



S1000-2

(ANSI:FR-4) Low CTE / Hi-Tg / Excellent Thermal Resistance

特点

- 无铅兼容FR-4板材。
- 高Tg170℃(DSC), UV Blocking和AOI兼容。
- 高耐热性。
- 较低Z-CTE值。
- 优异的通孔可靠性。
- 优异的Anti-CAF性能。
- 低吸水率。

FEATURES

- Lead-free compatible FR-4 laminate.
- Tg 170°C (DSC), UV Blocking / AOI compatible.
- High heat resistance .
- Lower Z-axis CTE.
- Excellent through-hole reliability.
- Excellent anti-CAF performance.
- Low water absorption.

应用领域

适合于厚铜、厚径比较大结构的高多层印制线路板，广泛应用于计算机与通讯设备，工业控制用高档仪器仪表、路由器等。

APPLICATIONS

Suitable for high aspect ratio and high-layer PCB. Widely used in computer, communication equipment, precise apparatus and instrument, router, etc.

GENERAL PROPERTIES

Test Item		Treatment Condition	Unit	Property Data	
				SPEC	Typical Value
Tg		DSC	℃	≥170	175
Flammability		C-48/23/50	-	V-0	V-0
		E-24/125+des			
Volume Resistivity		After moisture resistance	MΩ-cm	≥ 10 ⁶	2.2×10 ⁸
		E-24/125		≥ 10 ³	4.5×10 ⁷
Surface Resistivity		After moisture resistance	MΩ	≥ 10 ⁴	7.9×10 ⁶
		E-24/125		≥ 10 ³	1.7×10 ⁷
Arc Resistance		D-48/50+D-0.5/23	S	≥ 60	100
Dielectric Breakdown		D-48/50+D-0.5/23	KV	≥ 40	63
Dielectric Constant (1MHz)		C-24/23/50	-	≤ 5.4	4.8
Dissipation Factor (1MHz)		C-24/23/50	-	≤ 0.035	0.013
Thermal Stress	Unetched	288℃, solder dip	-	> 10s	100s
	Etched			No delamination	No delamination
Peel Strength	1oz	288℃, 10s	N/mm	≥ 1.05	1.38
	Cu. Foil	125℃		≥ 0.70	1.07
Flexural Strength	LW	A	MPa	≥ 415	562
	CW			≥ 345	518
Water Absorption		D-24/23	%	≤ 0.5	0.10
CTE Z-axis	Before Tg	TMA	PPM/℃	≤60	45
	After Tg	TMA	PPM/℃	≤300	230
	50~260℃	TMA	%	≤3.5	2.95
Td		10℃/min,N ₂ ,5%Wt Loss	℃	≥325	335
T288		TMA	min	≥5	10
T260		TMA	min	≥30	60
CTI		IEC60112 Method	V	175~250 (grade3)	200

Remarks: All the data listed above can meet IPC-4101/99 requirement.

Specimen Thickness:1.6mm

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

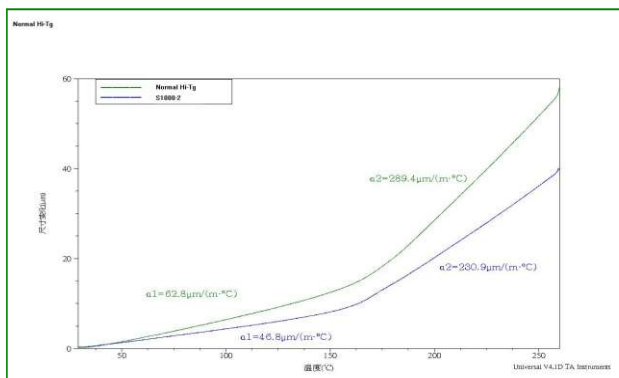
The figures following the letter symbols indicate with the first digit the duration of the preconditioning in hours, with the second digit the preconditioning temperature in ℃ and with the third digit the relative humidity.



