

S1000-2M/ S1000-2MB (FR-4)

High Performance, Low CTE, Hi-Tg Lead-free

FEATURES

- Lower Z-axis CTE, excellent through-hole reliability.
- Excellent PCT performance and low water absorption, high heat and humidity resistance.
- Excellent mechanical processibility and thermal resistance, lead-free compatible FR-4.

APPLICATIONS

Suitable for high-layer count PCB. Widely used in computer, communication, automotive electronics, and etc.

GENERAL PROPERTIES

Items		Condition	Unit	Property Data		
		Condition	Unit	Spec	Typical Value	
Tg		DSC	$^{\circ}$ C	≥170	175	
Flammability		C-48/23/50, E-24/125	Rating	V-0	V-0	
Volume Resistivity		After moisture resistance	MΩ-cm	≥10 ⁶	6.79E+07	
		E-24/125		≥10 ³	2.19E+08	
Surface Resistivity		After moisture resistance	ΜΩ	≥10 ⁴	3.16E+06	
		E-24/125		≥10 ³	2.24E+07	
Arc Resistance		D-48/50+D-0.5/23	S	≥60	133	
Dielectric Breakdown		D-48/50+D-0.5/23	KV	≥40	45KV+NB	
Dielectric	(1GHz)	C-24/23/50	-	-	4.6	
Constant	(1MHz)	C-24/23/50	-	≤5.4	4.9	
Dissipation	(1GHz)	C-24/23/50	-	-	0.018	
Factor	(1MHz)	C-24/23/50	-	≤0.035	0.009	
Thermal Stress		288℃, solder dip	-	>10s No Delamination	>100s No Delamination	
Peel Strength (1 Oz)		288℃/10s	N/mm	≥1.05	1.3	
FI		LW	N 4	≥415	567	
Flexural Strength		CW	Mpa	≥345	442	
Water Absorption		D-24/23	%	≤0.5	0.08	
		Before Tg	PPM/℃	≤60	41	
CTE(Z-axis)		After Tg	PPM/℃	≤300	208	
		50-260 ℃	%	≤4.0	2.4	
Td		Wt5%loss	$^{\circ}$	≥310	356	
T260		TMA	min	≥30	60	
T288		TMA	min	≥5	45	
CTI		IEC60112Method	V	PLC3(175~250)	PLC3 (200V)	

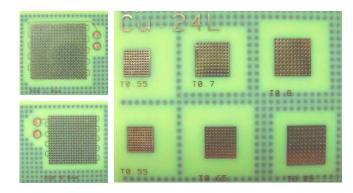
Specimen thickness: 1.6mm. Test method is according to IPC-TM-650.



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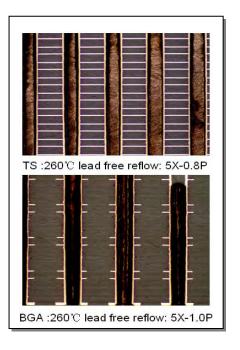
High layer count application evaluation



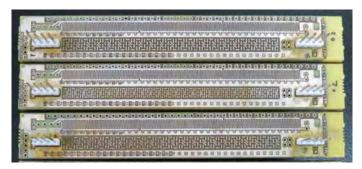
24 layer, core 0.13 H/H, PP: 1080/2116

Overall thickness: 4.0mm Min. hole size: 0.35mm Aspect ratio: 11.5:1

260C lead free reflow: 5X, OK



IST



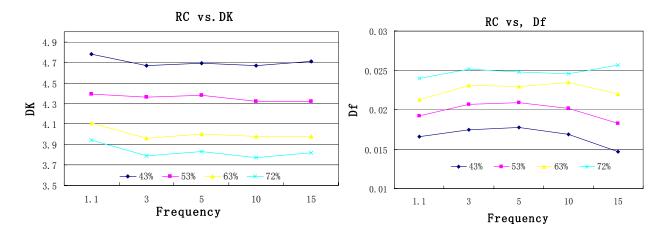
20L, 1080+2116 prepreg construction,

1.0mmP, 0.8mmP

Precondition: 6X reflow (Peak 260°C)
Test condition: Room temp. ~ 150°C

Failure Method: Power/sense Result: Power cycles > 2000

■ Dk and Df relationship with RC under high frequency



All test data provides are typical values and not intended to be specification values. Shengyi Technology reserves the right to make changes without further notice to the product herein to improve reliability, function or design.



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PREPREG PARAMETERS

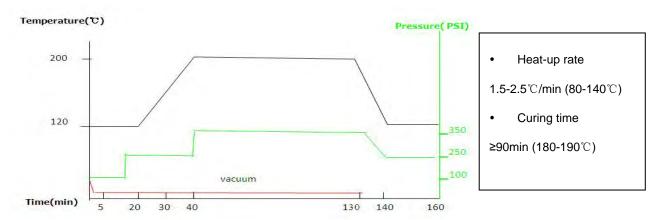
Designation	Glass fabric type	Performance	Gel time (sec)	Resin content (%)	Resin flow (%)	Cured thickness (um)	Standard size (roll type)
\$1000-2M	106	High Performance Lower Z-axis CTE	120±20	73±3	40±8	50±10	- 1,260mmX114.3m (125yards)
	106LD			73±3	40±8	50±10	
	1078LD			67±3	37±8	78±10	
	1080			67±3	37±8	78±10	
	1086LD			64±3	35±8	78±10	
	2112			60±3	31±8	90±15	
	2113			59±3	30±8	100±15	
	2313			58±3	30±8	100±15	
	3313			58±3	30±8	100±15	
	2116			53±3	25±8	120±15	
	2165			53±3	24±8	140±15	
	1500/1506			47±3	20±7	160±15	
	7628			44±3	19±7	195±20	

Type Resin content could be Available upon request.

Prepreg Test Method

Resin content, Resin Flow, Gel Time: IPC-TM-650

■ Hot Pressing Cycle:



Storage Condition:

- The hot pressing parameter is for your reference only. Please turn to Shengyi Technology Co., Ltd for detailed information.
- For short term storage, it is good to keep it in <23℃ and <50% RH within three months.
- For long term storage, keep it in 5℃ within 6 months, it should be normalized in the room temperature at least 4 hours before use.
- Beware of moisture, if kept in normal conditions, prepreg absorbs moisture and its bonding strength is weakened. So always keep it wrapped in damp-proof material.
- Avoid ultraviolet rays and strong lights.

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