

VT-901

UL Approval: E214381 Version: 23/02/2024 /40 /41 /42

Laminate/Prepreg

General Information

- > Tg 250°C
- > High Td 395°C
- > Thermal Conductivity = 0.7 W/mK best-in-class
- > Low Z-axis CTE
- > Meets NASA requirements for no visible bromine



Application

- > Chip Manufacturers
- > Engine/Flight Controls
- > Power Supply/Backplane
- > Military & Aerospace
- > Burn-in Board
- > Downhole Drilling

Availability

- > Core Thickness: 0.002" (0.05mm) to 0.125" (3mm), available in sheet or panel form
- > Copper Foil: 1/4oz to 6oz
- > Prepregs are available in roll or panel form
- > E-Glass styles: 7628, 1506, 2113, 2313, 3313, 2116, 1080, 106 etc

Storage Condition

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

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Properties Sheet IPC-4101E /40 /41 /42

Properties	Test Method	Units	Specification	Typical Value
Thermal Properties				
Tg	DSC	IPC-TM-650 2.4.25	°C	-
	TMA	IPC-TM-650 2.4.24	°C	200 minimum
Td		ASTM D3850	°C	395
T260		IPC-TM-650 2.4.24.1	Minute	>60
T288		IPC-TM-650 2.4.24.1	Minute	>60
Thermal Stress @ 288°C		IPC-TM-650 2.4.13.1	Second	Pass 10s
Z-axis CTE	Before Tg	IPC-TM-650 2.4.24	ppm/°C	50
	After Tg	IPC-TM-650 2.4.24	ppm/°C	150
	Total Expansion (50~260°C)	IPC-TM-650 2.4.24	%	1.4
X-Y CTE		IPC-TM-650 2.4.24	ppm/°C	11~12
MOT		UL 94	°C	140
Electrical Properties				
Dk @ 1GHz RC 40%		IPC-TM-650 2.5.5.9	-	5.4 maximum
Df @ 1GHz RC 40%		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-24/204	IPC-TM-650 2.5.17.1	MΩ-cm	1.0E+6 minimum
Surface Resistivity	After Moisture Resistance	IPC-TM-650 2.5.17.1	MΩ	1.0E+6 minimum
	E-24/204	IPC-TM-650 2.5.17.1	MΩ	1.0E+6 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)	Grade 4 (100~175)
Arc Resistance		ASTM D495	Second	120 minimum
Mechanical Properties				
Peel Strength (1oz)	RTF	IPC-TM-650 2.4.8	lb/in (N/mm)	-
	HTE	IPC-TM-650 2.4.8	lb/in (N/mm)	5.14 (0.90) minimum
Flexural Strength	Warp	IPC-TM-650 2.4.4	Kpsi (MPa)	60 (415) minimum
	Fill	IPC-TM-650 2.4.4	Kpsi (MPa)	47 (325) minimum
Physical Properties				
Moisture Absorption		IPC-TM-650 2.6.2.1	%	1.0 maximum
Flammability		UL-94	Rating	HB 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.