



S1000H/S1000HB

(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	Rating	V-0	V-0
Volume Resistivity		After moisture resistance	MΩ-cm	≥10 ⁶	1.5E+08
		E-24/125		≥10 ³	3.2E+06
Surface Resistivity		After moisture resistance	MΩ	≥10 ⁴	3.5E+07
		E-24/125		≥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 °C and with the third digit the relative humidity.



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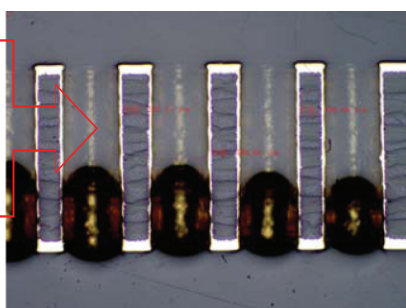
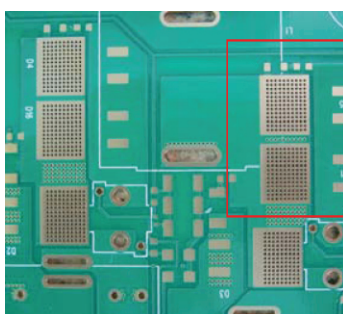
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Heavy Copper Board application

Test Sample: S1000H, inner copper 40Z
Test Method: Solder dip 288°C, 10s, 3X

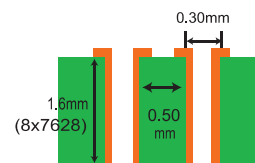
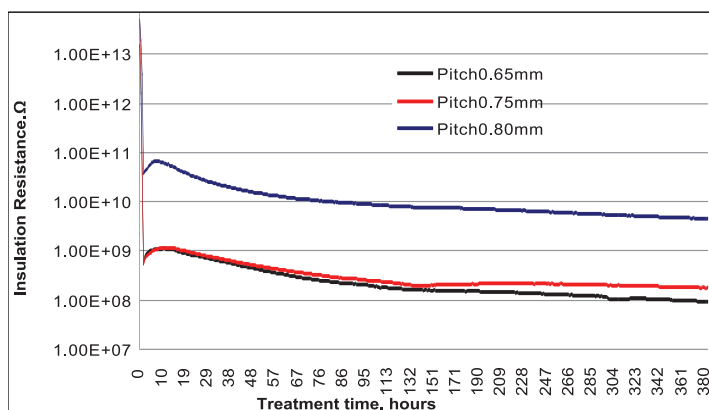


High layer count application evaluation



- 2-Layer, 1.6 2/2, 7*7628
- Min. hole size: 0.60mm
Pitch 0.80mm
- 288°C/10s thermal stress
3X, OK
- 260C lead free reflow 6X

Hast Test



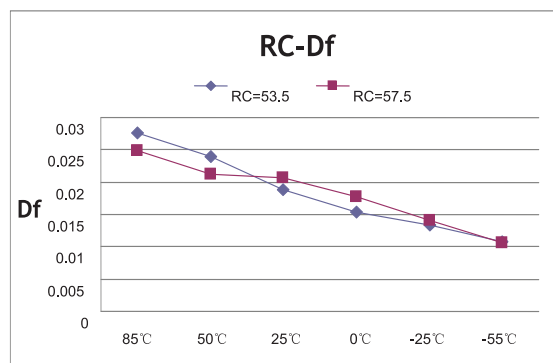
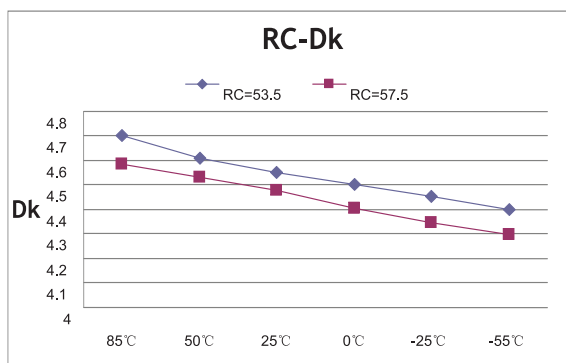
Pretreatment condition:

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

HAST condition:

121°C/85%RH/50VDC

Dk and Df relationship with RC under 10 GHz





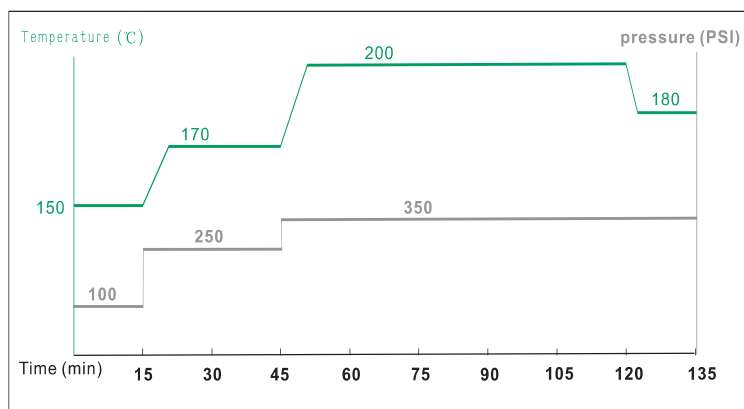
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PREPREG PARAMETERS

Designation	Glass fabric type	Performance	Gel time (sec)	Resin content (%)	Resin flow (%)	Cured thickness (um)	Standard size (roll type)
S1000HB	106	Lead free	130±20	73±3	26±5	50±10	1,260mmX114.3m (125yards)
	106LD			73±3	26±5	50±10	
	1078LD			67±3	32±5	78±10	
	1080			67±3	32±5	78±10	
	1086LD			64±3	29±5	78±10	
	2112			60±3	32±5	90±15	
	2113			59±3	30±5	100±15	
	2313			58±3	29±5	100±15	
	3313			58±3	29±5	100±15	
	2116			55±3	26±5	120±15	
	2165			55±3	26±5	140±15	
	1500/1506			48±3	23±5	160±15	
	7628			46±3	22±5	195±20	

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.