

# S1000H

(UL ANSI:FR-4.0) High Performance, Mid-Tg Lead-free

## FEATURES

- Lead-free compatible FR-4
- Excellent thermal reliability
- Z-CTE 3.0%
- Good in anti-CAF performance and IST
- Low water absorption

## APPLICATIONS

Computer and NB  
Instruments  
Consumable Digit  
Automotives Electronics  
Power supplier and Industrial

## GENERAL PROPERTIES

Items	Condition	Unit	Property Data	
			Spec.	Typical Value
Tg	DMA	°C	≥150	160
Flammability	C-48/23/50 and E-24/125	-	V-0	V-0
Volume Resistivity	After moisture resistance	MΩ-cm	≥10 <sup>6</sup>	1.5E+08
	E-24/125		≥10 <sup>3</sup>	3.2E+06
Surface Resistivity	After moisture resistance	MΩ	≥10 <sup>4</sup>	3.5E+07
	E-24/125		≥10 <sup>3</sup>	2.3E+06
Arc Resistance	D-48/50+D-0.5/23	S	≥60	150
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	-	4.9
Dissipation Factor	(1GHz)	C-24/23/50	-	0.011
	(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	530
	CW		≥345	440
Water Absorption	D-24/23	%	≤0.5	0.09
CTE(Z-axis)	Before Tg	PPM/°C	≤60	37
	After Tg	PPM/°C	≤300	230
	50-260°C	%	≤3.5	2.8
Td	Wt5%loss	°C	≥325	348
T260	TMA	min	≥30	60
T288	TMA	min	≥5	20
CTI	IEC60112Method	V	PLC3 (175~249)	PLC3

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

Remarks: 1.All the typical value is based on the 1.6mm specimen,while the Tg is for specimen ≥0.50mm.  
2.All the typical value listed above is for your reference only, please turn to Shengyi Technology Co., Ltd. for detailed information, and all rights from this data sheet are reserved by Shengyi Technology Co., Ltd.

Explanations: C = Humidity conditioning; D = Immersion conditioning in distilled water; E = Temperature conditioning.

The figures following the letter symbols indicate with the first digit the duration of the preconditioning in hours, with the second digit the preconditioning temperature in °C and with the third digit the relative humidity.



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## Heavy Copper Board application

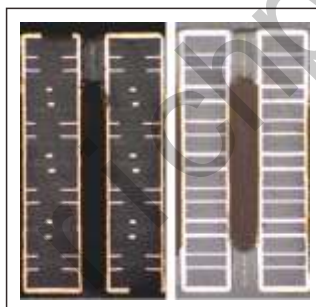
Test Sample: S1000H, inner copper 4Oz  
 Test Method: Solder dip 288°C, 10s, 3X



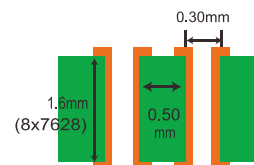
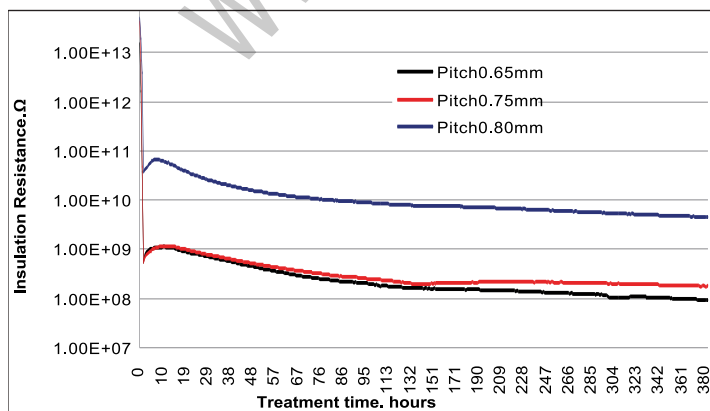
## High layer count application evaluation



Structure : 16-Layer, 0.30mm/0.8Pitch  
 Overall thickness : 2.4mm  
 Test : 260°C reflow 5times



## Hast Test



### Pretreatment condition:

125°C/4hrs->85°C/85%RH/96hrs->260°C  
 Lead free reflow 1X

### HAST condition:

121°C/85%RH/50VDC



# S1000HB PREPREG

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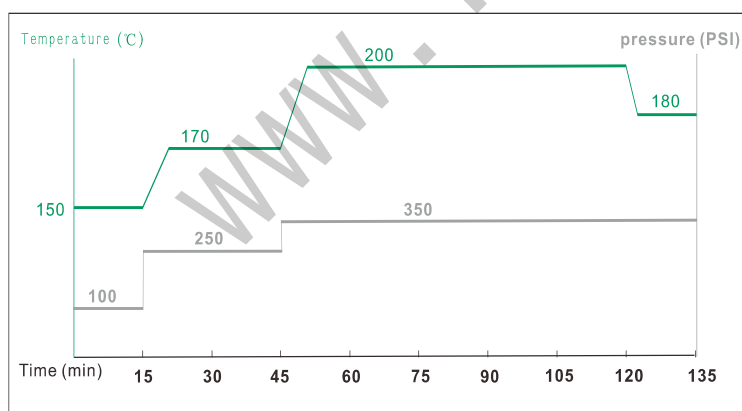
## PREPREG PARAMETERS

Glass fabric type	Resin content (%)	Cured thickness (mm)	DK(1GHz)	Df(1GHz)	Standard size (Roll type)
106/1037	73	0.050	3.9	0.021	1.260m X150m
	78	0.060	3.8	0.021	
1080/1078	65	0.072	4.1	0.020	1.260m X300m
	68	0.078	4.1	0.020	
	70	0.085	4.0	0.020	
2313	57	0.100	4.3	0.018	1.260m X250m
2116	55	0.120	4.3	0.017	
	58	0.130	4.3	0.018	
1506	48	0.160	4.4	0.016	1.260m X150m
7628	46	0.195	4.4	0.016	
	48	0.205	4.3	0.016	
	50	0.215	4.3	0.016	

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: 1.0-2.5°C/min (80-140°C)
- Curing time: >45min (>180°C)
- The hot pressing parameter is for your reference only; please turn to Shengyi Technology Co., Ltd. for detailed information.

## STORAGE CONDITION

- 3 months when stored at < 23°C and <50% RH.
- 6 months when stored at <5°C. Normalize in room temperature for at least 4h before using.
- Beware of moisture, always keeping wrapped in damp-proof material. Were kept in normal condition, prepreg might absorb moisture and its bonding strength would be weakened.
- Avoid UV-rays and strong light.