

thermal-bond 7.0F VT-4BC RCF

UL Approval: E214381 Version: 10/01/2025

Thermally Conductive Resin Coated Film Bondply

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

VT-4BC RCF is a high Tg, ceramic-filled, thermally conductive (9.0 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 & prepreps in hybrid stack-ups.

General Information

- > Thermal conductivity -- 9 W/mK
- > Tg 210 °C
- > Ceramic Filled
- > Halogen Free
- > Flammability (UL94 V-0)
- > UL MOT 155 °C
- > Easy handling (like rubber)

Application

- > Good Adhesion
- > High Working Voltage [≥ 500 Volts]
- > 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	460*610mm, 510*610mm, 533*610mm, 18.11*24.02", 20.08*24.02", 20.98*24.02". or as required	thermal-bond 7.0F RCF Regular Flow PPT 120μm	4BC-FT R-120	120	40~80
		thermal-bond 7.0F RCF Regular Flow PPT 150μm	4BC-FT R-150	150	60~100

Carrier Film Type	
PET (Standard)	T
PI (as required)	I

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Properties

Properties		Test Method	Units	120um	150um
Thermal Conductivity		ISO 22007-2	W/m*K	9.0	
Thermal Impedance		ISO 22007-2	°C *in²/W	0.021	0.026
Tg	DMA	IPC-TM-650 2.4.24.4	°C	210	
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	>600	
Breakdown Voltage	AC	IPC-TM-650 2.5.6.3	Volt	8000	10000
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	
Mechanical Properties					
Peel Strength (1oz)	As received	IPC-TM-650 2.4.8	lb/in	4.3	
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%	/

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.