

VT-42C

Laminate/Prepreg

UL Approval: E214381 Version: B4 /97

General Information

- > Comparative Tracking Index (CTI): over 600 Volts
- > Dicy Cured System
- > Standard FR4.0
- > UV Blocking

Application

Power Base Board, TV, Refrigerator, Washing Machine, etc

Availability

- > Core Thickness: 0.004" (0.1mm) to 0.200" (5mm), available in sheet or panel form
- > Copper Foil: 1/4oz to 12oz
- > E-Glass styles: 7628, etc
- > Prepregs are available in roll or panel form

Note: As CTI value is closely related with the surface roughness, we would like to supply reverse treated copper foil when customers ask for laminates with copper foil over 2 oz.

Properties		Prepreg		Laminate
Storage Condition	Temperature	Below 23°C (73°F)	Below 5°C (41°F)	Room
	Relative humidity	Below 55% RH	/	/
Shelf Life		3 months	6 months	24 months (airproof)

The prepreg exceeding shelf life should be retested.

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Properties Sheet IPC-4101E /97

Properties	Test Method	Units	Specification	Typical Value	
Thermal Properties					
Tg	DSC	IPC-TM-650 2.4.25	°C	110 minimum	125~130
	TMA	IPC-TM-650 2.4.24	°C	-	-
Td		ASTM D3850	°C	-	310
T260		IPC-TM-650 2.4.24.1	Minute	-	25
T288		IPC-TM-650 2.4.24.1	Minute	-	2
Thermal Stress @ 288°C		IPC-TM-650 2.4.13.1	Second	Pass 10s	300
Z-axis CTE	Before Tg	IPC-TM-650 2.4.24	ppm/°C	-	40
	After Tg	IPC-TM-650 2.4.24	ppm/°C	-	220
	Total Expansion (50~260°C)	IPC-TM-650 2.4.24	%	-	3.5
X-Y CTE		IPC-TM-650 2.4.24	ppm/°C	-	12~14
MOT		UL 94	°C	-	130
Electrical Properties					
Dielectric Constant @ 1GHz		IPC-TM-650 2.5.5.9	-	5.4 maximum	4.8
Dissipation Factor @ 1GHz		IPC-TM-650 2.5.5.9	-	0.035 maximum	0.018
Volume Resistivity	After Moisture Resistance	IPC-TM-650 2.5.17.1	MΩ-cm	1.0E+6 minimum	5.0E+8
	E-24/125	IPC-TM-650 2.5.17.1	MΩ-cm	1.0E+3 minimum	5.0E+6
Surface Resistivity	After Moisture Resistance	IPC-TM-650 2.5.17.1	MΩ	1.0E+4 minimum	5.0E+7
	E-24/125	IPC-TM-650 2.5.17.1	MΩ	1.0E+3 minimum	5.0E+6
Electrical Strength		IPC-TM-650 2.5.6.2	Volt/mil (KV/mm)	762 (30) minimum	1200~1400 (54)
Dielectric Breakdown		IPC-TM-650 2.5.6	KV	40 minimum	60
Comparative Tracking Index (CTI)		ASTM D3638	Rating (Volt)	-	Grade 0 (≥600)
Arc Resistance		ASTM D495	Second	-	111
Mechanical Properties					
Peel Strength (1oz)	As received	IPC-TM-650 2.4.8	lb/in (N/mm)	-	10~12 (1.7~2.0)
	After thermal stress	IPC-TM-650 2.4.8	lb/in (N/mm)	6 (1.05) minimum	9~12 (1.5~2.0)
Flexural Strength	Warp	IPC-TM-650 2.4.4	KPsi (MPa)	60 (415) minimum	87 (600)
	Fill	IPC-TM-650 2.4.4	KPsi (MPa)	50 (345) minimum	72 (500)
Physical Properties					
Moisture Absorption		IPC-TM-650 2.6.2.1	%	0.80 maximum	0.25
Flammability		UL-94	Rating	V-0 minimum	V-0

Note: All test data provided are typical values and are not intended to be specification values.

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