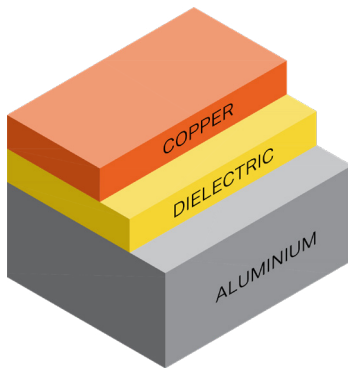


COBRITHERM ULTRATHIN 3,2W 35µm 1000V DC

Data Sheet DS_12

STANDARD CONSTRUCTION



ED copper
thickness µm (in)
 35 (1oz) / 70 (2oz)
 105 (3oz) 140 (4oz)

Isolation
thickness µm (in)
 35 (1,37 mils)

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

Aluminium
thickness µm (in)
 1000 (0.039) / 1500 (0.059)

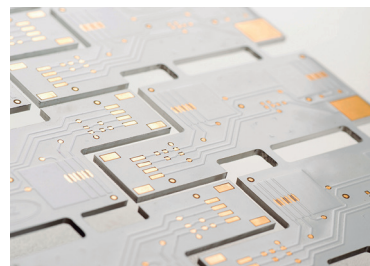
Alloy/Treat
 5052

*Other constructions available upon request

DESCRIPTION

Insulated Metal Substrate (IMS), based aluminum clad with ED copper foil on the opposite side. It's designed for the reliable thermal dissipation of circuitry. Ultrathin 35 micron is the ideal IMS for extremely high needs on thermal dissipation. Its 35 micron layer achieve externally low thermal resistance. A proprietary formulated polymer-ceramic ultra-thin bonding layer with high thermal conductivity and dielectric strength allows us to guarantee thermal endurance. 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 automotive head lights, best thermal performance, complies with automotive reliability tests.

(1) Electrical proof test.100% of our laminate production delivered, has been "on-line" verified at 1000V DC



UL Approved QMST2
 QMST8 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)	2,0 (11,4)	≥1,5 (≥8,56)
Dielectric breakdown voltage, AC (2)	IPC-TM 650-2.5.6.3	kV	3	2,5
Proof Test, DC (1)	--	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 35 µm	ASTM-D 5470	Kcm²/W (Kin²/W)	0,11 (0,017) **	0,12 (0,018) **
Thermal conductivity (pack Al/dielec/Cu/1,5/35/35)	ASTM-D 5470	W/mK (W/inK)	70,9 (1,801) **	68,7 (1,74) **
Thermal impedance (pack Al/dielec/Cu/1,5/35/35)	ASTM-D 5470	Kcm²/W (Kin²/W)	0,221 (0,034) **	0,229 (0,035) **
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, 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	600
Permittivity	--	pF/m (pF/in)	6,7 (39,4)	6,7 (39,4)
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 guaranteed over 100% of the material.

(**) Thermal Conductivity and Impedance values may have a +/- 15% deviation.

(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. (in)	1270x1025 (50x40), 1225x925 (48'22x36'41) , (Also available in cut to size panels)
Tolerance mm (in)	+5/-0 (+0,2/-0,0000)
Squareness mm (in)	3 mm (0,12 in) max., as differential between diagonal measurements.
Standard size tolerance in panels mm(in)	+ - 0,3 mm. (0,12 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.