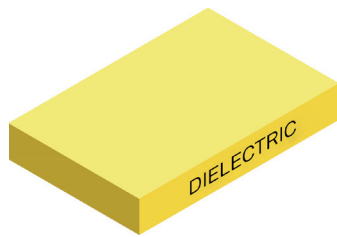


## BOND SHEET HTC 2,2W (70µm–80µm–100µm)

Data Sheet DS\_27

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## STANDARD CONSTRUCTION



**Isolation thickness µm (mils)**  
70 (2,8) 80 (3,1) 100 (3,9)  
**Dielectric thickness tolerance**  
+ 10µm (+/- 0,4 mils)

\*Other constructions available upon request

## DESCRIPTION

B-stage dielectric prepreg glass reinforced with high thermal conductivity. 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 circuitry.



UL Approved QMST2  
File: E47820  
IPC-4101



RoHS 3 / REACH  
Last updated compliance directive



PROPERTIES	UNITS	TOLERANCE	GUARANTEED VALUES		
			A	B	C
Nominal thickness (pressed)	µm (mils)	+/- 10µm (0,4mils)	70 (2,8)	80 (3,15)	100 (4,0)
Area weight	g/m <sup>2</sup> (Lb/mils <sup>2</sup> )	+/- 10g/m <sup>2</sup> (14 Lb/mils <sup>2</sup> )	145 (203)	185 (259)	225 (315)
Glass fabric 106	g/m <sup>2</sup> (Lb/mils <sup>2</sup> )	+/- 1,0g/m <sup>2</sup> (1,4 Lb/mils <sup>2</sup> )	24,4 (34,8)	24,4 (34,8)	-
Glass fabric 1078	g/m <sup>2</sup> (Lb/mils <sup>2</sup> )	+/- 2,0g/m <sup>2</sup> (2,8 Lb/mils <sup>2</sup> )	-	-	46,8 (66,4)
Resin melting temperature	°C	-	90-100	90-100	90-100
Prepreg shelf life (see storage recommendations)	months	-	3	3	3

PREPREG once applied (1)	UNITS	TYPICAL VALUES	GUARANTEED VALUES
Time to blister at 288°C, floating solder bath	sec	>120	60
Copper Peel strength Cu70 µm (2oz)	N/mm (Lb/in)	2,8 (16,0)	>1,8 (>10,3)
Thermal conductivity (dielectric layer)	W/mK (W/inK)	2,20 (0,056)**	2,00 (0,051)**
Thermal impedance (dielectric layer) HTC 70µm	Kcm <sup>2</sup> /W (Kin <sup>2</sup> /K)	0,32 (0,049)**	0,35 (0,054)**
Thermal impedance (dielectric layer) HTC 80µm	Kcm <sup>2</sup> /W (Kin <sup>2</sup> /K)	0,36 (0,056)**	0,40 (0,062)**
Thermal impedance (dielectric layer) HTC 100µm	Kcm <sup>2</sup> /W (Kin <sup>2</sup> /K)	0,45 (0,070)**	0,50 (0,078)**
Comparative tracking index (CTI)	V	600	>550
Permittivity	pF/m (pF/in)	6,7 (39,4)	6,7 (39,4)
Relative permittivity after damp heat and recovery, 10 kHz	MΩ	5,2	5,2
Dissipation factor after damp heat and recovery 10 kHz	MΩm	0,015	0,015
Dielectric breakdown voltage, (1)	kV/100µm dielectric layer	≥6	≥6
Flammability, according UL-94, class	class	V-0	V-0
Glass transition temperature of dielectric layer ( by TMA)	°C	120	120

(1) Pressed under vacuum, temperature and pressure (see cycle below), between thick aluminium sheet (alloy 5052), and ED copper foil 70µm

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

## DELIVERY FORM

In cut to size sheets upon request.

**BOND SHEET HTC 2,2W (70µm–80µm–100µm)**

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**PROCESS RECOMMENDATIONS****PREPREG STORAGE**

Store preferably in the original unopened package or sealed by tape. Keep storage climate conditions below 24°C 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 7°C/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 190°C.

**METAL SURFACE PREPARATION**

Aluminium is supplied with mechanical treatment and special primer in order to guarantee the correct adherence in the ML process.

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.