

# SM750-5

**SM750-5 Laminate**

**SM750B-5 Prepreg**  
( IPC-4101C/21/24/26/28/124 )

UL FILE : E199230  
updated : A Version 03/07/2011

## General Specification:

Thickness		Copper Cladding		Standard Size		Special large (on Request)	
<u>inch</u>	<u>(mm)</u>	<u>oz</u>	<u>(<math>\mu</math>m)</u>	<u>inch</u>	<u>(mm)</u>	<u>inch</u>	<u>(mm)</u>
0.003	(0.08)	3/8	(12)	36.8 x 48.8	( 935 x 1240)	37.0 x 49.0	( 941 x 1246)
to		to		40.8 x 48.8	(1035 x 1240)	41.0 x 49.0	( 1043 x 1246)
0.125	(3.14)	12	(410)	42.8 x 48.8	(1085 x 1240)	43.0 x 49.0	( 1093 x 1246)

## Characteristics :

- Tetra-functional Epoxy
- E-woven Glass
- HTE Copper Foil

## Features:

- Lead free soldering process suitable
- UV Blocking and AOI Performance
- Excellent dimensional stability and thickness uniformity
- Superior thermal and chemical resistance
- Excellent electrical and mechanical properties
- Tg > 150 °C (DSC)

## Applications :

- Computer & Peripheral
- Communications Telecom
- Consumer Electronics
- Instrumentation / Industry / Medical
- OA Equipment / printer etc

## SM750-5 Laminate Properties:

Based on 1.6 mm<sup>t</sup>, 1/1

Test Items	Units Metric (English)	Test Condition	IPC Spec.	Typical Value	Test Method	
					IPC-TM-650	
Electrical	Dielectric Constant (1MHz)	---	C-96/23/50	< 5.4	4.0 - 4.5	2.5.5
	Dissipation Factor	---	C-96/23/50	< 0.035	0.010 - 0.020	2.5.5
	Volume Resistivity	MΩ-cm	C-96/23/50	> 10 <sup>6</sup>	> 10 <sup>7</sup>	2.5.17.1
	Surface Resistivity	MΩ	C-96/23/50	> 10 <sup>4</sup>	> 10 <sup>6</sup>	2.5.17.1
Physical	Dimensional stability	ppm	-	< 300	< 200	-
	Moisture absorption	%	E-24/50+d-24/23	< 0.5	< 0.2	2.6.2.1
	Peel strength (1oz)	N / mm (1b/in)	As Received	0.7 ( 4.0)	1.58 – 1.93 (9 – 11)	2.4.8
After Solder			0.7 ( 4.0)	1.20 – 1.58 (7 – 9)	2.4.8	
Thermal	Glass Transition Temp	°C	DSC	By DSC >150	>150	2.4.25
			TMA		>145	2.4.24
	CTE (Z axis)	ppm/°C	> Tg	< 350	< 350	2.4.24
	Thermal resistance	min	TMA (T288°C)	>5	> 15	2.4.24.1
	Decomposition Temp	°C	ASTM D3850	>325 (5% wt)	>330	2.4.24.6
	Thermal stress	sec	288°C Solder	> 10	> 120	2.4.13.1

※Specification Sheet : IPC-4101C/21/24/26/28/124

## SM750B-5 Prepreg Parameters :

	<u>7628</u>	<u>2116</u>	<u>1080</u>
<b>R/C : Resin Content (%)</b>	42 ± 3	53 ± 3	62 ± 4
<b>R/F : Resin Flow (%)</b>	18 ± 5	30 ± 5	34 ± 5
<b>P/G : Gel Time (sec)</b>	130 ± 20	130 ± 20	130 ± 20
<b>After Pressed Thickness (mil)</b>	7.0 ± 0.5	5.0 ± 0.5	3.0 ± 0.4
<b>VC : Volatile Content (%)</b>	Max 1.0	Max 1.0	Max 1.0

\* Other fabric types are available upon request.

\* Above value can be adjusted to fit customer's processing condition.

## Storage and Shelf Life:

### Storage condition

20 ± 2°C , 50 ± 10%RH // Refrigeration

5 ± 2°C , 50 ± 10%RH // Frozen

### Shelf life

< 3 months

< 6 months

- Excessive humidity will result in high press flow & possible quality defects.

## SM750B-5 Prepreg Recommended Press Cycle:

- **Temperature Profile:**

- Heating Rise**

- Heating rate of material between 60°C and 140°C, 1 – 3°C/min. is acceptable, 1.5 – 2.5°C/min. would be better.

- Curing Condition**

- > 180°C/75 min.

- Cooling Down**

- Hold cooling rate to less than 2.5°C/min down to below 120°C to minimize the accumulated stress, then cool down to 45°C as fast as possible.

- **Pressure Profile:**

- Load press hot, close quickly, use kiss pressure 8 – 12 Kg/cm<sup>2</sup> (114 – 170 psi) for 15 – 20 minutes then apply full pressure 15 - 25 Kg/cm<sup>2</sup> (213 – 355 psi) (laminated pressure).

- Increase pressure by 10% for non-vacuum press system.

- **Vacuum:**

- Min. 72 mmHg

