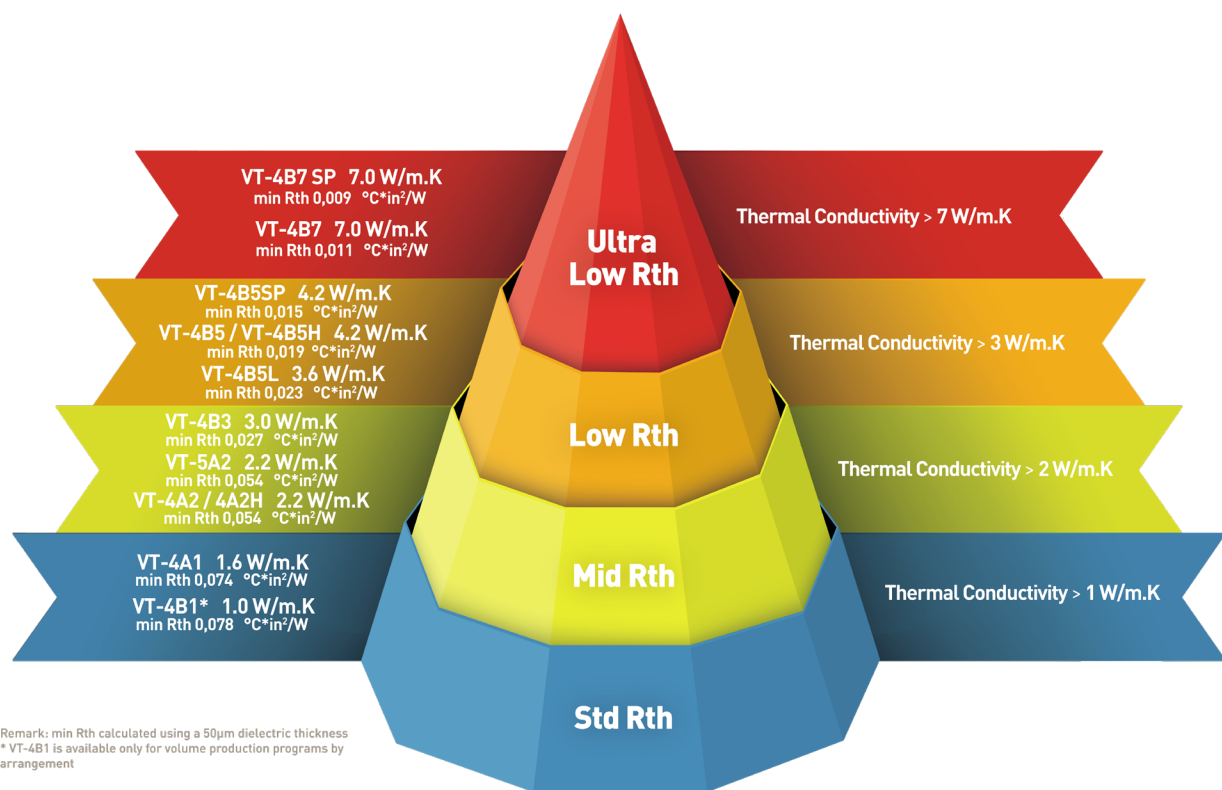


VT-4B1

UL Approval: E214381 Version: B8

Metal Base Laminate (available only for volume production programs by arrangement)



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General Information

- > Thermal conductivity -- 1.0 W/mK
- > Ceramic Filled
- > Halogen Free
- > Flammability UL94 V-0
- > MOT 130°C
- > Super Bending Performance

Application

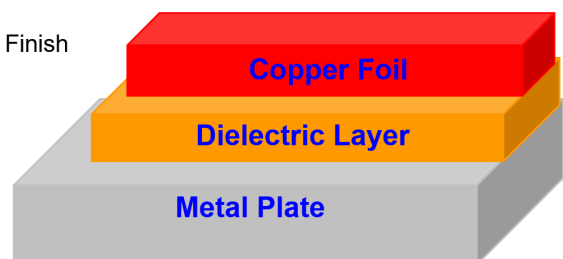
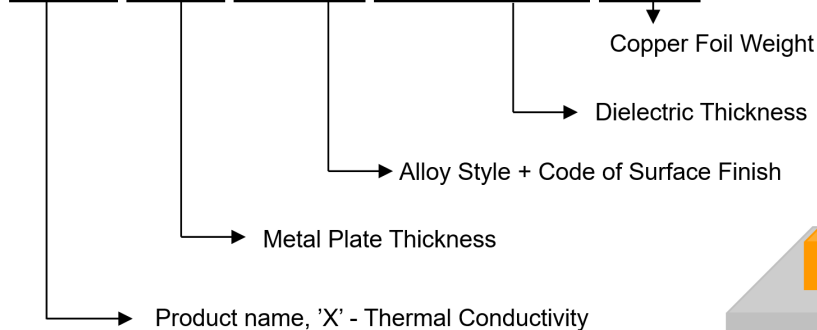
- > 3D Lighting
- > Tail Lights
- > Flex to install

