ventec-thermal

ventec
INTERNATIONAL GROUP

thermal-bond 7.1F VT-4BC(HT1) RCF

UL Approval: E214381 Version: 29/10/2025

Thermally Conductive Resin Coated Film Bondply

Resin Coated Film (RCF) Thermal Bondply is an unreinforced adhesive system coated onto PET/PI film for use in high performance and high reliability multilayer PCB stack-ups.

VT-4BC(HT1) RCF is a high Tg, ceramic-filled, thermally conductive (12.0 W/mK), halogen-free thermoset resin system, specifically designed for use in multilayer PCBs requiring enhanced levels of heat management and thermal conductivity. Thermal bond RCF can be combined with other Ventec laminate & prepreg systems including tec-thermal IMS, VT-5A2 and VT-4A2H thermally conductive laminates & prepregs in hybrid stack-ups.

General Information

- Thermal conductivity -- 12.0 W/mK
- Tg 200˚
- Ceramic Filled
- Halogen Free
- Flammability UL94 V-0
- UL MOT 155˚C
- Easy handling (like rubber)

Application

- Good Adhesion
- High Working Voltage [≥500Volts]
- Heavy Copper Filled
- Power Conversion
- Monitor Drives
- Rectifiers, Power Supply
- Metal in Board (MiB) applications including Coins and Inserts, Pedestal, etc.

Availability

Press Ply Thickness	120μ/150μ (0.005"/0.006")	Description	Part Number	PPT (μm)	Flow Range
Panel Size	18.11*24.02" (460*610mm) 18.11*12.01" (460*305mm)	thermal-bond VT-4BC(HT1) RCF Regular Flow PPT 125μm	4BC(HT1)-FTR-125	125	20~30
		thermal-bond VT-4BC(HT1) RCF Regular Flow PPT 150μm	4BC(HT1)-FT R-150	150	50~100

Carrier Film Type	
PET (Standard)	T

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Properties

Properties		Test Method	Units	125um	150um
Thermal Conductivity		ISO 22007-2	W/m*K	12	
Thermal Impedance		ISO 22007-2	°C *in^2/W	0.016	0.019
Tg	DMA	IPC-TM-650 2.4.24.4	°C	200	
Td	TGA	ASTM D3850	°C	400	
Thermal Stress @ 288°C solder dip		IPC-TM-650 2.4.13.1	Minute	≥5	
Hi-Pot Withstand	DC	IPC-TM-650 2.5.7	Volt	3000	4000
Breakdown Voltage	AC	IPC-TM-650 2.5.6.3	Volt	4000	6000
X/Y CTE	Before Tg	IPC-TM-650 2.4.24.5	ppm/°C	8.4-11.2	
Z-axis CTE	Total Expansion (50~260°C)	IPC-TM-650 2.4.24	%	0.65	
	Before Tg	IPC-TM-650 2.4.24	ppm/°C	15-20	
Electrical Properties					
Dk @ 1MHz	C-24 / 23 / 50	IPC-TM-650 2.5.5.3	–	4.25	
Df @ 10GHz				4.57	
Dk @ 1MHz	C-24 / 23 / 50	IPC-TM-650 2.5.5.3	–	0.0015	
Df @ 10GHz				0.0017	
Volume Resistance	After Moisture	IPC-TM-650 2.5.17.1	MΩ-cm	5.0E+8	
	E-24/125			3.0E+7	
Surface Resistance	After Moisture	IPC-TM-650 2.5.17.1	MΩ	2.0E+7	
	E-24/125			5.0E+6	
X/Y CTE	Before Tg	IPC-TM-650 2.4.24.5	ppm/°C	8.4-11.2	
Z-axis CTE	Total Expansion (50~260°C)	IPC-TM-650 2.4.24	%	0.65	
	Before Tg	IPC-TM-650 2.4.24	ppm/°C	15-20	
Mechanical Properties					
Peel Strength (1oz)	As received	IPC-TM-650 2.4.8	lb/in	2.5	
CTI	As received	ASTM D3638	Volt	600	
Physical Properties					
Flammability	As received	UL-94	Rating	V-0	

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

Storage Condition

		RCF	
Storage Condition	Temperature	< 23°C (73°F)	< 5°C (41°F)
	Relative Humidity	< 55%	/