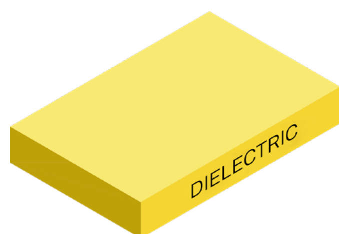
COBRITHERM BOND SHEET HTC 3,2W Glass Free

Data Sheet DS_121

STANDARD CONSTRUCTION



Isolation thickness µm (mils)
75 (2,95) 100 (3,9) 120 (4,72)
Dielectric thickness tolerance
+ 10µm (+/- 0,4 mils)

DESCRIPTION

B-stage thermally conductive dielectric prepreg glass free.

It is based on epoxy ceramic chemistry and intended for effective bonding between multilayer circuits (PCB) and metal heat spreaders. Its high dielectric strength and resistance to thermal shocks added to its high thermal conductivity assures effective heat dissipation in critical power PCBs. The HTC 3,2W GF is delivered with a transparent film carrier easy to remove.

L Approved QMTS2
File: E47820
IPC-4101

RoHS 3 / REACH
Last updated compliance directive

PROPERTIES	TEST METHOD	UNITS	GUARANTEED VALUE	
Time to blister at 288ºC, floating on solder (50 x 50 mm)	IEC-61189	Sec	60	
Copper Peel strength, after heat shock 20 sec/288ºC (Cu 70 µm)	IPC-TM 650-2.4.8	N/mm (Lb/in)	1,2 (6,8)	
Dielectric breakdown voltage, AC (1)	IPC-TM 650-2.5.6.3	kV	75µm	2,5
			100µm	4,0
			120µm	5,0
Thermal conductivity (dielectric layer)	ASTM-D 5470	W/mK (W/inK)	3,2 (0,081) *	
Thermal resistance			75µm	0,027 *
			100µm	0,036 *
			120µm	0,043 *
Surface resistance after damp heat and recovery	IEC-61189	MΩ	-	
Volume resistivity after damp heat and recovery	IEC-61189	MΩm	-	
Relative permittivity after damp heat and recovery, 10 kHz	IEC-61189	-	-	
Dissipation factor after damp heat and recovery 10 kHz	IEC-61189	-	-	
Comparative tracking index (CTI)	IEC-61112	V	600	
Water absorption	IPC-TM 650-2.6.2.1	%	≤ 0,5	
Flammability, according UL-94, class	UL-94	Class	V-0	
Glass transition temperature of dielectric layer (by DSC)	IPC-TM 650-2.4.24	ºC	120	

PROVISIONAL

(*) Thermal conductivity and impedance values may deviate by up to +/- 15%.
(1) The Dielectric Breakdown test is conducted in a laboratory setting according to IPC-TM-650 part 2.5.6.3. It involves applying AC voltage until electrical failure occurs on a relatively small area of the dielectric layer using metal electrodes. These values serve as material references and should not be construed as guaranteed.
The data is based on typical values from standard production and is provided for general informational purposes. Our company reserves the right to make future changes. It is the responsibility of the user to ensure that the product meets their requirements.

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PROCESS RECOMMENDATIONS
PREPREG STORAGE Store preferably in the original unopened package or sealed by tape. Keep storage climate conditions below 24ºC and 55% relative humidity. In the event of storing under very low warehouse temperatures give some time for the packed prepreg to stabilize to room temperature before opening. Keeping the above mentioned storage conditions and avoiding prepreg damage by humidity uptake will give a useful life of 3 months after production date.
PRESS CYCLE Resin and prepreg parameters have been adjusted for low flow performance. This means they are suitable for heating rates around 3 to 7ºC/min, and specific pressures between 18-22 bars. Vacuum applied during press cycle is mandatory for optimal performance. Use of synthetic thermal resistance pads should be test choice. Curing temperature cycle is 1 hour of material temperature over 190ºC.
METAL SURFACE PREPARATION Aluminium is supplied with mechanical treatment and special primer in order to guarantee the correct adherence in the ML process.

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