VT-447PP NF/LF

UL Approval: E214381 Version: 30/07/2024

No Flow & Low Flow Prepreg

General Information

VT-447 No Flow and Low Flow product is designed to meet friendly environment requirement. It has good bonding and thermal performance in applications of heat sink bonding and rigid-flex board, and have a minimal flow range with a consistent lamination.

- High Tg & High Td
- Halogen Free & Lead Free Compatible
- IPC-4101E /127 /128 /130
- Optimized flow range for camera module

Storage Condition & Shelf Life

		Prepreg	
Storage Condition	Temperature	< 23˚C (73˚F)	< 5˚C (41˚F)
	Relative humidity	< 55%	/
Shelf Life		3 months	6 months

The prepreg exceeding shelf life should be retested.

Availability

Product	Type	Glass Type	Flow Range (mil)	(mm)	Pressed Thickness (mil)	(mm)
VT-447 PP Lead Free & Environment Friendly High Tg	1027 NF-25	1027	10~50	0.25~1.25	1.0	0.025
	1027 NF-30	1027	10~50	0.25~1.25	1.2	0.030
	1037 NF-40	1037	10~50	0.25~1.25	1.6	0.040
	1067 NF-50	1067	10~50	0.25~1.25	2.0	0.050
	1067 NF-60	1067	10~50	0.25~1.25	2.4	0.060
	1078 NF-80	1078	10~50	0.25~1.25	3.1	0.080
	1078 NF-90	1078	10~50	0.25~1.25	3.6	0.090
	1078 NF-100	1078	10~50	0.25~1.25	4.0	0.100
	1067 LF-56	1067	60~120	1.50~3.00	2.2	0.056
	1067 LF-66	1067	60~120	1.50~3.00	2.6	0.066
	1078 LF-84	1078	60~120	1.50~3.00	3.3	0.084

* Measured by micrometer “NF” ---- No Flow PP, “LF” ---- Low Flow PP
1) Press Temperature ---- 171˚C
2) 3plys per pressing
3) Press Pressure ---- 200psi Built per IPC-TM-650 2.3.17.2

Properties Sheet of Pressed No Flow Prepreg

Test Item		Test Method (IPC-TM-650)	Unit	VT-447
Tg	DSC	2.4.24	°C	180
Td	TGA	ASTM D3850	°C	370
Electric Strength		2.5.6.2	KV/mm	54
Peel Strength with 1oz Cu		2.4.8	Lb/in	8-9
Peel Strength with CVL		2.4.8	Lb/in	7.0
Moisture Absorption	D24 / 23	2.6.21	%	0.10
	After PCT	1atm., 121°C, 1hour	%	0.12
X,Y-axis CTE	30~125°C	2.4.24	ppm/°C	12~15
Z-axis CTE	Before Tg	2.4.24	ppm/°C	70
	After Tg			300
Thermal Stress	Solder dip 288°C	2.4.13.1	Second	>300
Breakdown Voltage	D48/50+ D0.5/23	2.5.6	KV	>60
Arc Resistance	D48/50+ D0.5/23	2.5.1	Second	120
Dk (RC60% at 1GHz)	C24/23/50	2.5.5.9	_	3.9
Df (RC60% at 1GHz)	C24/23/50	2.5.5.9	_	0.015
Flammability	As Received	UL94	Rating	V-0

All test data provided are typical values and 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.

Press Condition

	VT-447PP
Heating rate of materials	3.0-5.0˚C/min (5~10˚F/min)
Cure Temperature	≥185˚C
Cure Time	>60min
Vacuum should be continued until over 140˚C (284˚F) [Material Temperature]	
Pressure on materials: Start with 100psi, Full pressure: 300~450psi	
Cold Press: Keep Plate @ Room Temperature by water; Pressure: 100psi; Dwell Time: 60minutes	

Contact Ventec technical service to discuss the specific condition.