg, Low Z-axis CTE, Halogen Free Material

FEATURES

- Excellent anti-CAF performance and high voltage resistance capability.
- High Tg 200°C(DMA).
- Low Z-axis CTE.
- Excellent heat resistance.
- Halogen, antimony and red phosphorous free.

APPLICATIONS

- Heavy copper foil power supply.
- Integrated power module.
- High voltage required products.
- Industrial and medical electronics.

GENERAL PROPERTIES

Property	Test Items		Test Method	Test Condition	Unit	Typical Value
Thermal	Tg	DMA	2.4.24.4	E-1/105	°C	200
		TMA	2.4.24	E-2/105		180
		DSC	2.4.25	E-2/105		190
	CTE	X-axis	2.4.24.5	E-1/105 (30°C ~ 120°C)	ppm/°C	11~13
		Y-axis	2.4.24.5	E-1/105 (30°C ~ 120°C)	ppm/°C	11~13
		Z-axis	2.4.24	E-2/105, Before Tg	ppm/°C	35
		Z-axis	2.4.24	E-2/105, After Tg	ppm/°C	180
		Z-axis	2.4.24	E-2/105 (50°C ~ 260°C)	%	1.8
	Td (5% wt. loss)		2.4.24.6	E-24/110	°C	408
	T300		2.4.24.1	E-2/105	min	> 60
	Thermal Stress		2.4.13.1	288°C/10s, solder dipping	-	Pass
Electrical	Dk RC50%	1GHz	2.5.5.9	C-24/23/50	-	4.3
		10GHz	2.5.5.5	C-24/23/50	-	4.1
	Df RC50%	1GHz	2.5.5.9	C-24/23/50	-	0.011
		10GHz	2.5.5.5	C-24/23/50	-	0.012
	Volume Resistivity		2.5.17.1	C-96/35/90	MΩ	5.0×10 ¹⁰
			2.5.17.1	After moisture resistance	MΩ·cm	4.0×10 ⁹
	Surface Resistivity		2.5.17.1	C-96/35/90	MΩ	2.0×10 ⁹
			2.5.17.1	After moisture resistance	MΩ	8.0×10 ⁸
	Arc Resistance		2.5.1	D-48/50+D-0.5/23	s	181
	Dielectric Breakdown		2.5.6	D-48/50+D-0.5/23	kV	>45 (No Breakdown)
	Electric Strength		2.5.6.2	D-48/50+D-0.5/23	kV/mm	69
Physical	CTI		ASTM D3638	C-40/23/50	PLC [Volts]	PLC3
	Peel Strength (HTE 1oz)		2.4.8	288°C/10s	N/mm [lb/in]	1.3 [7.43]
	Water Absorption		2.6.2.1	E-1/105+D-24/23	%	0.11
	Thermal Conductivity		ASTM D5470	As Received	W/m·K	0.55
	Young's Modulus	Length	ASTM D882	As received	GPa	28.8
		Cross	ASTM D882	As received	GPa	26.0
	Poisson's Ratio	Length	ISO 527	As received	-	0.17
		Cross	ISO 527	As received	-	0.14
	Flexural Strength	Length	2.4.4	As Received	MPa	560
		Cross	2.4.4	As Received	MPa	450
Chemical	Flammability		UL94	C-48/23/50, E-24/125	Rating	V-0

Remarks:

1. Applicable IPC slash sheet: IPC-4101/130. Unless otherwise specified, all test methods follow IPC-TM-650.
2. All typical value is based on the 1.60mm (8×7628) specimen, but not guarantee data. Electric Strength is based on the 0.127mm (1×2116) specimen.
3. All typical values listed above are for your reference only and not intended for specification.
4. Please refer to lineup document for more specification and parameters, or contact Shengyi Technology Co., Ltd. for detailed information.