



S1000

(ANSI:FR-4)Low Z-CTE

特点

- 无铅兼容FR-4板材。
- Tg(DSC)155℃,UV Blocking 和 AOI兼容。
- 优良的耐热性。
- 比普通FR-4降低约30~35%的Z轴热膨胀系数。
- 优良的通孔可靠性。
- 优异的耐CAF性和Q1000性能。
- 低吸水率。

FEATURES

- Lead-free compatible FR-4 Laminate.
- Tg(DSC)155℃,UV Blocking/ AOI compatible.
- Excellent thermal reliability.
- Z-CTE 30~35% less than conventional FR-4.
- Excellent T/H reliability.
- Excellent anti-CAF and Q1000 performance.
- Low water absorption.

应用领域

电脑、仪器仪表、摄像机、通讯设备、汽车、电子游戏机等。

APPLICATIONS

Computer, Instrumentation, VCR, communication equipment, automotive electronics, electronic game machine, and etc.

GENERAL PROPERTIES

Test Item		Treatment Condition	Unit	Property Data	
				SPEC	Typical Value
Tg		DSC	℃	≥150	155
Flammability		C-48/23/50	-	V-0	V-0
		E-24/125			
Volume Resistivity		After moisture resistance	M Ω-cm	≥10 ⁶	7.4×10 ⁸
		E-24/125		≥10 ³	5.6×10 ⁷
Surface Resistivity		After moisture resistance	M Ω	≥10 ⁴	7.6×10 ⁷
		E-24/125		≥10 ³	2.8×10 ⁷
Arc Resistance		D-48/50+D-0.5/23	S	≥60	147
Dielectric Breakdown		D-48/50+D-0.5/23	KV	≥40	45
Dielectric Constant (1MHz)		C-24/23/50	-	≤5.4	4.9
Dissipation Factor (1MHz)		C-24/23/50	-	≤0.035	0.011
Thermal Stress	Unetched	288℃,solder dip	-	> 10s No delamination	100s No delamination
	Etched				
Peel Strength	1oz	288℃, 10s	N/mm	≥1.05	1.4
	Cu. Foil	125℃		≥0.70	1.2
Flexural Strength	LW	A	MPa	≥415	540
	CW			≥345	450
Water Absorption		D-24/23	%	≤0.5	0.09
CTE	Before Tg	TMA	PPM/℃	≤60	43
	After Tg	TMA	PPM/℃	≤300	245
Z-axis	50~260℃	TMA	%	≤3.5	3.0
Td		10℃/min,N ₂	℃	≥325	335
T288		TMA	min	≥5	10
T260		TMA	min	≥30	60
CTI		IEC60112	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.

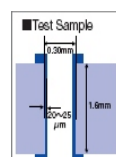
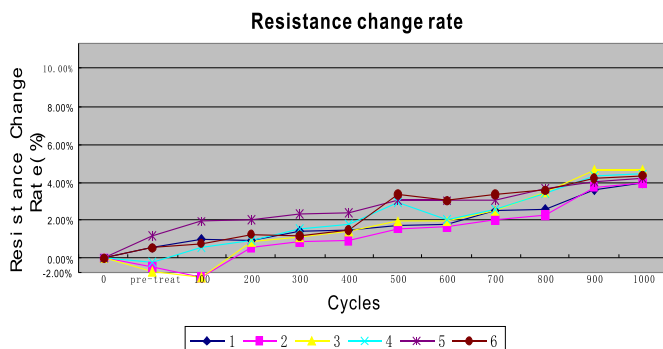


S1000

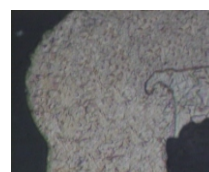
(ANSI:FR-4)Low Z- CTE

■ Thermal Change Test - Q1000

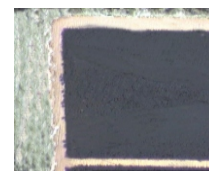
- A) Pre-Treatment:
125 °C/ 2hour in the oven.
B) Thermal shock condition:
-40°C(30min)~+125°C(30min),transfer time<2min.



