



ST115 导热覆铜板

ST115 Thermal Conductivity CCL

特点

- 优良的散热性，普通 FR-4 的 3-4 倍
- 优秀的耐热性和绝缘可靠性
- 相对优秀的加工性和低 Z 轴热膨胀系数

FEATURES

- Excellent heat dissipation, 3-4 times better than normal FR-4
- Excellent thermal and insulation reliability
- Superior processability and low Z-CTE

应用领域

- DC-DC 整流器
- 汽车电子设备
- 高亮度 LED
- 电源电路

APPLICATIONS

- DC-DC Power Converters
- Automotive Electronics
- High Brightness LED
- Power Supply Circuit

GENERAL PROPERTIES

Test Item	Treatment Condition	Unit	Property Data (Typical Value)	
Tg	DMA	°C	150	
Td	10°C/min, N ₂ , 5%Wt Loss	°C	350	
T288	TMA	min	>60	
T300	TMA	min	>20	
CTE Z-axis	<Tg	TMA	ppm /°C	39
	>Tg	TMA	ppm/°C	217
	50~260°C	TMA	%	3.0
Peel Strength	1oz Cu. Foil	A	N/mm	1.20
Thermal Stress	Unetched	300°C, 20s	-	No De-lamination
Dielectric Strength	D-48/50+D-0.5/23	kV/mm	>35	
Arc Resistance	D-48/50+D-0.5/23	S	>170	
Hi-pot Test	VDC	V	3000	
	VAC	V	1500	
Surface Resistance	After Moisture Resistance	MΩ	9.61E+08	
	E-24/125	MΩ	2.43E+06	
Volume Resistance	After Moisture Resistance	MΩ-cm	6.59E+08	
	E-24/125	MΩ-cm	4.39E+07	
Dielectric Constant	C-24/23/50, 1MHz	-	5.2	
	C-24/23/50, 1GHz	-	4.8	
Dissipation Factor	C-24/23/50, 1MHz	-	0.010	
	C-24/23/50, 1GHz	-	0.012	
CTI	IEC60112 Method	V	600	
Flammability	UL-94	Class	V-0	
Thermal Conductivity	ASTM E 1461-01	w/m·K	1.5	

Remarks: 1. Specification Sheet: IPC-4101

2. All the typical value is based on the 0.11(1/1oz)mm specimen.

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 in °C and with the third digit the relative humidity.



ST115B Prepreg 导热粘结片
ST115B thermal conductivity Prepreg

特点

- 优良的散热性，普通 FR-4 的 3-4 倍。
- 优良的耐化学性能。
- 良好的 PCB 可加工性能。

应用领域

- 高多层
- 单面多层金属基板
- 双面夹心金属基板

FEATURES

- Excellent heat dissipation, 3-4 times better than normal FR-4.
- Superior chemical resistance.
- Good PCB processibility.

