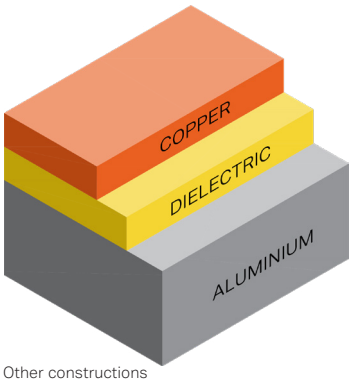
COBRITHERM ALCUP 1,8W (100µm–120µm)

Data Sheet DS_09 1/2

STANDARD CONSTRUCTION



Other constructions available upon request

ED copper thickness µm (in)
35 (1oz) / 70 (2oz)
105 (3oz) / 210 (6oz)

Isolation thickness µm (in)
100 (3,9) / 120 (4,7)

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

Aluminium thickness µm (in)
800 (0,031) / 1000 (0,039) / 1200 (0,047) / 1500 (0,059) / 2000 (0,078) / 2500 (0,098) / 3000 (0,12)

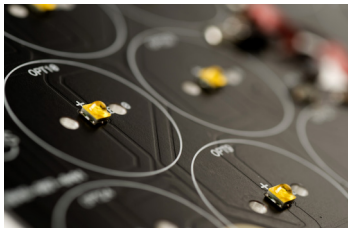
Alloy/Treat 5052/ 6061

DESCRIPTION

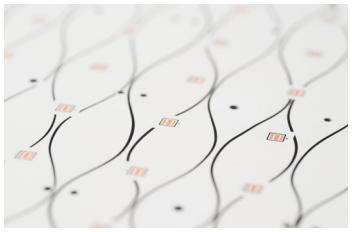
Insulated Metal Substrate (IMS), based aluminum clad with ED copper foil on the opposite side. It is designed for the reliable thermal dissipation of circuitry. A proprietarily formulated reinforced-polymer-ceramic bonding layer with a high thermal conductivity and dielectric strength allows us to guarantee thermal endurance.
This substrate has a thermal conductivity of 1.8 W / m ° K, being ideal for 2W LEDs lighting. Alcup is ideal for mid-range thermal dissipation and mass production.
The entire COBRITHERM range is 100% proof test guaranteed. AISMALIBAR tests the insulation in between the copper and aluminum layers under high voltage.

(1) Electrical proof test 100% of our laminate production delivered, has been “on-line” verified

Source: Product by LAMP



Source: Product by LAMP



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 (2) (120µm)	IPC-TM 650-2.5.6.3	kV	7	≥5
Dielectric breakdown voltage, AC (2) (100µm)	IPC-TM 650-2.5.6.3	kV	5	≥4
Proof Test, DC (3) (120µm)	--	V	2000	2000
Proof Test, DC (3) (100µm)	--	V	1000	1000
Thermal conductivity (dielectric layer)	ASTM-D 5470	W/mK (W/inK)	1,80 (0,045)**	1,60 (0,040)**
Thermal impedance (dielectric layer) AlCuP 100µm	ASTM-D 5470	Kcm^2/W (Kin^2/W)	0,56 (0,086)**	0,62 (0,097)**
Thermal impedance (dielectric layer) AlCuP 120µm			0,67 (0,103)**	0,75 (0,116)**
Surface resistance after damp heat and recovery	IEC-61189	MΩ	10^5	10^5
Volume resistance after damp heat and recovery	IEC-61189	MΩm	10^4	10^4
Relative permitivity after damp heat and recovery, 1 GHz (5)	IPC-TM 650-2.5.5.9	-	5,2	5,2
Dissipation factor after damp heat and recovery 1 GHz (5)	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 DSC)	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, 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.
(3) ≥ 210 µm not available
(4) Dielectric thickness tolerances with Cu 210 µm construction: +/- 15 µm.
(5) 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)	+/- 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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