COBRITHERM®

AISMALIBAR

DATA SHEET DS_1105

COBRITHERM HTC 2W (PROOF TEST 3000V)

DESCRIPTION

Insulated Metal Substrate (IMS), based on thick aluminium and clad with ED copper foil in the other side. It is designed for a reliable thermal dissipation circuitry. With a proprietary formulated reinforced-polymer-ceramic bonding layer with a high thermal conductivity, dielectric strength, and thermal endurance is guaranteed. The material is supplied with a protective film on the aluminium side to protect it against wet PCB process

ROHS compliance directive 2002/95/EC and REACH Nº 1907/2006

STANDARD CONSTRUCTIONS

Aluminium thickness, µm	1000 - 1500 - 2000 - 3000	Aluminium Alloy / Treat	5052
Insulation thickness, µm	130	Dielectric thickness tolerance	± 10 µm
ED copper thickness, µm	35 - 70 - 105		
Other constructions available upon request			
UL Approved , QMTS2 File: E47820			

(1) Electrical proof test. 100% of our laminate production delivered, has been "on line" verified at 3000 V_{dc}: 500 V/sec. ramp // 5sec. held at 3000 V_{dc}.

PROPERTIES 1500 µm Al / 130 µm dielectric /70 µm Cu	TEST METHOD	UNITS	TYPICAL VALUES	Guaranteed values
Time to blister at 288ºC, floating on solder (50 x 50 mm)	IEC-61189	Sec	>120	>60
Copper Peel strength, after heat shock 20 sec/288ºC	IPC-TM 650-2.4.8	N/mm	2,8	>1,8
Dielectric breakdown voltage, AC **(1)**	IPC-TM 650-2.5.6.3	kV	8	7
Proof Test, DC **(2)**	--	V	3000	3000
Thermal conductivity (dielectric layer)	ASTM-D 5470	w/m.ºK	2,20	2,00
Thermal impedance (dielectric layer) x 10^{-3}	ASTM-D 5470	ºK.m^2/w	0,059	0,065
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 permitivity after damp heat and recovery, 10 kHz	IEC-61189	-	4,5	4,5
Dissipation factor after damp heat and recovery 10 kHz	IEC-61189	-	0,02	0,02
Comparative tracking index (CTI)	IEC-61112	V	600	>550
Capacitance	--	pF/cm²	46	46
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	ºC	90	90
Maximum operating temperature	--	°C	150	150

(2) Dielectric Breakdown test, is a material destructive laboratory test. It is performed according the IPC-TM-650 part 2.5.6.3., under AC voltage, raising it until electric failure, on relative small surface area of the dielectric part, and using metal electrodes. Values should be taken as a material reference, and not as guaranteed values.

AVAILABILITY	
STANDARD SHEET SIZES mm.	1220x930, 610x460, 1060x1170, 1210x1000 mm (Also available in cut panels)
Tolerance	+5/-0 mm.
Squareness	3 mm max., as differential between diagonal measurements.
Standard size tolerance in panels	+- 0,3 mm.

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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