S1000H

(UL ANSI: FR-4) 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	℃	≥150	160
Flammability		C-48/23/50 and E-24/125	-	V-0	V-0
Volume Resistivity		After moisture resistance	MΩ-cm	$\geq 10^6$	1.5E+08
		E-24/125		$\geq 10^3$	3.2E+06
Surface Resistivity		After moisture resistance	MΩ	$\geq 10^4$	3.5E+07
		E-24/125		$\geq 10^3$	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	-	≤5.4	4.9
Dissipation Factor	(1GHz)	C-24/23/50	-	-	0.011
	(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
Flexural Strength		LW	Mpa	≥415	530
		CW		≥345	440
Water Absorption		D-24/23	%	≤0.5	0.09
CTE(Z-axis)		Before Tg	PPM/℃	≤60	37
		After Tg	PPM/℃	≤300	230
		50-260℃	%	≤3.5	2.8
Td		Wt5%loss	℃	≥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 ℃ and with the third digit the relative humidity.

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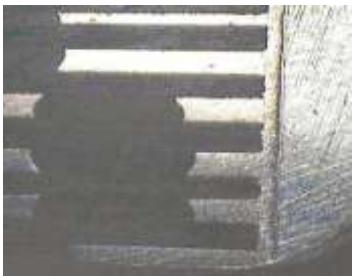
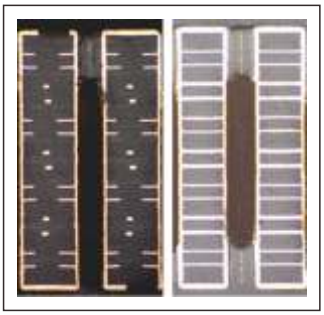
Heavy Copper Board application

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

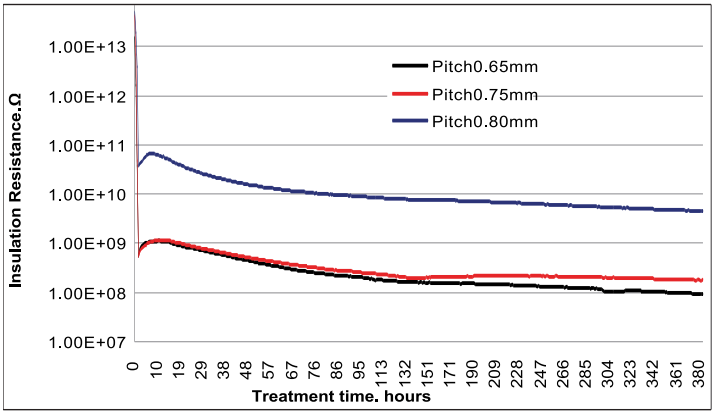


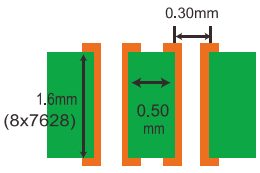
High layer count application evaluation

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



Hast Test





Pretreatment condition:
125℃/4hrs->85℃/85%RH/96hrs->260℃
Lead free reflow 1X
HAST condtion：
121℃/85%RH/50VDC

S1000HB PREPREG

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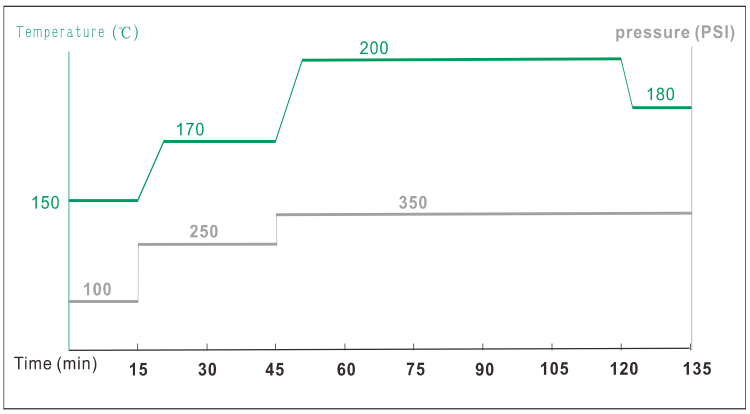
PREPREG PARAMETERS

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	
2116	55	0.120	4.3	0.017	1.260m X250m
	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℃/min (80-140℃)
- Curing time: >45min (>180℃)
- 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℃ and <50% RH.
- 6 months when stored at <5℃. 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.