APPLICATIONS

- MultiLayer
- Double side or multilayer MCPCB
- "Sandwich" MCPCB

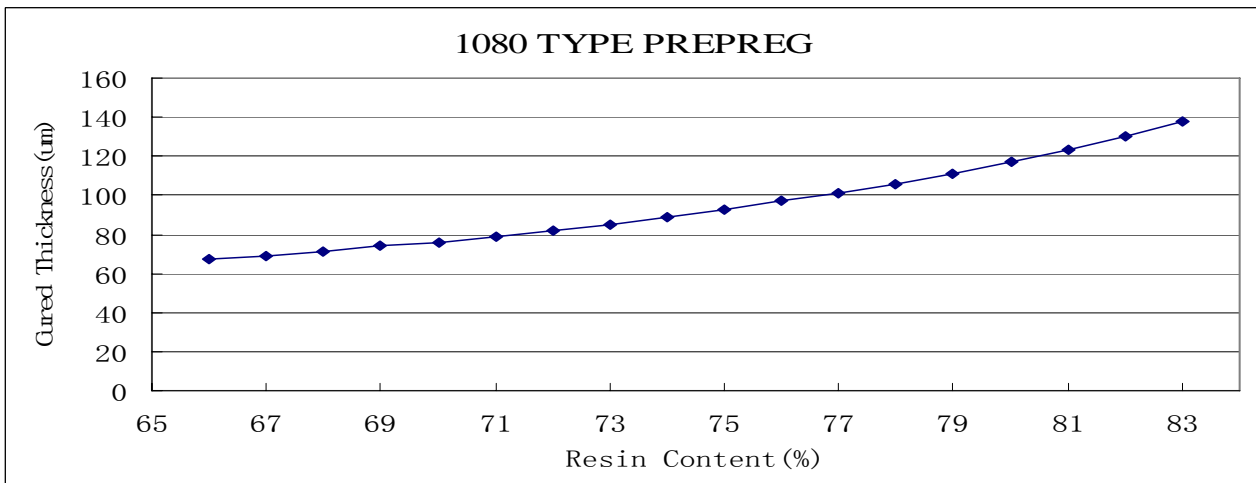
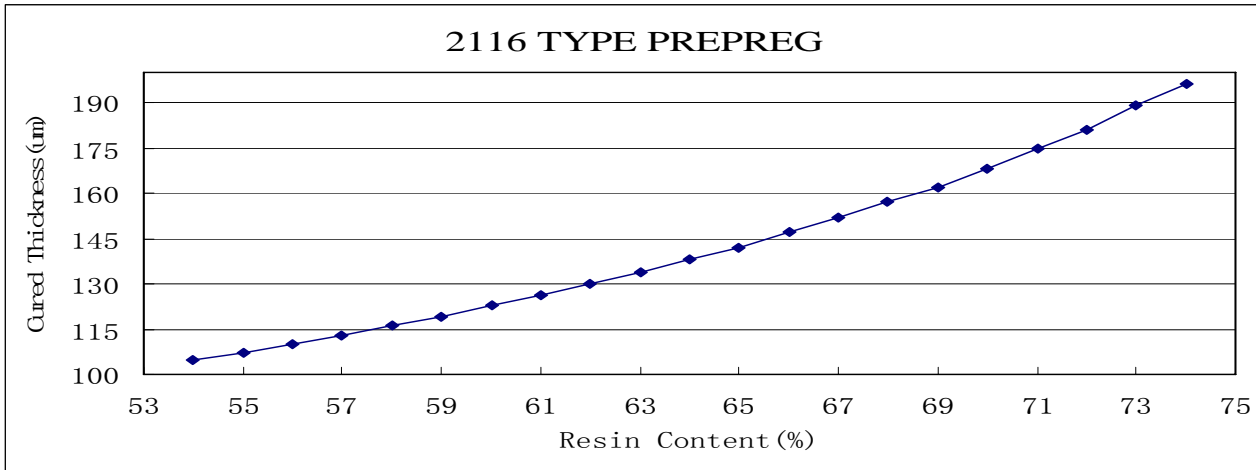
PREPREG PARAMETERS

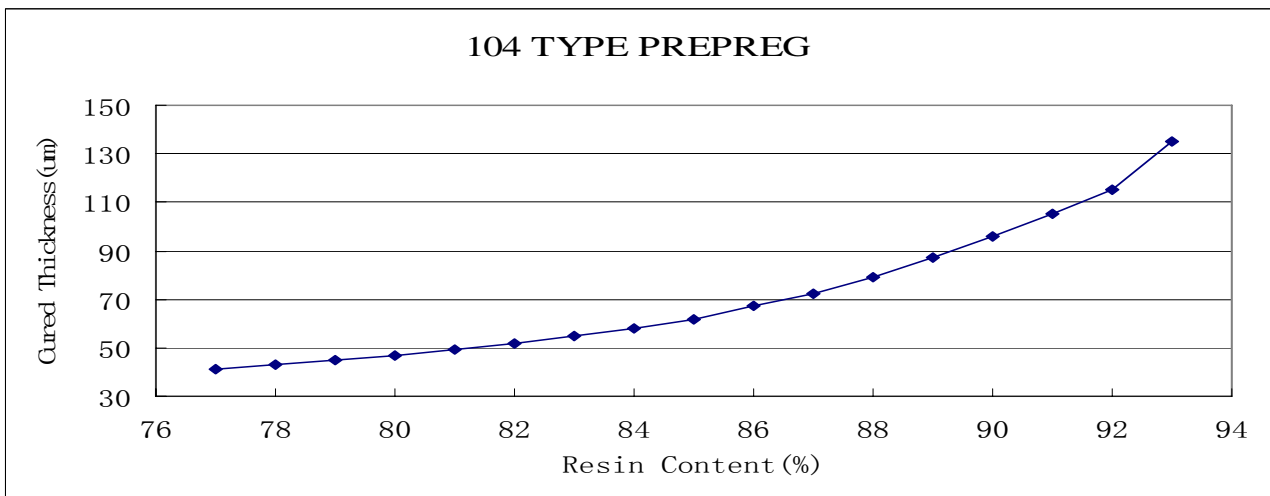
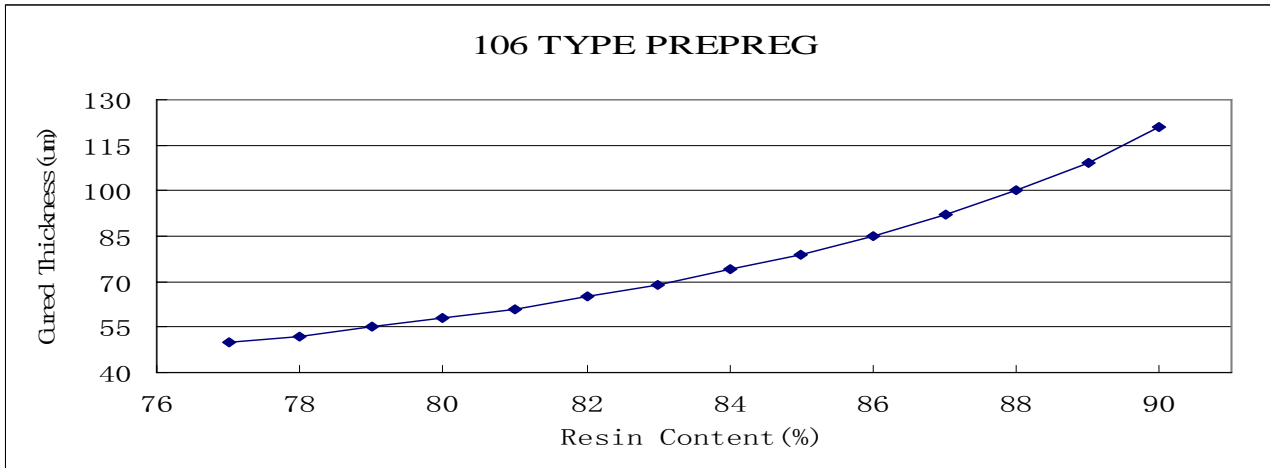
Designation	Glass Fabric Type	Resin Content(%)	Resin Flow(%)	Volatile Content(%)
ST115B	2116	68±3	10±6	≤1.5
	1080	77±3	24±8	
	106	88±3	40±10	
	104	90±3	45±10	

