COBRITHERM®

DATA SHEET

COBRITHERM HTC 4.0W 50µ ULTRA THIN LAYER (PROOF TEST 750V)

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 polymer-ceramic ultra thin bonding layer with high thermal conductivity and dielectric strength allows us to guarantee thermal endurance.

The material is supplied with a film on the aluminum side to protect it against wet PCB processes. ROHS compliance directive 2002/95/EC and REACH Nº 1907/2006

STANDARD CONSTRUCTIONS

Aluminum thickness m (in)	1000(0.039) - 1500(0.059)	Aluminum Allov / Treat	5052	
Aluminum mickness, m (m)	1000 (0.000) 1000 (0.000)	/ animani/ moy / meat	0002	
Insulation thickness m	50 micron (2 mils)	Dielectric thickness tolerance	± 15 micron (0.6 mile)	
		Dicicotite thickness tolerance	\pm 15 micron (0,0 mis)	
ED copper thickness. m	35 (1oz) – 70 (2oz) – 105 (3oz) -			
	210 (60Z)			
Other constructions available upon request				
UL Approved , QMTS2, QMTS	S8 File: E47820	IPC 4101		

Electrical proof test. 100% of our laminate production delivered, has been "on line" verified at 750v V_{dc}: 500 V/sec. ramp // 5sec.

PROPERTIES 1500 m Al / 35 m dielectric /70 m Cu	TEST METHOD	UNITS	TYPICAL VALUES	Values
Time to blister at 288°C, floating on solder (50 x 50 mm)	IEC-61189	Sec	>120	>60
Copper Peel strength, after heat shock 20 sec/288°C	IPC-TM 650-2.4.8	N/mm (Lb/in)	1,2 (16,0)	>1,0 (>10,3)
Dielectric breakdown voltage, AC (2)	IPC-TM 650-2.5.6.3	kV	2,5	>2,0
Proof Test, DC (1)		V	750	750
Thermal conductivity (dielectric layer)	ASTM-D 5470	W/mK (W/inK)	4,1 (0,104)	4,00 (0,102)
Thermal impedance (dielectric layer)	ASTM-D 5470	Kcm ² /W (Kin ² /W)	0,08 (0,013)	0,09 (0,014)
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.

(2) Dielectric Breakdown test is a material destructive laboratory test. It is performed according the IPC-TM-650 part 2.5.6.3., by using

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.

AVAILABILITY	
STANDARD SHEET SIZES mm	1225x925 (48,22x36,21), (Also available in cut to size panels)
Tolerance mm (inch) in sheets	+5/-0 (+0,2/-0,0000)
Squaring mm (inch) in sheets	3 (0,1181) max., as differential between diagonal measurements.
Standard size tolerance in panels	+- 0,3 (+/- 0.0118)
mm (inch)	

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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