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Lower Z-axis CTE

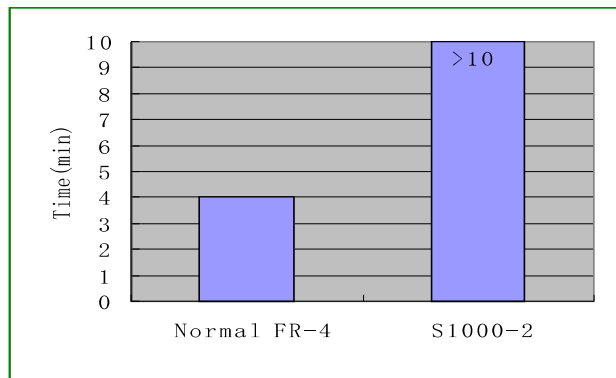


Test Sample: S1000-2 and normal FR-4 CCL

Test Method: TMA

Test Results: The Z-CTE of S1000-2 is lower than that of normal FR-4

Excellent Thermal Stress Resistance

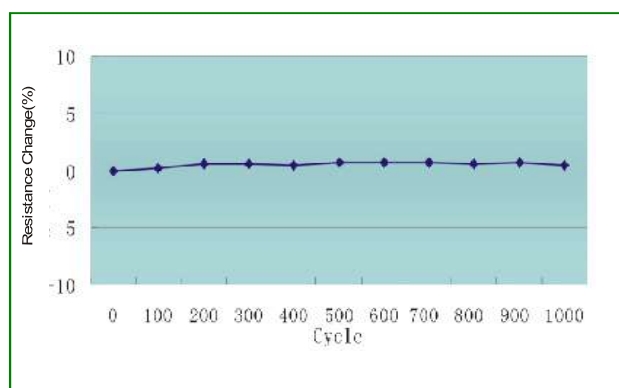


Test Sample: S1000-2 and normal FR-4 CCL

Test Method: Solder dip 288°C

Test Results: S1000-2 is better than normal FR-4 (time to delamination)

High Thermal Shock Resistance

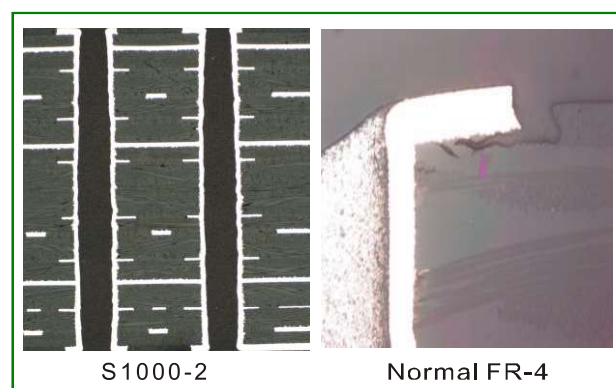


Test Sample: S1000-2 multi-layer board

Test Method: Q1000 (-45°C ~130°C)

Test Results: Pass 1000 cycles

Excellent PTH Reliability



Test Sample: S1000-2 and normal FR-4 CCL

Test Method: Q1000 and micro-section

Test Results: Comparing to normal FR-4, S1000-2 has less lifted lands, barrel crack, and corner crack.



S1000-2B PREPREG

(ANSI:FR-4) Bonding Prepreg For S1000-2

特点

- 高Tg 170℃(DSC)。
- 良好的粘结性能与PCB加工性能。
- 与S1000-2芯板配套使用。

FEATURES

- High Tg 170℃ (DSC).
- Excellent adhesion property and PCB processability.
- Coordinate with S1000-2 T/C.

PREPREG PARAMETERS

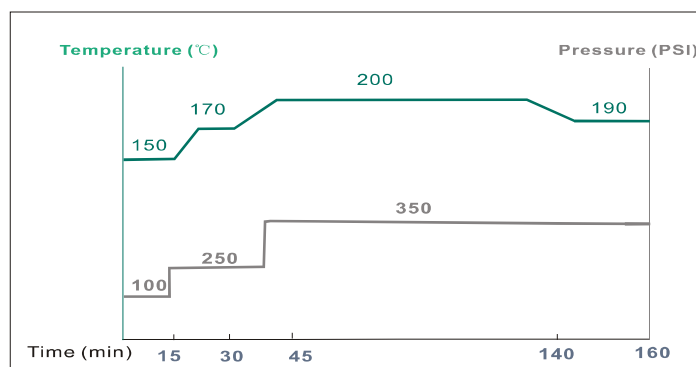
Designation	Glass fabric type	Performance	Gel time (sec)	Resin content (%)	Resin flow (%)	Cured Thickness (μm)	Standard Size (roll type)
S1000-2B	106	High Performance	115±20	71±3	37±5	48±10	1,260mm×114.3m (125yards)
	106LD			71±3	37±5	48±10	
	1080			64±3	36±5	74±10	
	1080LD			61±3	33±5	74±10	
	2112			57±3	30±5	87±15	
	2113			56±3	26±5	97±15	
	2313			55±3	26±5	97±15	
	3313			55±3	26±5	97±15	
	2116			52±3	28±5	117±15	
	2165			52±3	26±5	134±15	
	1500			45±3	22±5	150±15	
	7628			43±3	23±5	190±20	

Type, Resin content and Size Could be Available Upon Request

PREPREG TEST METHOD

- Resin content, Resin Flow, Gel Time: IPC-TM-650

HOT PRESSING CYCLE



Heat-up rate: 1.5~2.5℃/min (80~140℃)
Curing time: >60min (185~195℃)

STORAGE CONDITION

- For short term storage, keep in 20℃, 50% RH within 3 months.
- For long term storage, keep in 5℃ within 6 months. Normalize in room temperature for at least 4h before using.
- Beware of moisture, always keep 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.