S1150G

(UL ANSI: FR-4.1) High Performance, Mid-Tg Halogen-free

FEATURES

- Free of constituents such as halogen, antimony, red phosphorous, ect. No toxic gas emission and no hazardous residue during waste combustion.
- Excellent mechanical processibility and thermal resistance, lead free process compliancy.

APPLICATIONS

Mobile phone, portable electronics
Notebook and PC
LCD/PDP, OA equipment
Game station
Communications, network equipment

GENERAL PROPERTIES

Items		Condition	Unit	Property Data	
				Spec	Typical Value
Tg		DSC	℃	≥150	155
Flammability		C-48/23/50 and E-24/125	-	V-0	V-0
Volume Resistivity		After moisture resistance	MΩ-cm	$\geq 10^6$	1.15E+08
		E-24/125		$\geq 10^3$	4.13E+08
Surface Resistivity		After moisture resistance	MΩ	$\geq 10^4$	9.61E+06
		E-24/125		$\geq 10^3$	5.37E+07
Arc Resistance		D-48/50+D-0.5/23	S	≥60	178
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	1.5
Flexural Strength		LW	Mpa	≥415	630
		CW		≥345	480
Water Absorption		D-24/23	%	≤0.5	0.10
CTE(Z-axis)		Before Tg	PPM/℃	≤60	40
		After Tg	PPM/℃	≤300	230
		50-260℃	%	≤3.5	2.8
Td		Wt5%loss	℃	≥325	355
T260		TMA	min	≥30	60
T288		TMA	min	≥5	45

Specimen thickness: 1.6mm. Test method is according to IPC TM-650.

Remarks: 1.Specification sheet:IPC-4101/128, is for your reference only.
2.All the typical value is based on the 1.6mm specimen,while the Tg is for specimen ⩾0.50mm.
3.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 ℃ and with the third digit the relative humidity.

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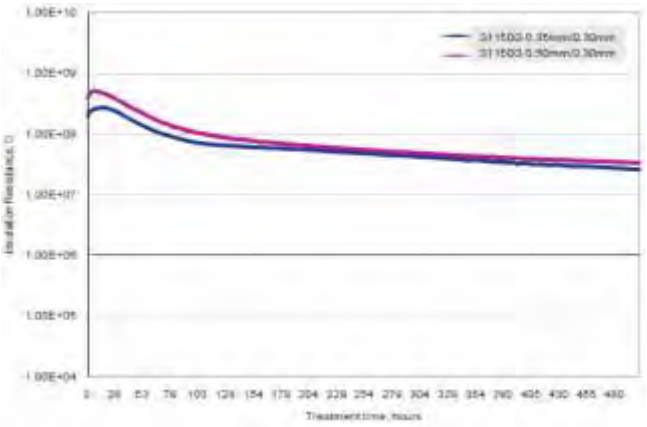
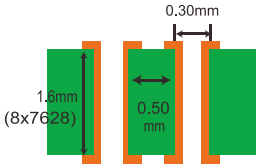
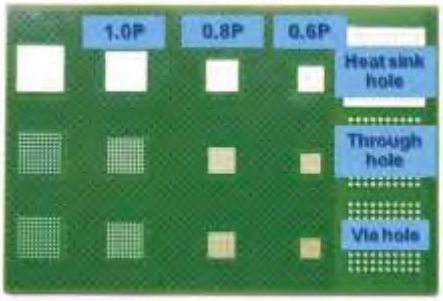
HAST Test





