



# S1155

(UL 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, and etc.

## GENERAL PROPERTIES

Test Item	Treatment Condition	Unit	Property Data	
			SPEC	Typical Value
Tg	DSC	°C	≥130	140
Flammability	C-48/23/50	Rating	V-0	V-0
	E-24/125			
Volume Resistivity	After moisture resistance	MΩ-cm	≥10 <sup>6</sup>	2.0×10 <sup>8</sup>
	E-24/125		≥10 <sup>3</sup>	5.0×10 <sup>6</sup>
Surface Resistivity	After moisture resistance	MΩ	≥10 <sup>4</sup>	3.0×10 <sup>7</sup>
	E-24/125		≥10 <sup>3</sup>	5.0×10 <sup>6</sup>
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°C, solder dip	>10s No delamination	100s No delamination
	Etched			
Peel Strength	1oz	288°C, 10s	N/mm	≥1.05
	Cu. Foil	125°C		
Flexural Strength	LW	A	MPa	≥415
	CW			≥345
Water Absorption	D-24/23	%	≤0.5	0.10
CTE z-axis	Before Tg	TMA	PPM/°C	≤60
	After Tg		PPM/°C	≤300
	50-260°C		%	≤4.0
Td	10°C/min, N <sub>2</sub> , 5%Wt Loss	°C	≥310	380
T260	TMA	min	≥30	60
T288	TMA	min	≥5	60
T300	TMA	min	-	60
CTI	IEC60112 Method	V	PLC 3(175V--249V)	PLC 3

Remarks: 1.Specification sheet:IPC-4101/92, 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 Sci.Tech.Co., Ltd. for detailed information, and all rights from this data sheet are reserved by Shengyi Sci.Tech.Co., Ltd.

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

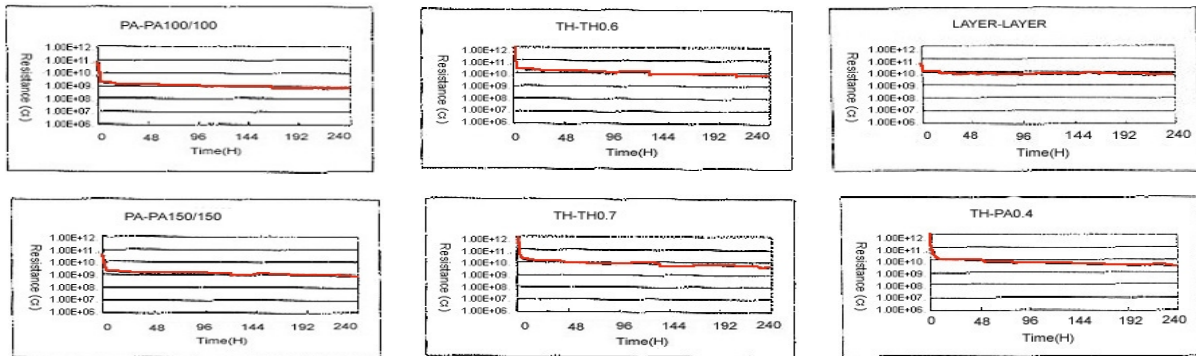
The figures following the letter symbols indicate with the first digit the duration of the preconditioning in hours, with the second digit the preconditioning temperature in °C and with the third digit the relative humidity.



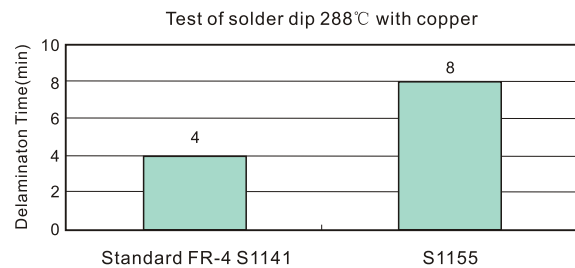
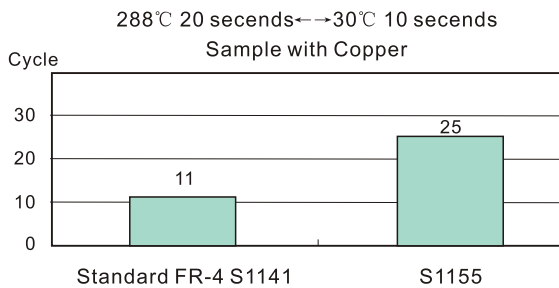
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## ■ Anti-CAF TEST (85°C/85%RH/240hr/50V DC)



## ■ Excellent Thermal Stress Resistance



## ■ PCT Test

PCT (E-105°C/105KPa)	Solder Dipping@288°C/10s	
	Standard FR-4	S1155
60 min	OK	OK
120 min	NG	OK
180 min	NG	OK
240 min	NG	OK

## PURCHASING INFORMATION

Thickness	Copper foil	Standard Size	
0.05mm to 3.2mm	12 μm to 105 μm	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.

## 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%

# S0155 PREPREG

(UL ANSI:FR-4) Bonding Prepreg For S1155

## 特点

- 不含卤素、锑、红磷等成分。
- 燃烧时的发烟量和气味少,不产生剧毒气体和不残留有毒物质。
- Tg(DSC)140℃, 阻燃性达到UL94 V-0级。

## FEATURES

- Constituents free of halogen, antimony, red phosphorus, and etc.
- Low emitting of smoke and odors in combustion, no emitting of poisonous gas and no residue of harmful constituents.
- Tg(DSC) 140℃, Flammability UL 94 V-0.

## PREPREG PARAMETERS

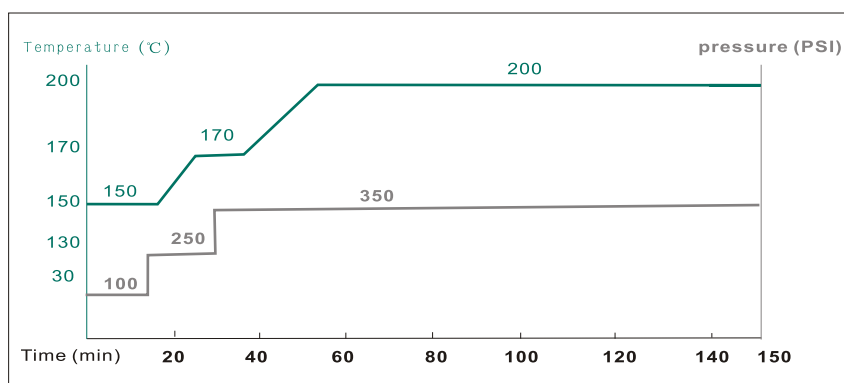
Designation	Glass fabric type	Performance	Gel time (sec)	Resin Content (%)	Resin flow (%)	Cured Thickness (μm)	Standard Size (roll type)
S0155	106	Halogen free	140±20	72±3	34±5	50±10	1,260mm×114.3m (125yards)
	106LD			72±3	34±5	50±10	
	1078LD			65±3	34±5	78±10	
	1080			65±3	34±5	78±10	
	1086LD			62±3	31±5	78±10	
	2112			58±3	30±5	90±15	
	2113			57±3	26±5	100±15	
	2313			56±3	26±5	100±15	
	3313			56±3	26±5	100±15	
	2116			53±3	26±5	120±15	
	2165			53±3	26±5	140±15	
	1500			46±3	21±5	160±15	
	7628			44±3	22±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: 1.0~2.5℃/min (80~140℃)

Curing time:>45min (180~190℃)

The hot pressing parameters is for your reference only, please turn to Shengyi Sci.Tech.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.