

VT-447C

UL Approval: E214381 Version: 22/11/2023 /127 /128 /130

Laminate/Prepreg

General Information

- > Phenolic Cured System
- > Halogen Free & High Tg
- > CTI 600V
- > UV Blocking
- > High Voltage CAF Resistance
- > Low Z-CTE
- > Excellent Thermal Reliability

Application

PEV & HEV Automotive, BAPV, Instrumentation, Communication Equipment, Electronic Game Machine, White Goods, etc.

Availability

- > Core Thickness: 0.004" (0.10mm) to .200" (5mm), available in sheet or panel form
- > Copper Foil: 1/2oz to 6oz
- > Prepregs are available in roll or panel form
- > E-Glass styles: 7628, 2116, 1080

Storage Condition

Properties		Prepreg		Laminate
Storage Condition	Temperature	Below 23°C (73°F)	Below 5°C (41°F)	Room
	Relative humidity	Below 55% RH	/	/

VT-447C

Laminate/Prepreg

UL Approval: E214381 Version: 22/11/2023 /127 /128 /130

IPC-4101E /127 /128 /130

Properties	Test Method	Units	Specification	Typical Value
Thermal Properties				
Tg	IPC-TM-650 2.4.25	°C	170 min	175
Td	ASTM D3850	°C	340	385
T260	IPC-TM-650 2.4.24.1	Minute	30 minimum	>60
T288	IPC-TM-650 2.4.24.1	Minute	15 minimum	>20
Thermal Stress @ 288°C	IPC-TM-650 2.4.13.1	Second	Pass 10s	>200
Z-axis CTE	Before Tg	IPC-TM-650 2.4.24	ppm/°C	60 maximum
	After Tg	IPC-TM-650 2.4.24	ppm/°C	300 maximum
	Total Expansion (50~260°C)	IPC-TM-650 2.4.24	%	3.5 maximum
MOT	UL 746E	°C	–	150
Electrical Properties				
Dk (RC 50%)	@ 1GHz	IPC-TM-650 2.5.5.9	–	5.4 maximum
Df (RC 50%)	@ 1GHz	IPC-TM-650 2.5.5.9	–	0.035 maximum
Volume Resistivity	After Moisture Resistance	IPC-TM-650 2.5.17.1	MΩ-cm	1.0E+6 minimum
	E-24/125	IPC-TM-650 2.5.17.1	MΩ-cm	1.0E+3 minimum
Surface Resistivity	After Moisture Resistance	IPC-TM-650 2.5.17.1	MΩ	1.0E+4 minimum
	E-24/125	IPC-TM-650 2.5.17.1	MΩ	1.0E+3 minimum
Electrical Strength		IPC-TM-650 2.5.6.2	Volt/mil (KV/mm)	762 (30) minimum
Dielectric Breakdown		IPC-TM-650 2.5.6	KV	40 minimum
Comparative Tracking Index (CTI)		ASTM D3638	Rating (Volt)	–
Arc Resistance		ASTM D495	Second	–
Mechanical Properties				
Peel Strength (1oz)	As received	IPC-TM-650 2.4.8	lb/in (N/mm)	–
	After thermal stress	IPC-TM-650 2.4.8	lb/in (N/mm)	6 (1.05) minimum
Flexural Strength	Warp	IPC-TM-650 2.4.4	KPsi (MPa)	60 (415) minimum
	Fill	IPC-TM-650 2.4.4	KPsi (MPa)	50 (345) minimum
Physical Properties				
Moisture Absorption		IPC-TM-650 2.6.2.1	%	0.80 maximum
Flammability		UL-94	Rating	V-0 minimum

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

Disclaimer:

The information and data contained in this technical literature is based on data and knowledge correct at the time of publishing/printing and is believed to be accurate and is offered in good faith for the benefit of the user. The user should make his own tests to verify the suitability of this product for any application before its use. All data are typical values only and subject to change without notice.