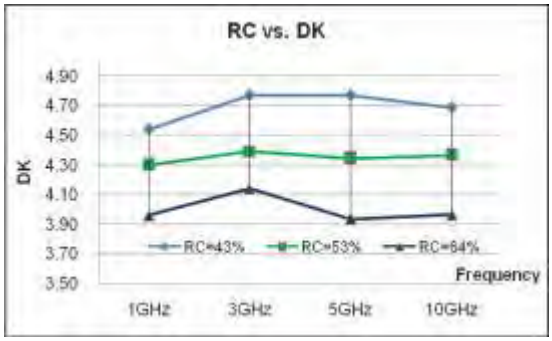
Pretreatment condition:
125℃/4hrs->85℃/85%RH/96hrs->260℃
Lead free reflow 1X
HAST condition:
121℃/85%RH/50VDC, >500hrs

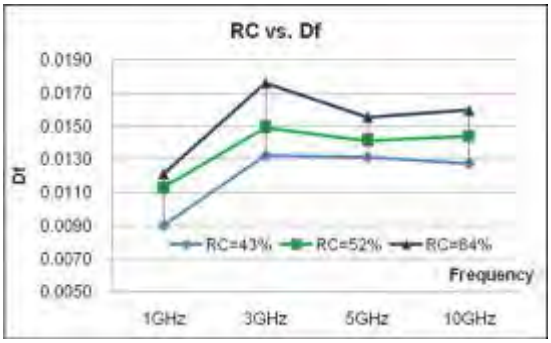
High layer count application evaluation



- 18-Layer, core 0.10 1/1, PP: 1080/2116
- Overall thickness: 2.4mm
- Min. hole size: 0.30mm
- Aspect ratio: 8:1
- 260C/10s thermal stress: 3X, OK
- 260C lead free reflow: 6X, OK

Dk and Df relationship with RC under high frequency





S1150GB PREPREG

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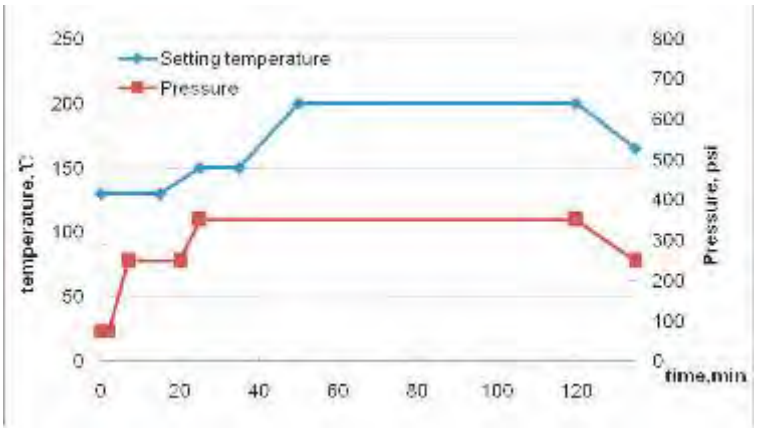
PREPREG PARAMETERS

Glass fabric type	Resin content (%)	Cured thickness (mm)	DK(1GHz)	Df(1GHz)	Standard size (Roll type)
106/1037	73	0.050	3.8	0.017	1.260m X150
	75	0.056	3.7	0.018	
1080/1078	63	0.071	4.0	0.012	1.260m X300
	66	0.078	4.0	0.013	
	68	0.084	3.9	0.015	
2313	55	0.096	4.2	0.011	
	57	0.101	4.2	0.011	
2116	54	0.119	4.2	0.011	1.260m X250
	57	0.130	4.2	0.011	
1506	45	0.152	4.4	0.010	1.260m X150
	48	0.163	4.4	0.010	
7628	43	0.185	4.4	0.009	
	45	0.195	4.4	0.010	
	48	0.210	4.4	0.010	
	50	0.220	4.3	0.011	

Remark: DK and Df are tested according to IPC TM-650 2.5.5.9
Prepreg type, resin content and size could be available upon request.

HOT PRESSING CYCLE



- Heat up rate: 1.0-2.5℃/min (80-140℃)
- Curing time: >45min (180-190℃)
- The hot pressing parameter is for your reference only, please turn to Shengyi Technology Co., Ltd for detailed information.

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.