

LAMINATES AND MORE FOR PCB

CCL-Polyimide Material
High Tg and High Reliability

VT-901

General Information

- ***High Tg (Tg 250°C) and Extreme Operating Temperature***
- ***High Thermal Resistance (TD 390°C) and Several Assembly Processing***
- ***Improved Fracture Toughness***
- ***Low-Z-axis for Through Hole Reliability***
- ***Has UL-Approval: E214381***

VT-901 – Properties – 2nd page

Test Item		Test Condition (IPC-TM-650 or as as noted)	Unit	Specification	Typical Value	
					VT901	Normal FR4
Flexural Strength	Warp	2.4.4	MPa	>415 >345	500	600
	Fill				380	500
Peel Strength (1 oz)	As Received	2.4.8.	Lb/in	6.0 min	6 ~9	10~12
	After Thermal Stress				6 ~9	9~12
Glass Transition Temp. (Tg), DSC		2.4.25	°C	-	250	136~140
Decomposition Temp. (Td) by TGA (@ 5 % weight loss)		ASTM D3850	°C	-	390	290-310
X-Y-axis C.T.E		TMA	ppm/°C	-	13-14	12-15
Z-axis C.T.E	Before Tg	TMA	ppm/°C	-	50	50
	After Tg				250	250
Z-axis Total Expansion	50-260°C	TMA	%	-	1,5 %	3,5-4.0 %
	50-288°C	TMA	%	-	2.0 %	4.0-5.0 %
Moisture Absorption	D-24/23 After PCT	2.6.21 1 atm., 121°C 1 hour	%	-	0.20	0.28
Volume Resistance	After Moisture E-24/125	2.5.17.1	MΩ-cm	≥10 ⁶	5x10 ⁸	5x10 ⁸
				≥10 ³	5x10 ⁶	5x10 ⁶
Surface Resistance	After Moisture E-24/125	2.5.17.1	MΩ	≥10 ⁴	5x10 ⁷	5x10 ⁷
				≥10 ³	5x10 ⁶	5x10 ⁶
Electric Strength		2.5.6.2	KV/mm	≥30	54	54
Dielectric Breakdown		2.5.6	KV/mm	≥40	>50	>50
Arc Resistance		2.5.1	Second	≥120	135	65
Dielectric Constant (Dk)	1.0 MHz	2.5.5.3	-	5.4 max.	4.2-4.5	4.42
	1.0 GHz	2.5.5.9			4.0-4.3	4.39
	2.0 GHz	2.5.5.5.			3.9-4.2	4.38
Dissipation Factor	1.0 MHz	2.5.5.3	-	0,035 max.	0,016-0,018	0,022
	1.0 GHz	2.5.5.9			0,016-0,018	0,022
	2.0 GHz	2.5.5.5.			0,018-+0,020	0,021
Thermal Stress	288°C, Solder Dip	2.4.13.1	Second	60	>1200	90-120
Pressure Cook Test		Pre-treat 15psi/ 30 288°C, 10sec/ cycle	Cycle	2 Cycles Min.	>18	6-8
Time to Delamination –T288		2.4.24.1	Minute	-	>60	3
Time to Delamination –T300		2.4.24.1	Minute	-	>30	-
Flammability		UL94	-	V1	V0	V0

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

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