S1170

(ANSI:FR-4) Excellent Thermal Resistance / High Tg

特点

- 无铅兼容FR-4板材。
- 高Tg170℃(DSC)。
- 高耐热性。
- 优异的Anti-CAF性能。
- 低Z-CTE。
- 低吸水率。

应用领域

适合于高多层印制线路板，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。

FEATURES

- Lead-free compatible FR-4 laminate.
- High Tg 170℃(DSC).
- Excellent thermal stability.
- Excellent anti-CAF performance.
- Low Z-axis CTE.
- Low water absorption.

APPLICATIONS

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

GENERAL PROPERTIES

Test Item		Treatment Condition	Unit	Property Data	
				SPEC	Typical Value
Tg		DSC	℃	≥170	175
Flammability		C-48/23/50 E-24/125+des	-	V-0	V-0
Volume Resistivity		After moisture resistance	MΩ-cm	≥ 10^6	3.5×10^8
		E-24/125		≥ 10^3	2.3×10^6
Surface Resistivity		After moisture resistance	MΩ	≥ 10^4	1.8×10^5
		E-24/125		≥ 10^3	5.1×10^6
Arc Resistance		D-48/50+D-0.5/23	S	≥60	123
Dielectric Breakdown		D-48/50+D-0.5/23	KV	≥ 40	62
Dielectric Constant (1MHz)		C-24/23/50	-	≤ 5.4	4.6
Dissipation Factor (1MHz)		C-24/23/50	-	≤ 0.035	0.012
Thermal Stress	Unetched Etched	288℃, solder dip	-	>10s No delamination	100s No delamination
Peel Strength	1oz Cu. Foil	288℃,10s	N/mm	≥ 1.05	1.45
		125℃		≥ 0.70	1.23
Flexural Strength	LW	A	MPa	≥ 415	587
	CW			≥ 345	531
Water Absorption		D-24/23	%	≤ 0.5	0.10
CTE Z-axis	Before Tg	TMA	PPM/℃	≤60	55
	After Tg	TMA	PPM/℃	≤300	280
	50~260℃	TMA	%	≤3.5	3.3
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

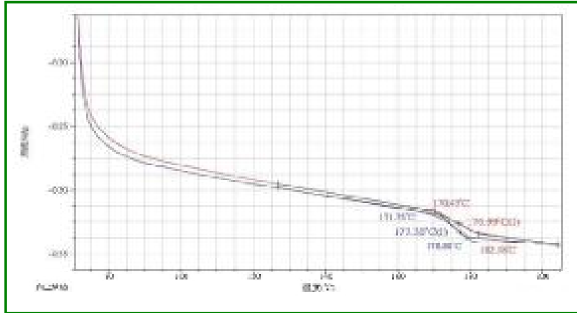
Remarks: All the data listed above can meet IPC-4101/124 requirement.
Specimen Thickness:1.6mm
Explanations: C = Humidity conditioning;
D = Immersion conditioning in distilled water;
E = Temperature conditioning.
The figures following the letter symbols indicate with the first digit the duration of the preconditioning in hours, with the second digit the preconditioning temperature in ℃ and with the third digit the relative humidity.

PDF 文件使用 "pdfFactory" 试用版本创建 www.fineprint.cn

S1170

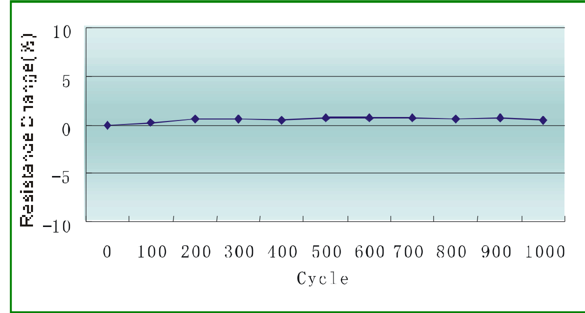
(ANSI:FR-4) Excellent Thermal Resistance / High Tg

High Tg



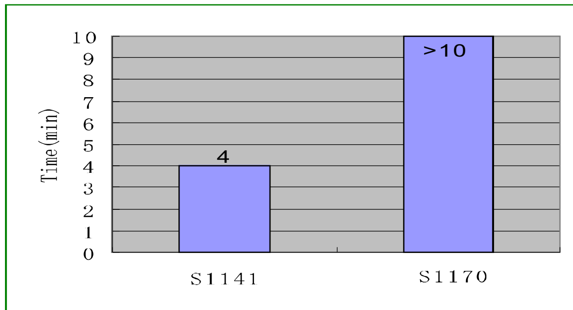
Test Sample: S1170 1.6mm CCL
Test Method: DSC
Test Results: 176.99℃/177.30℃

Excellent Thermal Shock Resistance（Q1000）



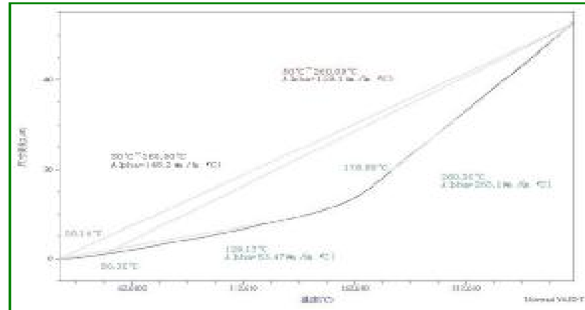
Test Sample: S1170 multi-layer Board
Test Method: Q1000（-45℃～130℃）
Test Results: Pass 1000 cycles

Excellent Thermal Stress Resistance



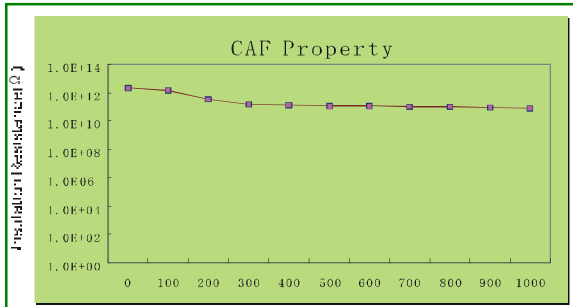
Test Sample: S1170 and Standard FR-4 CCL
Test Method: Solder dip 288℃
Test Results: S1170 is better than Standard FR-4
(time to delamination)

Low Z-axis CTE



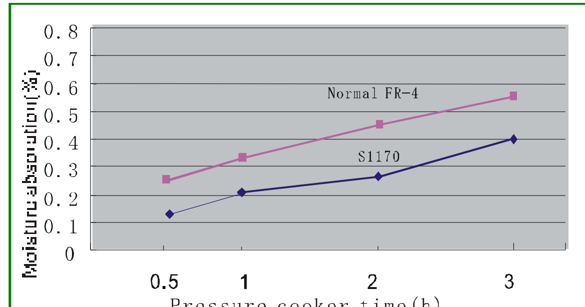
Test Sample: S1170 1.6mm CCL
Test Method: TMA
Test Results: 3.3% (50℃～260℃)

Excelent Anti-CAF Performance



Test Sample: S1170 multi-layer Board
Test Method: 85℃/85%RH/DC 50V
Test Results: Pass 1000 hours

Low Water Absorption



Test Sample: S1170 and Standard FR-4 CCL
Test Method: PCT
Test Results: S1170 is better than Standard FR-4

PDF 文件使用 "pdfFactory" 试用版本创建 www.fineprint.cn