· Type and Resin content could be available upon request.

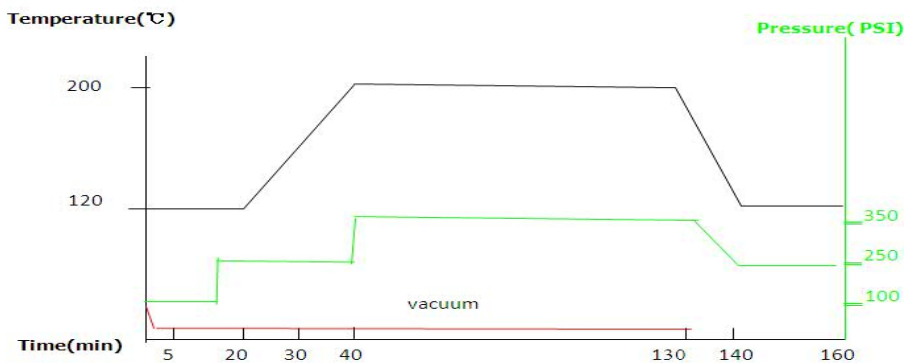
Prepreg Test Method

Resin content, Resin Flow: IPC-TM-650





HOT PRESSING CYCLE:



Heat-up rate: 2.0-4.0°C/min (80-140°C)

Curing time: >60min (185-195°C)

The hot pressing parameter is for your reference only, please turn to Shengyi Technology Co., Ltd. for detailed information.

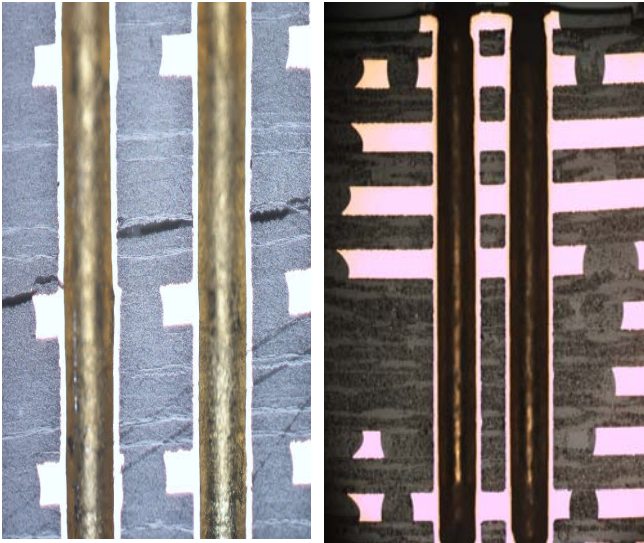
Storage Conditions:

- 1) Three months when stored at <23°C and <50% RH.
- 2) Six months when stored at <5°C. Normalize in room temperature for at least 4 hours before using.
- 3) 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.
- 4) Avoid UV-rays and strong light.



