Hole Fill Prepreg

UL Approval: E214381 Version: 29/09/2023

VT-901PP 106HW-75/106HW-80
VT-47PP 1080VF-68/106VF-76

General Information

VT-901PP HW type is a high performance ceramic-filled polyimide prepreg, designed for use in filling etched areas in polyimide multilayers that contain thick copper layers and for filling clearance holes in metal cores. The filler in the resin serves to reduce shrinkage and inhibit crack formation during through-hole drilling in filled clearance areas. VT-47PP VF type is a high Tg, lead free compatible and ceramic-filled prepreg, designed for application in filling clearance holes or via holes. The ceramic is filled to minimize resin shrinking and cracking in filled clearance holes.

Application

VT-901PP

- Chip Manufacturers
- Engine/Flight Controls
- Power Supply/Backplane
- Military and Burn-in Board

VT-47PP

- Automotive Under-hood
- BGA Package
- High Layer
- Mother board/Backplane

Storage Condition

		Prepreg	
Storage Condition	Temperature	Below 23˚C (73˚F)	Below 5˚C (41˚F)
	Relative humidity	Below 55% RH	/

Availability

Product	Part#	Glass Type	Resin Content	Resin Flow	Pressed Thickness	Equivalent Material
VT-901 PP	106HW-75	106	75%	45%	2.5mil	84N0675-HF
	106HW-80	106	80%	50%	3.1mil	84N0680-HF
VT-47 PP	1080VF-68	1080	68%	45%	3.3mil	/
	106VF-76	106	76%	50%	2.5mil	/

Pressed thickness is measured by micrometer after lamination.

Property Sheet (Test sample information - 2 ply construction)

Test Item		Test Condition	Unit	VT-47PP	VT-901PP IPC-4101E /40 /41 /42
Tg	DSC	2.4.25	˚C	180	250
Td	TGA	ASTM D3850	˚C	355	390
Electric Strength		2.5.6.2	KV/mm	54	54
Peel Strength (1 oz)	As Received	2.4.8	Lb/in	7.5-10	6-9
	After Heated			7.5-10	6-9
Moisture Absorption	D-24/23	2.6.21	%	0.10	0.20
	After PCT	1atm.,121˚C,1 hour		0.12	0.22
Z-axis CTE (RC75%)	Before Tg	2.4.24	ppm/ ˚C	55	50
	After Tg			300	240
	50-260˚C		%	3.5%	3.2%
X-Y CTE		IPC-TM-650 2.4.24	ppm/ ˚C	–	12~15
Thermal Stress	Solder Dip 288˚C	2.4.13.1	Second	>300	>300
Breakdown Voltage	D-48/50+ D0.5/23	2.5.6	KV	>60	>60
Arc Resistance	D-48/50+ D0.5/23	ASTM D495	Second	147	150
DK @ 1MHz	C-24/23/50	2.5.5.5	–	4.3	4.3
DF @ 1MHz	C-24/23/50	2.5.5.5	–	0.018	0.016

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

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Pressing Condition

Item	VT-47PP	VT-901PP
Heating rate of material	3.0 – 5.0˚C/min (5~10˚F/min)	2.5 – 4.5˚C/min (4.5~8˚F/min)
Curing Temperature	>=185˚C	>=218˚C
Curing Time	> 60min	> 200min
Vacuuming should be continued until over 140˚C (284˚F) for material.		
Pressure: Start with 100psi, Full pressure should be 350psi or above.		
Cold Press: Water cooling at 100psi for more than 60 minutes.		

Contact Ventec technical service to discuss the specific condition.