



# S1000-2M

(UL ANSI:FR-4.0) 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 computing, communication, automotive electronics, and etc.

## GENERAL PROPERTIES

Items	Condition	Unit	Property Data	
			Spec	Typical Value
Tg	DMA	°C	≥180	185
Flammability	C-48/23/50, E-24/125	-	V-0	V-0
Volume Resistivity	After moisture resistance	MΩ-cm	≥10 <sup>6</sup>	8.66E+08
	E-24/125		≥10 <sup>3</sup>	7.18E+06
Surface Resistivity	After moisture resistance	MΩ	≥10 <sup>4</sup>	2.17E+07
	E-24/125		≥10 <sup>3</sup>	8.64E+06
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 Constant	(1GHz)	C-24/23/50	-	4.6
	(1MHz)	C-24/23/50	-	≤5.4
Dissipation Factor	(1GHz)	C-24/23/50	-	0.018
	(1MHz)	C-24/23/50	-	≤0.035
Thermal Stress	288°C, solder dip	-	>10s No Delamination	>100s No Delamination
Peel Strength (1 Oz)	288°C/10s	N/mm	≥1.05	1.3
Flexural Strength	LW	Mpa	≥415	567
	CW		≥345	442
Water Absorption	D-24/23	%	≤0.5	0.08
CTE(Z-axis)	Before Tg	PPM/°C	≤60	41
	After Tg	PPM/°C	≤300	208
	50-260°C	%	≤3.0	2.4
Td	Wt5%loss	°C	≥340	355
T260	TMA	min	≥30	60
T288	TMA	min	≥5	30
T300	TMA	min	≥2	15
CTI	IEC60112Method	V	PLC3(175~250)	PLC3 (200V)

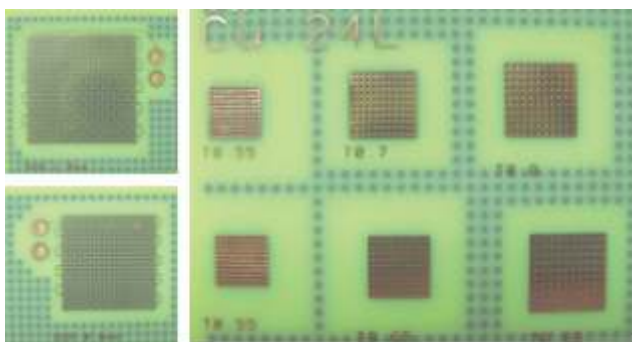
Specimen thickness: 1.6mm. Test method is according to IPC-TM-650.



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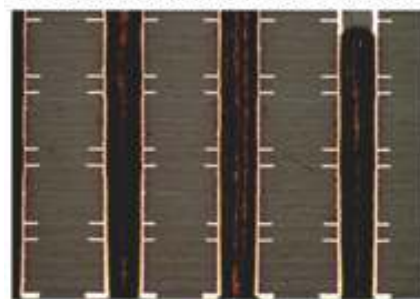
## High layer count application evaluation



24-layer, core 0.13 H/H, PP: 1080/2116  
Overall thickness: 4.0mm  
Min. hole size: 0.35mm  
Aspect ratio: 11.5:1  
260°C Lead free reflow: 5X, OK

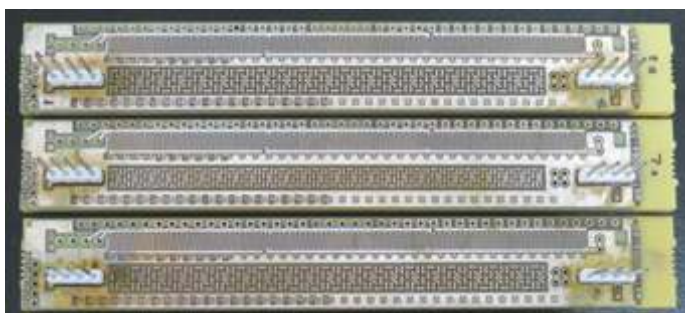


TS :260°C lead free reflow: 5X-0.8P



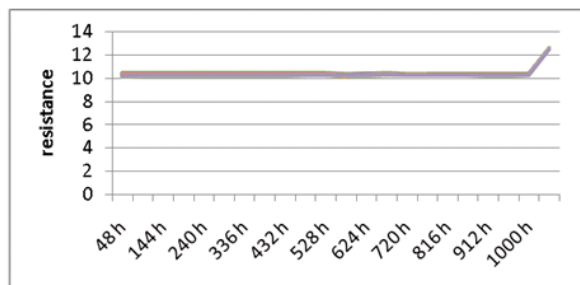
BGA :260°C lead free reflow: 5X-1.0P

## 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

## Anti-CAF performance



20L, TH-TH 16mil, 20mil  
Precondition:  
6X LF reflow (Peak 260°C)  
CAF test condition:  
65°C/ 87%/ 100V DC  
Result: Passed 1000 hours



# S1000-2MB PREPREG

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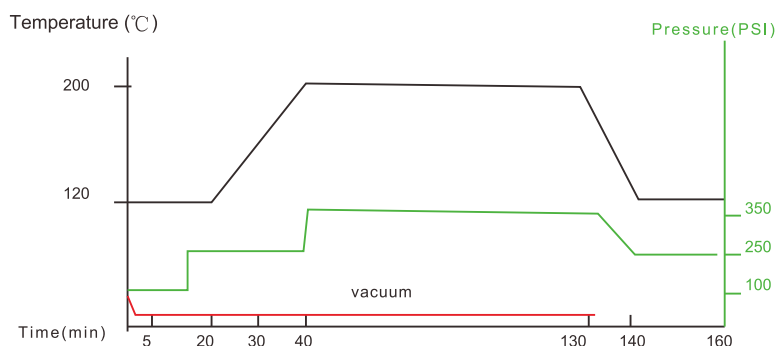
## PREPREG PARAMETERS

Glass fabric type	Resin content (%)	Cured thickness (mm)	DK(1GHz)	Df(1GHz)	Standard size (Roll type)
106/1037	72	0.050	4.0	0.017	1.260m X150m
	77	0.064	3.8	0.018	
1080/1078	64	0.075	4.2	0.016	1.260m X300m
	69	0.087	4.1	0.016	
2313	56	0.100	4.5	0.014	1.260m X250m
2116	51	0.111	4.7	0.013	
	55	0.123	4.5	0.014	
1506	45	0.154	4.9	0.012	1.260m X150m
7628	44	0.189	4.9	0.012	
	46	0.198	4.9	0.012	
	50	0.220	4.7	0.013	
	52	0.230	4.6	0.013	

Remark: DK and Df are tested according to IPC TM-650 2.5.5.9

Prepreg type, resin content and size could be available upon request.

### Hot Pressing Cycle:



- Heat-up rate  
1.5-2.5°C/min (80-140°C)
- Curing time  
≥90min (180-190°C)

### 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°C and <50% RH within three months.
- For long term storage, keep it in 5°C 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.