



S1155

(ANSI:FR-4) Halogen-Free

特点

- 无铅兼容FR-4板材。
- 普通Tg无卤产品，UV Blocking与AOI兼容。
- 不含卤素、锑、红磷等成分。

FEATURES

- Lead-free compatible FR-4 laminate.
- Normal Tg Halogen-free product, UV Blocking/AOI compatible.
- Constituents free of halogen, antimony, red phosphorous, and etc.

应用领域

手机、电脑、仪器仪表、摄录机、通讯设备、电子游戏机等。

APPLICATIONS

Mobile phone, Computer, Instrumentation, VCR, Communication equipment, electronic game machine, etc.

GENERAL PROPERTIES

Test Item		Treatment Condition	Unit	Property Data	
				SPEC	Typical Value
Tg		DSC	℃	≥ 125	135
Flammability		C-48/23/50	-	V-0	V-0
		E-24/125			
Volume Resistivity		After moisture resistance	MΩ-cm	≥ 10 ⁶	4.5×10 ⁷
		E-24/125		≥ 10 ³	4.9×10 ⁶
Surface Resistivity		After moisture resistance	MΩ	≥ 10 ⁴	8.6×10 ⁶
		E-24/125		≥ 10 ³	2.0×10 ⁶
Arc Resistance		D-48/50+D-0.5/23	S	≥ 60	115
Dielectric Breakdown		D-48/50+D-0.5/23	KV	≥ 40	55
Dielectric Constant (1MHz)		C-24/23/50	-	≤ 5.4	4.7
Dissipation Factor (1MHz)		C-24/23/50	-	≤ 0.035	0.010
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	1.3
Flexural Strength	LW	A	MPa	≥ 415	590
	CW			≥ 345	485
Water Absorption		D-24/23	%	≤ 0.5	0.17
CTE z-axis	Before Tg	TMA	PPM/℃	≤ 60	45
	After Tg		PPM/℃	≤ 300	260
	50-260℃		%	≤ 4.0	3.4
Td		10℃/min, N ₂ , 5%Wt Loss	℃	≥ 310	370
T260		TMA	min	≥ 30	60
T288		TMA	min	≥ 5	8
CTI		IEC60112 Method	V	175~250(grade3)	175

Remarks: All the data listed above can meet IPC-4101/92 and IPC-4101/121 requirement.
Specimen Thickness: 1.6mm

Explanations:

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

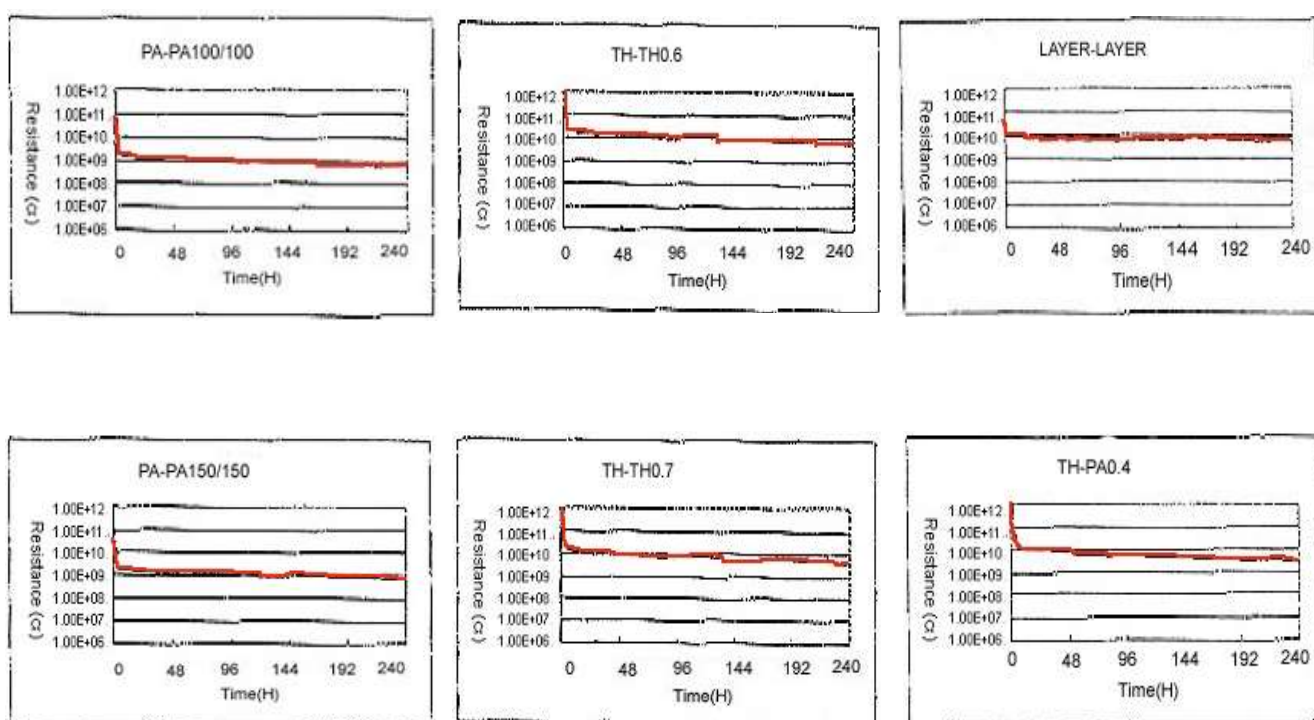
The figures following the letter symbols indicate with the first digit the duration of the preconditioning in hours, with the second digit the preconditioning temperature in ℃ and with the third digit the relative humidity.



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■ Anti-CAF TEST (85°C/85%RH/240hr/50VDC)



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") 1,070×1,220mm (42" ×48")	915×1,220mm (36" ×48")

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

HALOGEN CONTENT TEST

✖ JPCA-ES-01-2003 Standard “Test method of halogen-free materials”

Halogen	JPCA Standard	S1155
Cl	≤0.09%	0.05%
Br	≤0.09%	0.00%