

VT-901

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

Laminate/Prepreg

General Information

- > Tg 250°C
- > High Td 395°C
- > 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)	5~8 (0.88~1.40)
	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.

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