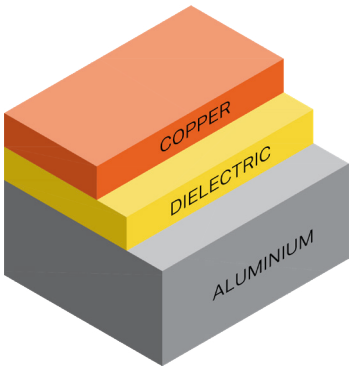
COBRITHERM HTC 3,2W (90µm–130µm)

Data Sheet DS_21 1/2

STANDARD CONSTRUCTION



*Other constructions available upon request

ED copper thickness µm (in)
35 (1oz) / 70 (2oz) / 105 (3oz)

Isolation thickness µm (in)
90 (3,5) / 130 (5)

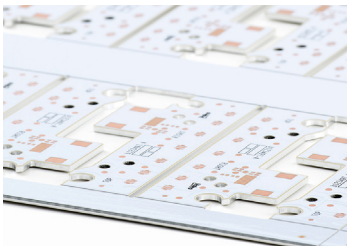
Dielectric thickness tolerance
+/- 10µm (+/- 0,4 mils)

Aluminium thickness µm (in)
800 (0,031) / 1000 (0,0394) / 1200 (0,047) / 1500 (0,059) / 2000 (0,079) / 2500 (0,098) / 3000 (0,12) **Alloy/Treat** 5052

DESCRIPTION

Insulated Metal Substrate (IMS), based aluminum clad with ED copper foil on the opposite side. It is designed for the reliable thermal dissipation of circuitry. A proprietarily formulated reinforced-polymer-ceramic bonding layer with a high thermal conductivity of 3.2W/m°K and high dielectric strength allows us to guarantee thermal dissipation from electronic components to the aluminum base in fast and efficient way. High MOT values guaranty the reliability of the laminate.
The entire COBRITHERM range is 100% proof test guaranteed. AISMALIBAR tests the isolation in between the copper and aluminum layers under high voltage.
Ideal for power moduls, IGBTS and automotive power train.

(1) Electrical proof test . 100% of our laminate production delivered, has been "on line" verified at 1000/3000 Vdc: (90µm / 130µm respectively)



UL Approved QMTS2
QMTS8 File: E47820
IPC-4101

RoHS 3 / REACH
Last updated compliance directive

PROPERTIES*	TEST METHOD	UNITS	TYPICAL VALUES	GUARANTEED VALUES
Time to blister at 288°C, floating solder bath	IEC-61189	Sec	>120	≥60
Copper Peel strength, after heat shock 20 sec/288°C (Cu 70 µm)	IPC-TM 650-2.4.8	N/mm (Lb/in)	2,8 (16,0)	≥1,8 (≥10,3)
Dielectric breakdown voltage, AC (1) (130 µm)	IPC-TM 650-2.5.6.3	kV	7	6
Dielectric breakdown voltage, AC (1) (90 µm)	IPC-TM 650-2.5.6.3	kV	4,5	4
Proof Test, DC (130 µm)	-	V	3000	3000
Proof Test, DC (90 µm)	-	V	1000	1000
Thermal conductivity (dielectric layer)	ASTM-D 5470	W/mK (W/inK)	3,20 (0,081)**	3,00 (0,076)**
Thermal impedance (dielectric layer) HTC 90 µm	ASTM-D 5470	Kcm²/W (K inc2/W)	0,28 (0,044)**	0,30 (0,046)**
Thermal impedance (dielectric layer) HTC 130 µm			0,41 (0,063)**	0,43 (0,067)**
Surface resistance after damp heat and recovery	IEC-61189	MΩ	10^5	10^5
Volume resistivity after damp heat and recovery	IEC-61189	MΩm	10^4	10^4
Relative permittivity after damp heat and recovery, 1 GHz (2)	IPC-TM 650-2.5.5.9	-	5,2	5,2
Dissipation factor after damp heat and recovery 1 GHz (2)	IPC-TM 650-2.5.5.9	-	0,015	0,015
Comparative tracking index (CTI)	IEC-61112	V	600	600
Flammability, according UL-94, class	UL-94	Class	V-0	V-0
Glass transition temperature of dielectric layer (by TMA)	IPC-TM 650-2.4.24	°C	120	120
Maximum operating temperature	--	°C	150	150

(*) Values or parameters measured with a destructive method or limited size for the test sample must be considered as a representative values, and not as guaranteed values. They are not guarented over 100% of the material.
(**)Thermal conductivity and Impedance values may have a +/- 15% deviation.
(1) Dielectric Breakdown test, it is a material destructive laboratory test. It is performed according the IPC-TM-650 part 2.5.6.3., by raising AC voltage until electric failure on a relatively small surface area of the dielectric layer using metal electrodes. Values should be taken as a material reference, and not as guaranteed values.
(2) Calculated values for dielectric 130 µm.

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AVAILABILITY	
STANDARD SHEET SIZES mm. (in)	1175x1065 (46'2x41'9), 1225x925 (48'2x36'4), 1215x1015 (47,8x39,9) (Also available in cut to size panels
Tolerance mm (in)	+5/-0 mm (0,2 in)
Squareness mm (in)	3 mm (0,12 in) max., as differential between diagonal measurements.
Standard size tolerance in panels mm(in)	+- 0,3 mm. (0,0118 in)

The data is based on typical values of standard production and should be considered as general information. Our company reserves the right to future changes. It is the responsibility of the user to ensure that the product complies with his requirements.

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