Storage Condition & Shelf Life

		Laminate
Storage Condition	Temperature	Room
	Relative humidity	/
Shelf Life		24 months

Designation of IMS Laminate

VT-4BX 1.0mm Al 1060A .004" Dielectric 1oz Cu



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Laminate Properties

Item	Test Method (IPC-TM-650)	Unit	Dielectric Thickness	
			50µm	100µm
Thermal Conductivity	ISO22007-2	W/m*K	1.0	
Thermal Impedance	ISO22007-2	°C*in ² /W	0.078	0.116
Tg	DSC	2.4.25	°C	
Td	TGA	ASTM D3850	°C	
Thermal Stress	Solder Dip @ 288°C	2.4.13.1	Minute	
Hi-Pot Withstand	DC	2.5.7.2	V	
Breakdown Voltage	AC	2.5.6.3	V	3500 6000
Dk @ 1MHz	C-24 /23 / 50	2.5.5.3	-	
Df @ 1MHz	C-24/ 23 / 50	2.5.5.3	-	
Volume Resistance	After Moisture	2.5.17.1	MΩ-cm	
	E-24/125		5.0E+8	
Surface Resistance	After Moisture	2.5.17.1	MΩ	
	E-24/125		2.0E+7	
Peel strength (1oz)	As Received	2.4.8	Lb/in	11
CTI	As Received	ASTM D3638	V	600
Flammability	As Received	UL 94	Rating	V-0
RTI	Electric	UL 746E	°C	130
	Mechanical		°C	130

(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.

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.

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Availability

Metal Plate Selection

Alloy Style		Thermal Conductivity (W/mK)	Hardness (HV)	Tensile Strength	Density (g/cm ³)	CTE (ppm/°C)	Standard Thickness (mm)
Al	5052H32	138	68	215	2.7	23.8	1.0, 1.5
	1060H24	220	32	117	2.7	23.6	0.8, 1.5
Cu	C1100	386	95	310	8.9	16.8	1.0, 1.5

Remark: Additional thicknesses could be available upon request.

Laminate

Item	Availability	
Dielectric Thickness	.002" (50µm), .004" (100µm)	
Standard Size	Imperial (inch)	18.11*24.02, 20.08*24.02, 20.98*24.02
	Metric (mm)	460*610, 510*610, 533*610
Copper Foil Weight	Hoz, 1oz, 2oz	

Remark: Additional options could be available upon request.

