

VT-4BC (HT)

UL Approval: E214381 Version: 29/10/2025

Metal Base Laminate

General Information

- > Thermal conductivity -- 14 W/mK
- > Ceramic Filled
- > Halogen Free
- > Flammability UL94 V-0
- > MOT 150°C
- > High Tg 210°C
- > Suitable for High Temperature Applications

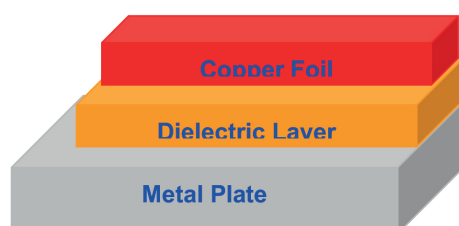
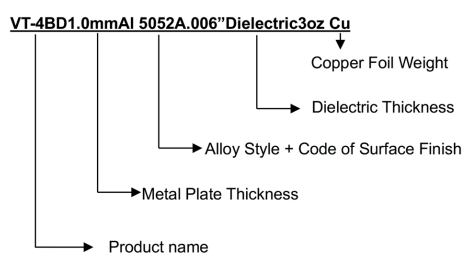
Application

- > Super Bright Lighting
- > Power Modules (IGBT)
- > Controllers
- > Motor Drives
- > Rectifiers
- > Power Supply & Power Conversion

Storage Condition

		Laminate
Storage Condition	Temperature	Room
	Relative Humidity	/

Designation of IMS Laminate



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Properties

Properties		Test Method	Unit	Dielectric thickness	
				150µm	200µm
Thermal Conductivity		ISO 22007-2	W/m*K	14	
Thermal Impedance		ISO 22007-2	°C *in²/W	0.017	0.022
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 2.5.7.2	Volt	4000	6000
Breakdown Voltage	AC	IPC-TM-650 2.5.6.3	KV/mm	6000	8000
Dk @ 1MHz	C-24 / 23 / 50	IPC-TM-650 2.5.5.3	-	5.5	
Df @ 1MHz				0.014	
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	
Peel Strength (1oz)	As received	IPC-TM-650 2.4.8	lb/in	3.5	
CTI	As received	ASTM D3638	Volt	600	
Flammability	As received	UL-94	Rating	V-0	
RTI	Electric	UL-746E	°C	155	
	Mechanical		°C	155	

Note:

- (1) All test data provided are typical values and not intended to be specification values.
- (2) Hi-Pot proof test (600VDC) is performed 100% on the whole working panels (with copper foil). Any higher requirement of Hi-Pot test can be AABUS.
- (3) Breakdown test is a destructive test, which is done on substrate (without copper foil) of a random sample in the FQC laboratory.

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Metal Plate Selection

Alloy Style		Thermal Conductivity (W/mK)	Hardness (HV)	Tensile Strength (MPa)	Density (g/cm ³)	CTE (ppm/°C)	Standard Thickness (mm)
AL	5052H32	138	68	215	2.7	23.8	1.0, 1.5, 2.0, 3.0
	6061T6	167	95	276	2.7	23.6	1.0, 1.5, 2.0
	CTE II	170	45	189	2.7	19.0	1.0, 1.5, 2.0
Cu	C1100	386	95	310	8.9	16.8	1.0, 1.5, 2.0

Remark: Additional thicknesses could be available upon request.

Laminate

Item		Availability
Dielectric Thickness		0.006" (150µm), 0.008" (200µm)
Standard Size	Imperial (inch)	18.11*12.01
	Metric (mm)	460*305
Copper Foil Weight		2oz, 3oz, 4oz, 5oz, 6oz, 9oz, 14oz

Remark: Additional thicknesses could be available upon request.

Surface Finish for Al Plate

Code	Surface Finish
None	Default Brushing
"A"	Anodizing
"ER I"	High Emissivity

Protective Film for Copper Plate

Type	Material	Max Operation Temperature
Standard	PET	170 °C
High Temperature	Polyimide	270 °C