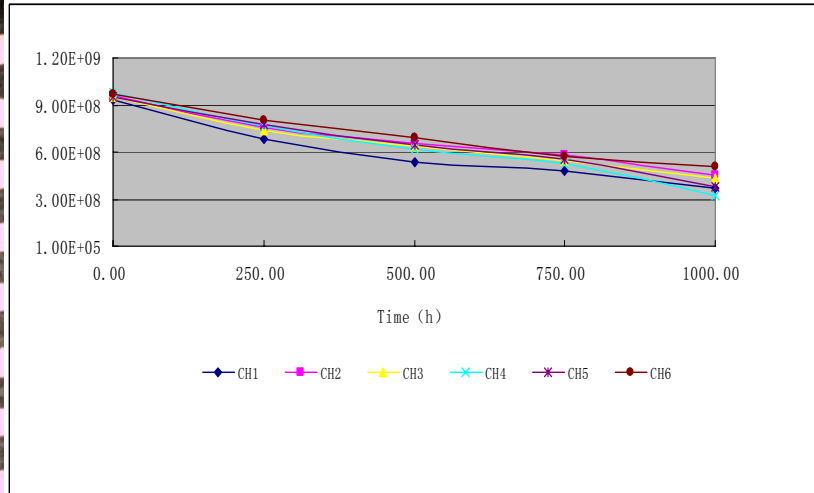
Heavy copper board application

Anti-CAF Test



Standard High Tg

ST115

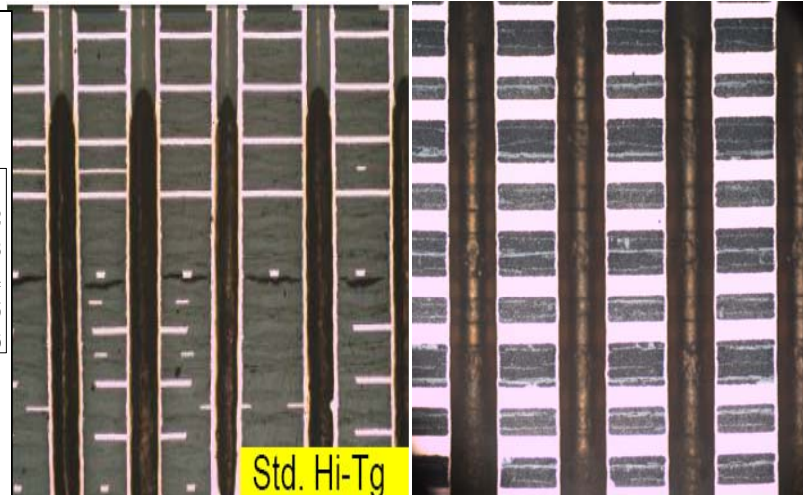
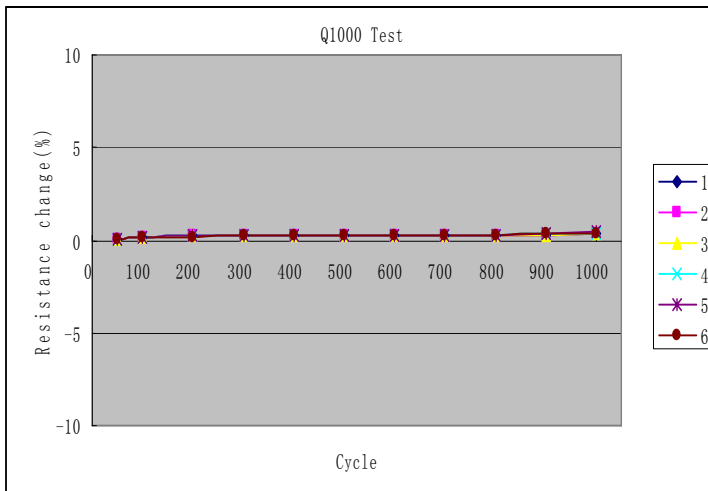


Specimen: Pith=0.75mm, $\phi = 0.45\text{mm}$,
DC100V/85°C/85%RH

Test Coupon: ST115 and Standard High Tg material,
Inner copper 4OZ
Test Method: Solder dip 288°C, 10s, 3x
Test Result: ST115 is better than Std. Hi-Tg in thermal
Resistance.

Thermal Shock Resistance

Excellent PTH Reliability



Standard High Tg

ST115

Test Coupon: ST115 multi-layer PCB
Test Method: Q1000(-45°C (30mins)~130°C (30mins),
transfer time <2mins)

Test Coupon: ST115 and Standard High Tg
Test Method: Solder dip 288°C, 10s, 3x
Test Result: ST115 is better in PTH Reliability.

PURCHASEING INFORMATION

Thickness	Copper foil	Standard Size
0.08mm ~ 3.2mm	12 μm ~ 105 μm	1,020×1,220mm(40"×48"); 915×1,220mm(36"×48") 1,070×1,220mm(42"×48")
0.10mm ~ 3.2mm	12 μm ~ 175 μm	

- Other sheet size and thickness could be available upon request.
- UL认可单、双面PCB板, 最小厚度为0.20mm