

thermal-bond 5.0F VT-4B7H RCF

UL Approval: E214381 Version: 30/04/2024

Thermally Conductive Resin Coated Film Bondply

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

VT-4B7H is a high Tg, ceramic-filled, thermally conductive (7.0 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 stackups.

General Information

- > Thermal Conductivity – 7.0 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

RCF Part Numbers

Press Ply Thickness	100µ/125µ/150µ (0.004"/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 5.0F RCF Regular Flow PPT 100µm	4B7H-FT R-100	100	20-60
		thermal-bond 5.0F RCF High Flow PPT 100µm	4B7H-FT H-100	100	60-250
		thermal-bond 5.0F RCF Regular Flow PPT 125µm	4B7H-FT R-125	125	40-80
		thermal-bond 5.0F RCF High Flow PPT 125µm	4B7H-FT H-125	125	80-300
		thermal-bond 5.0F RCF Regular Flow PPT 150µm	4B7H-FT R-150	150	60-100
		thermal-bond 5.0F RCF High Flow PPT 150µm	4B7H-FT H-150	150	100-400

Carrier Film Type	
PET (Standard)	T

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Properties

Properties	Test Method	Units	100µm	125µm	150µm
Thermal Properties					
Thermal Conductivity	ISO 22007-2	W/mK	7.0		
Thermal Impedance	ISO 22007-2	°C*in ² /W	0.022	0.028	0.035
Tg	DMA	IPC-TM-650 2.4.24.4	210		
Td	TGA	ASTM D3850	420		
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	>600		
Breakdown Voltage	AC	IPC-TM-650 2.5.6.3	8000	9000	10000
Electrical Properties					
Dk @ 1MHz	C-24 / 23 / 50	IPC-TM-650 2.5.5.3	4.25		
Dk @ 10GHz			4.57		
Df @ 1MHz	C-24 / 23 / 50	IPC-TM-650 2.5.5.3	0.0015		
Df @ 10GHz			0.0017		
Volume Resistance	After Moisture Resistance	IPC-TM-650 2.5.17.1	MΩ-cm		
	E-24/125	IPC-TM-650 2.5.17.1	3.0E+7		
Surface Resistance	After Moisture Resistance	IPC-TM-650 2.5.17.1	MΩ		
	E-24/125	IPC-TM-650 2.5.17.1	5.0E+6		
Mechanical Properties					
Peel Strength (1oz)	As received	IPC-TM-650 2.4.8	lb/in	5.2	
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 not intended to be specification values.

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.