

IPC-4103 /17 UL - File Number E41625

Tachyon® 200JV laminate materials are latest generation of advanced ultra-high speed, halogen free, ultra-low loss materials.

#### PRODUCT FEATURES

##### Industry Recognition

- UL File Number: E41625
- RoHS Compliant
- PFAS Free

##### Performance Attributes

- Lead-free assembly compatible

##### Processing Advantages

- FR-4 process compatible
- Short lamination cycle
- Reduced drill wear
- No plasma desmear required
- Good flow and fill
- Dimensional stability
- Multiple lamination cycles
- Any layer technology compatible
- HDI technology compatible
- VIPPO design compatible

#### PRODUCT AVAILABILITY

##### Standard Material Offering: Laminate

- 2.5, 5, 7.5, 10, 12.5, 15, 20, 30, 60 mil ( 0.0635, 0.127, 0.1905, 0.254, 0.3175, 0.381, 0.510, 0.760, 1.50 mm)

##### Copper Foil Type

- HVLP (VLP2) ≤2.5 micron Rz JIS
- Embedded resistor foil

##### Copper Weight

- ½, 1 and 2 oz (18, 35 and 70 µm) available
- Thinner copper foil available

##### Standard Material Offering: Prepreg

- Tooling of prepreg panels
- Moisture barrier packaging

Tachyon® 200JV is our latest Halogen Free material solution for next generation AI Data Center Server, 5G infrastructure, high end computing as well as wired & wireless communications. Our most advanced resin system has been developed with ultra smooth HVLP4/5 copper foil and the most advanced glass offerings in the industry to deliver a solution capable of meeting the most demanding high data rate requirements with excellent cost for loss performance.

The Tachyon® 200JV resin system has proven superior CAF performance on tight pitch testing. CAF performance is enhanced by the resin systems excellent interlaminar and bond line adhesion strength.

Tachyon® 200JV is lead free compatible and sequential lamination capable and can be processed utilizing standard PCB equipment and processing steps. Tachyon® 200JV meets UL94 V-0.

#### PRODUCT ATTRIBUTES



HIGH DENSITY  
INTERCONNECT



HIGH THERMAL  
RELIABILITY



RADIO FREQUENCY  
& MICROWAVE

#### TYPICAL MARKET APPLICATIONS



AUTOMOTIVE &  
TRANSPORTATION



RADIO FREQUENCY  
& MICROWAVE



AEROSPACE  
& DEFENSE

**ORDERING INFORMATION:**

Contact your local sales representative or contact [info@isola-group.com](mailto:info@isola-group.com) for further information.

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# Typical Values Table

Property		Typical Value	Units	Test Method
			Metric (English)	IPC-TM-650 (or as noted)
Glass Transition Temperature (Tg) by DSC		200	°C	2.4.25C
Decomposition Temperature (Td) by TGA @ 5% weight loss		360	°C	2.4.24.6
Time to Delaminate by TMA (Copper removed)	A. T260 B. T288	>60	Minutes	2.4.24.1
Z-Axis CTE	A. Pre-Tg B. Post-Tg	50 - 70 250 - 350	ppm/°C	2.4.24C
X/Y-Axis CTE	Pre-Tg	12	ppm/°C	2.4.24C
Thermal Conductivity		0.45	W/m·K	ASTM E1952
Thermal Stress 10 sec @ 288°C (550.4°F)	A. Unetched B. Etched	Pass	Pass Visual	2.4.13.1
Dk, Permittivity	A. @ 2 GHz B. @ 10 GHz	3.00	—	2.5.5.5
Df, Loss Tangent	A. @ 2 GHz B. @ 10 GHz	0.0017	—	Bereskin Stripline
Volume Resistivity	C-96/35/90	1.33 x 10 <sup>7</sup>	MΩ-cm	2.5.17.1
Surface Resistivity	C-96/35/90	1.33 x 10 <sup>5</sup>	MΩ	2.5.17.1
Dielectric Breakdown		45.4	kV	2.5.6B
Arc Resistance		139	Seconds	2.5.1B
Electric Strength (Laminate & laminated prepreg)		45 (1133)	kV/mm (V/mil)	2.5.6.2A
Comparative Tracking Index (CTI)		3 (175-249)	Class (Volts)	UL 746A ASTM D3638
Peel Strength	1 oz. EDC foil	1.0 (5.7)	N/mm (lb/inch)	2.4.8.3
Flexural Strength	A. Length direction B. Cross direction	338 (49.0) 269 (39.0)	MPa (kpsi)	2.4.4B
Tensile Strength	A. Length direction B. Cross direction	214 (31.0) 165 (24.0)	MPa (kpsi)	ASTM D3039
Poisson's Ratio	A. Length direction B. Cross direction	0.183 0.182	—	ASTM D3039
Moisture Absorption		0.1	%	2.6.2.1A
Flammability (Laminate & laminated prepreg)		V-0	Rating	UL 94
Relative Thermal Index (RTI)		130	°C	UL 796

## NOTES

Visit our site <http://www.isola-group.com> for more details.

Revisions:

A: Initial release - 4/17

B: Corrected units for Flexural and Tensile Strength - 8/18

C: Change MOT to RTI 5/19

D: Changed VLP2 to HVLP to align with common industry terms 4/21

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