

Aluminum Base Laminate

VT-4B Series Datasheet

General Information

Ventec offers 2 types of IMS material without glass reinforced which has below features

- VT-4B3 Laminate / VT-4B3 RCC&RCF: Thermal conductivity -- 3.0W/mK
- VT-4B5 Laminate / VT-4B5 RCC&RCF: Thermal conductivity – 4.2W/mK
- Ceramic Filled
- Halogen Free
- Flame Retardant (UL94 V0)
- UL MOT 130°C
- Bending Application Suitable



Application

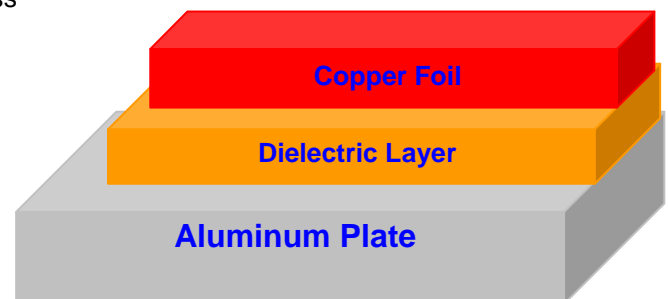
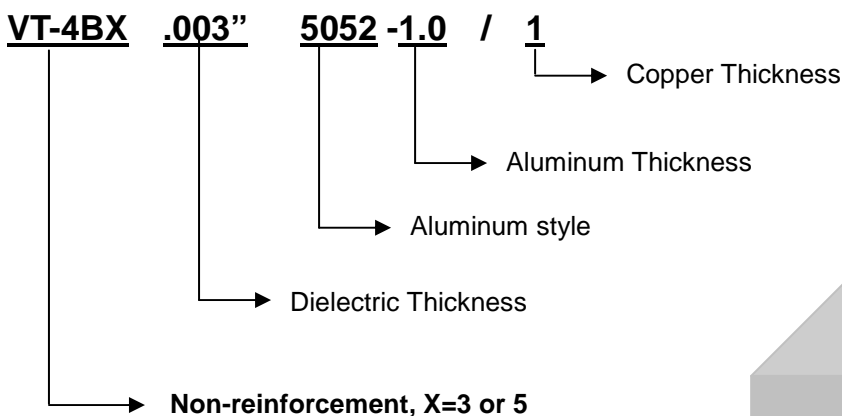
- Ultra bright LED Substrate
- Power Conversion
- PDP, LED, Regulator for TV
- Monitor Drives
- Rectifier, Power supply

Storage Condition & Shelf Life

		RCC		Laminate
Storage Condition	Temperature	Below 23°C(73°F)	Below 5°C(41°F)	Room
	Relative Humidity	Below 55%RH	/	/
Shelf Time*		2 Months	4 Months	12 Months(airproof)

*The pre-preg exceeding shelf time should be retested.

Designation of Laminate



VT-4B Series

Laminate Properties

Item		Test Method (IPC TM650) or as noted	Unit	VT-4B3		VT-4B5		
				75um	100um	50um	75um	100um
Thermal Conductivity		ISO 22007-2	W/m*K	3.0		4.2		
Thermal Impedance		ISO 22007-2	°C*in ² /W	0.040	0.053	0.02	0.029	0.038
Tg	DSC	2.4.25	°C	130		130		
Td	TGA	ASTM D3850	°C	380		380		
Thermal Stress	288°C solder dip	2.4.13.1	minute	≥5		≥5		
Hi-pot withstand	DC	2.5.7	Volt	3500	4000	1000	3000	3500
Dielectric Strength	AC	2.5.6.2	V/mil	1000		1000		
Dk (1MHz)	C-24 / 23 / 50	2.5.5.3	-	4.8		4.8		
Df (1MHz)	C-24 / 23 / 50	2.5.5.3	-	0.016		0.016		
Volume Resistance	After Moisture	2.5.17.1	MΩ-cm	5.0×10 ⁸		5.0×10 ⁸		
	E-24/125			3.0×10 ⁷		3.0×10 ⁷		
Surface Resistance	After Moisture	2.5.17.1	MΩ	2.0×10 ⁷		2.0×10 ⁷		
	E-24/125			5.0×10 ⁶		5.0×10 ⁶		
Peel Strength (1oz Cu)	As received	2.4.8	Lb/in	10		7		
CTI	As Received	ASTM D3638	Volt	600		600		
Flammability	As received	UL 94	-	V0		V0		

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

VT-4B Series

Availability

➤ Laminate

Item	VT-4B3	VT-4B5
Dielectric	.003"(75um) —.006"(150um)	0.002"(50um) .003"(75um) .004"(100um)
Standard Size	18"*24" (457mm*610mm)	
	20"*24" (508mm*610mm)	
	21"*24" (533mm*610mm)	
	22"*24" (559mm*610mm)	
Copper	1/3oz Hoz 1oz 2oz 3oz 4oz 6oz	
Aluminum	0.5mm 0.8mm 1.0mm 1.5mm 2.0mm 3.0mm	
Aluminum Alloy	1100 5052 or as required	

➤ RCC

Item	VT-4B3	VT-4B5
Dielectric	.003"(75um) —.006"(150um)	0.002"(50um) .003"(75um) .004"(100um)
Standard Size	Width: 25"(635mm)	
	Length: 15.7"(400mm), 19.7"(500mm), 21.0"(533mm), 23.6"(600mm), or as customer required (≤24" or ≤610mm)	
Copper	1/3oz Hoz 1oz 2oz 3oz 4oz 6oz	

➤ RCF

Item	VT-4B3	VT-4B5
Dielectric	.003"(75um) .004"(100um)	0.002"(50um) .003"(75um) .004"(100um)
Flow-in	70~250mil	10~50mil
Standard Size	Width: 25"(635mm)	
	Length: 15.7"(400mm), 19.7"(500mm), 21.0"(533mm), 23.6"(600mm), or as customer required (≤24" or ≤610mm)	
PET film	75um	

➤ Aluminum Protective Film Selection Guide

PET film: Standard protective film, operation temperature up to 170°C.

PI film: Special protective film, operation temperature up to 270°C.