S1000H

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

特点

- 无铅兼容FR-4.0板材
- 优良的耐热性
- 低的Z轴热膨胀系数
- 良好的耐CAF性能和IST表现
- 较低吸水率

应用领域

电脑和笔记本电脑
仪器仪表
消费电子
汽车电子
电源和工业仪器

FEATURES

- Lead-free compatible FR-4.0
- Excellent thermal reliability
- Low Z-axis CTE
- Good in anti-CAF performance and IST
- Low water absorption

APPLICATIONS

Computer and NB
Instruments
Consumer electronics
Automotives Electronics
Power supplier and Industrial

GENERAL PROPERTIES

Items		Condition	Unit	Property Data	
				Spec.	Typical Value
Tg		DMA	℃	≥150	160
		DSC(2.4.25D)		≥150	155
Flammability		C-48/23/50	Rating	V-0	V-0
		E-24/125			
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	Rating	PLC3 (175V~249V)	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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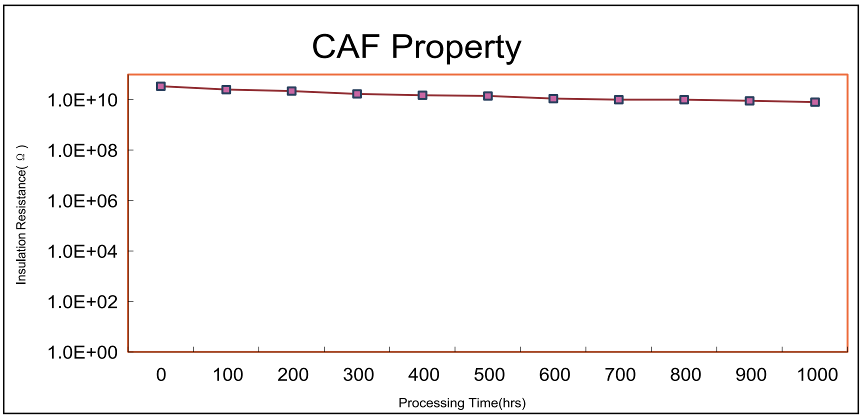
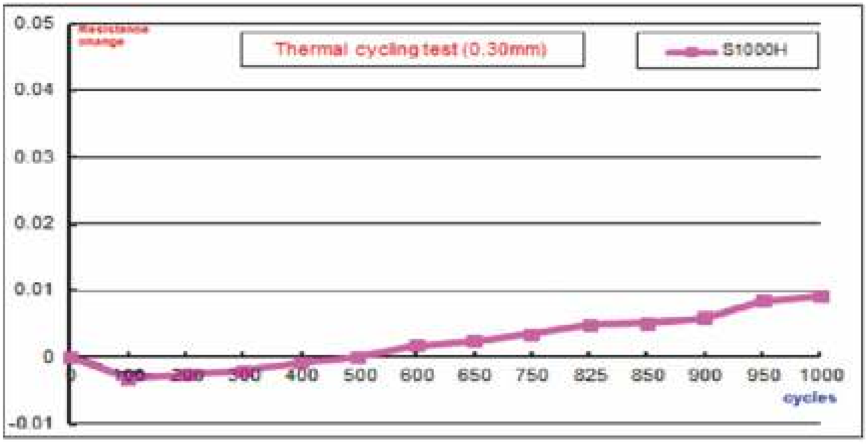
S1000H has good reliability performance – 8L CAF test

1) Specimen spec.: 8 Layer, 1.68mm, 0.30mm/0.65TH-TH and 0.30mm/0.45 TH-inner layer
2) Pre-condition: 125℃/4hrs->260℃ Lead free reflow 3X ->85℃/85%/96hrs
3) Test condition: 85℃/85%RH, 100VDC, 1000 hrs
4) Online test, Resistance≥10^8Ω

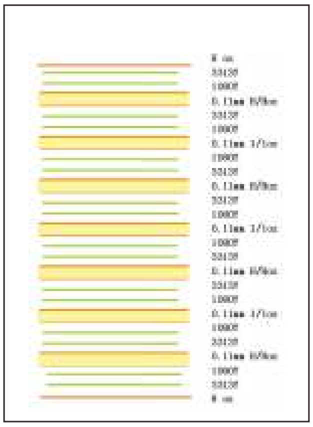




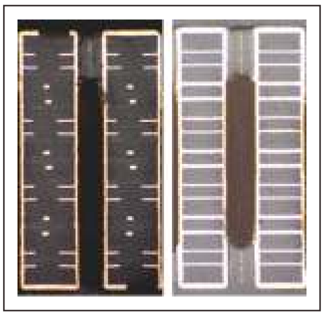
<u>Test Condition:</u>

1. TCT test condition: (air to air)
-40℃/30min ~ +125℃/30min
transfer time: 5min.

High layer count application evaluation



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



S1000HB PREPREG

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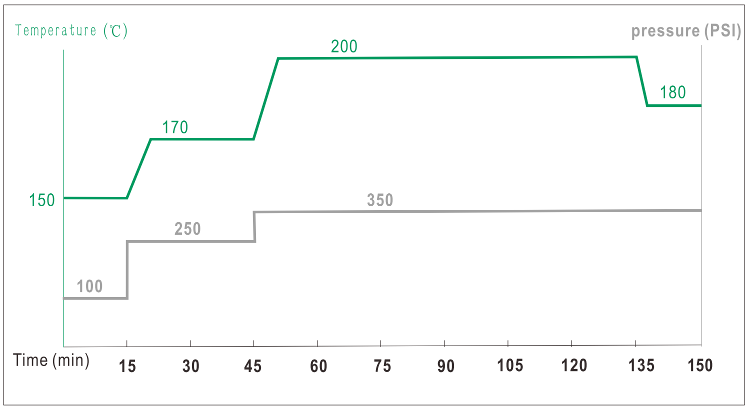
PREPREG PARAMETERS

Glass fabric type	Resin content (%)	Cured thickness (mm)	DK(1GHz)	Df(1GHz)	Standard size (Roll type)
106/1037	73	0.050	4.1	0.020	1.260m X150m
	78	0.063	4.0	0.021	
1080/1078	65	0.072	4.3	0.019	1.260m X300m
	68	0.081	4.2	0.019	
	70	0.087	4.2	0.020	
2313/3313	57	0.100	4.5	0.017	
2116	55	0.120	4.5	0.017	1.260m X250m
	58	0.130	4.5	0.017	
1506	48	0.160	4.7	0.015	1.260m X150m
7628	46	0.195	4.7	0.015	
	48	0.205	4.7	0.015	
	50	0.215	4.6	0.016	
	52	0.225	4.6	0.015	

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.