■ Micro-section after Q1000

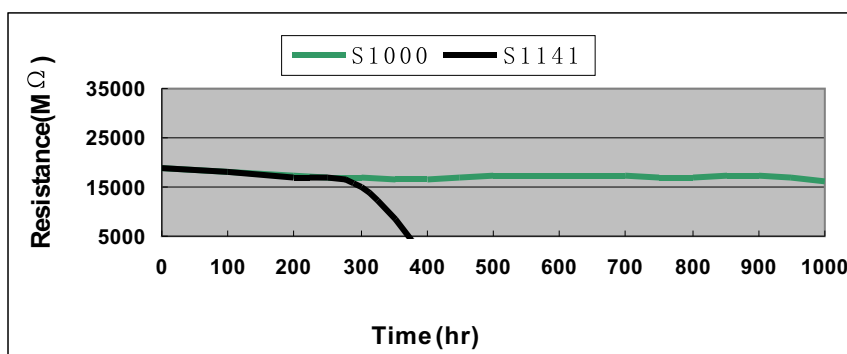


X200 micro-section



X50 micro-section

■ Anti-CAF Test



Specimen: Pitch=0.7mm, ϕ =0.3mm,DC100V/40°C/92%RH

■ PCT(High Pressure Cooker Test)

PCT (E-121°C/105KPa)	Solder Dipping@288°C/10 s	
	Standard FR-4	S1000
30 min	OK	OK
60 min	OK	OK
120 min	NG	OK

Specimen: 1.6mm(uncladding) 100mm*100mm

PURCHASING INFORMATION

Thickness	Copper foil	Standard Size
0.05mm to 3.2mm	12 μ m to 105 μ m	1,020×1,220mm (40" ×48") 915×1,220mm (36" ×48") 1,070×1,220mm (42" ×48")

❖ Other sheet size and thickness could be available upon request.



S1000B PREPREG

(ANSI:FR-4) Bonding Prepreg For S1000

特点

- 高Tg 155℃,有优异的耐热性。
- 低的Z轴膨胀系数。
- 优良的耐化学性能。
- 良好的粘合性能与PCB可加工性能。
- UV Blocking与AOI兼容。

FEATURES

- Tg 155℃ and good thermal resistance resistance.
- Low Z- CTE.
- Excellent chemical resistance.
- Excellent adhesion property and PCB processability.
- UV Blocking /AOI compatible.

PREPREG PARAMETERS

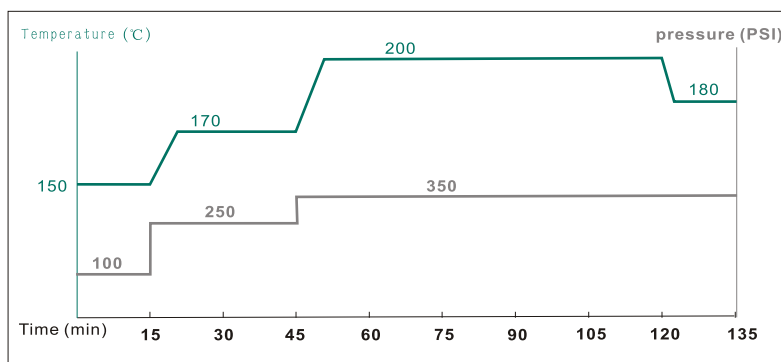
Designation	Glass fabric type	Performance	Gel time (sec)	Resin Content (%)	Resin flow (%)	Cured Thickness (μm)	Standard Size (roll type)
S1000B	106	Low Z-CTE	85±20	73±3	37±5	50±10	1,260mm×114.3m (125yards)
	106LD			73±3	37±5	50±10	
	1078LD			67±3	34±5	78±10	
	1080			67±3	34±5	78±10	
	1086LD			64±3	31±5	78±10	
	2112			60±3	30±5	90±15	
	2113			59±3	26±5	100±15	
	2313			58±3	26±5	100±15	
	3313			58±3	26±5	100±15	
	2116			55±3	26±5	120±15	
	2165			55±3	26±5	140±15	
	1500			48±3	22±5	160±15	
	7628			46±3	21±5	195±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: >45min (180~190℃)

STORAGE CONDITION

- Three months when stored at <23℃ and <50% RH .
- Six months when stored at <5℃. 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.