Surface Finish for Aluminum (Al) Plate

Code	Surface Finish
None	Default Brushing
"A"	General Anodizing

Protective Film for Metal Plate

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

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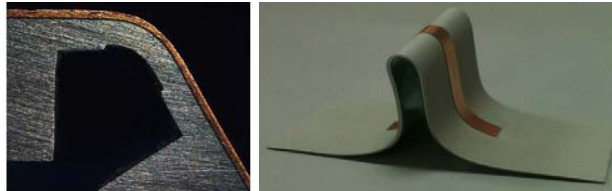
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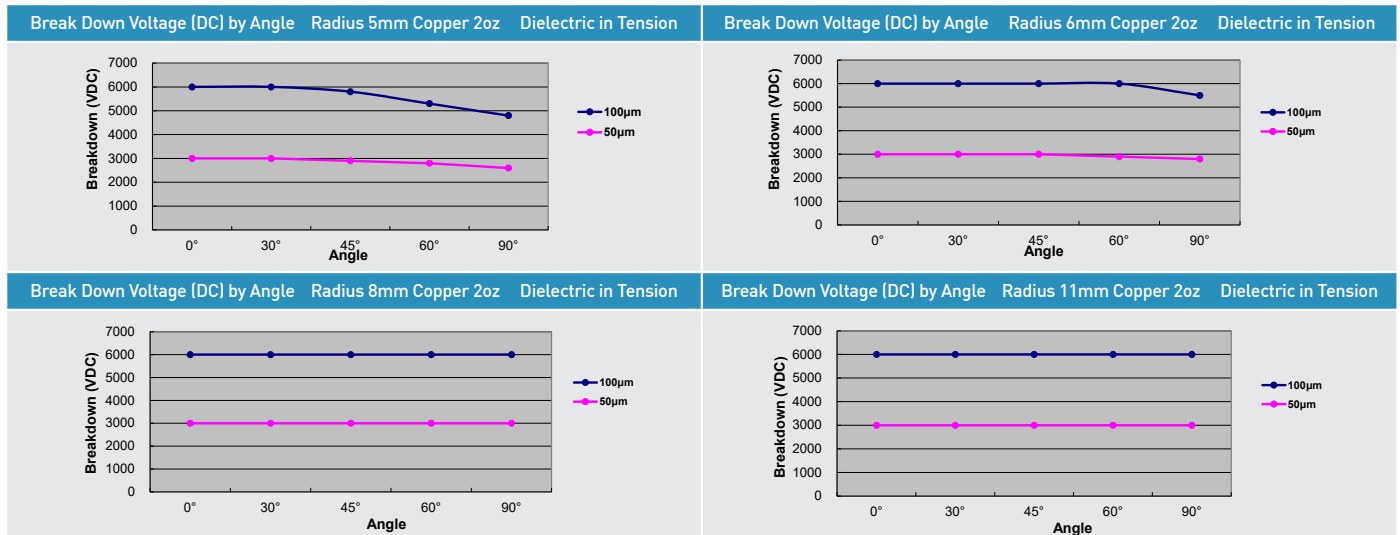
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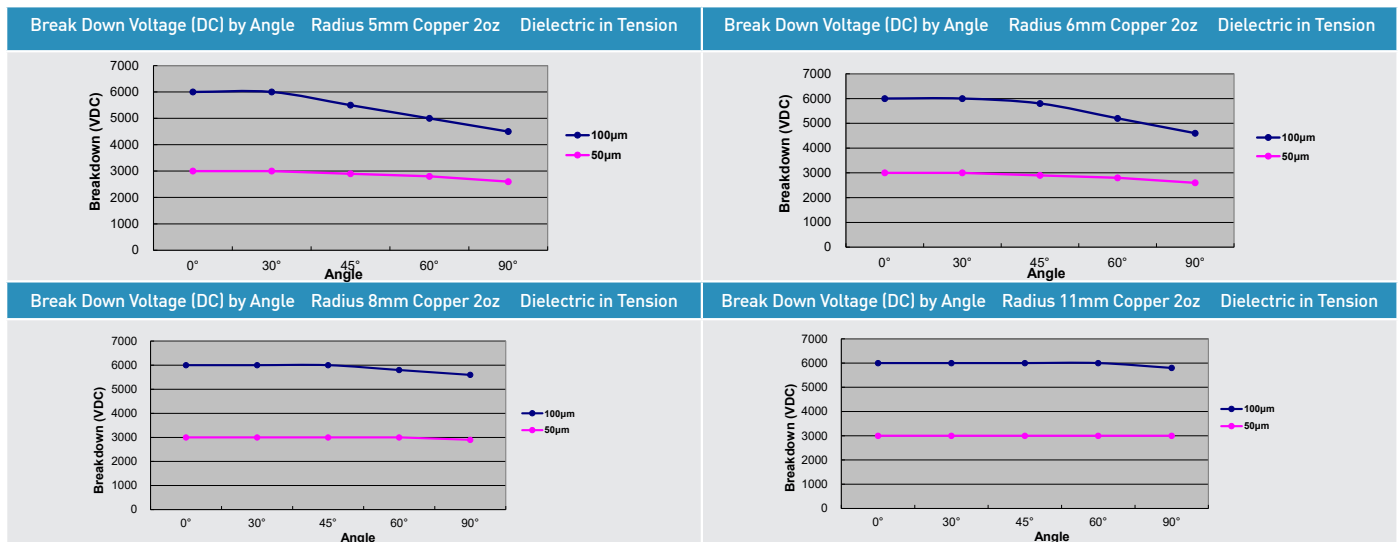
Bending Performance



Back Side Milling (Dielectric in tension)



Direct Rolling (Dielectric in tension)



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