

DESCRIPTION

Insulated Metal Substrate (IMS), based aluminium clad with RA copper foil on one or both sides. It is designed for the reliable thermal dissipation of circuitry.

FLEXTHERM is ideal for conformable MPCB manufacturing. It can be bent after MPCB production while maintaining the initial dielectric strength in between conductive layers (Al and Cu).

SPECIFICATIONS

- Withstands Lead Free Soldering process
- Excellent for high temperature components applications
- Extremely low thermal impedance
- V-0 Granted
- Halogen Free
- High MOT values
- Produced with RA copper to grant conformable properties

The material is supplied with a film on the aluminium side to protect it against wet PCB processes.

ROHS compliance directive 2002/95/EC and REACH N° 1907/2006

STANDARD CONSTRUCTIONS

Aluminium thickness, µm (inch)	800 (0,032) - 1000 (0,039)– 1500 (0,059)	Aluminium Alloy / Treat	1050-3003 -5052-5754
Insulation thickness, µm	25 (0,98 mils) -35 (1.38 mils)	Dielectric thickness tolerance	+ 3 µm (0.1 mils)
RA copper thickness, µm	35 (1oz) – 70 (2oz)		
Other constructions available upon request			

PROPERTIES	TEST METHOD	UNITS	TYPICAL VALUES	Guaranteed values
1500 µm Al / 25 µm dielectric / 35 µm Cu				
Time to blister at 288°C, floating on solder (50 x 50 mm)	IEC-61189	sec	>60	>30
Copper Peel strength, after heat shock 20 sec/288°C	IPC-TM 650-2.4.8	N/mm (Lb/inch)	1,5 (16,0)	>1,0 (>10,3)
Dielectric breakdown voltage, AC (1) Flextherm 25µm	IPC-TM 650-2.5.6.3	kV	2	2
Dielectric breakdown voltage, AC (1) Flextherm 35µm			4	4
Thermal conductivity (dielectric layer)	ASTM-D 5470	W/mK (W/in·K)	0,7 (0,018)	0,6 (0,015)
Flammability, according UL-94, class	UL-94	Class	V-0	V-0
Thermal Impedance °C·m ² /watt Flextherm 25 µm	Calculated	Kcm ² /W (K in ² /W)	0,36 (0,055)	0,42 (0,065)
Thermal Impedance °C·m ² /watt Flextherm 35 µm			0,50 (0,078)	0,58 (0,090)
Maximum Operational Temperature		°C	140	130
Aluminium Thermal Conductivity	ASTM-D 5470	W/mK	135	130
Copper Thermal Conductivity	ASTM-D 5470	W/mK	375	380

AVAILABILITY	
Standard Panel Size mm (inch)	610x460 (24x18) 600x500 (23,5x20)
Sheet size tolerance mm (inch)	+5/-0 (+0.2/-0,0000)
Squareness mm (inch)	1,5 (0,1181) max., as differential between diagonal measurements.
Standard panel tolerance mm (inch)	+/- 0,3 (+/- 0.0118)

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.