Teflon woven glass fabric copper-clad laminates with high permittivity F4BME-1/2

F4BME-1/2 is laminated by laying up of the varnished glass cloth with Teflon resin and Polytrtrafluoroethylene(PTFE) film , according to the scientific formulation and strict technology process. This product takes some advantages over F4BM series in the electrical performance and the passive intermodulation indicators increased.

Technical Specifications :

Appearance	Meet the specification requirements for the laminate of microwave PCB by National and Military Standards.					
Types	F4BME217	F4BME220	F4BME245	F4BME255	F4BME265	F4BME275
	F4BME285	F4BME295	F4BME300	F4BME320	F4BME338	
Dimension (mm)	300×250 380×350 440×550 500×500 460×610 600×500 840×840 840×1200 1500×1000					
	For special dimension , customized laminates is available.					
Thickness and Tolerance(mm)	Laminate thickness	0.25	0.5	0.8	1.0	
	Tolerance	±0.025	±0.05	±0.05	±0.05	

www.ipcb.com

	Laminate thickness	1.5	2.0	3.0	4.0	5.0
	Tolerance	±0.05	±0.075	±0.09	±0.10	±0.10
	Laminate thickness	6.0	8.0	10.0	12.0	
	Tolerance	±0.12	±0.15	±0.18	±0.20	
	The laminate thickness includes the copper thickness. For special dimension，customized laminates is available.					

Mechanical Strength	Warp	Thickness（mm）	Maximum Warp		
			Original board	Single side	Double side
		0.25～0.5	0.030	0.050	0.025
		0.8～1.0	0.025	0.030	0.020
		1.5～2.0	0.020	0.025	0.015
		3.0～5.0	0.015	0.020	0.010
	Cutting/punching Strength	Thickness□1mm，no burrs after cutting，minimum space between two punching holes is 0.55mm，no delamination.			
		Thickness□1mm，no burrs after cutting，minimum space between two punching holes is 1.10mm，no delamination.			

www.ipcb.com

	Peel strength (1oz copper)	Normal state : ≥16N/cm ; No bubble、delamination、peel strength≥12N/cm (in the constant humidity and temperature、and keep in the melting solder of 260℃±2℃ for 20 seconds) .			
Chemical Property	According to the properties of laminate , the chemical etching method for PCB can be used. The dielectric properties of laminate are not changed. The plating through hole can be done ,but the sodium treatment or the plasma treatment must be used. The Hot Air Level temperature can not be higher than 253℃ , and can not be repeated.				
Electrical Property	Name	Test condition	Unit	Value	
	Density	Normal state	g/ cm3	2.1 ~ 2.35	
	Moisture Absorption	Dip in the distilled water of 20±2℃ for24 hours	%	≤0.08	
	Operating Temperature	High-low temperature chamber	℃	-50℃ ~ +260℃	
	Thermal Conductivity		W/m/k	0.3~0.5	
	CTE (typical)	0 ~ 100℃ (εr : 2.1~2.3)	ppm/℃	25 (x)	
				34 (y)	

www.ipcb.com

					240 (z)
	CTE (typical)	0 ~ 100℃ (εr ：2.3~2.9)		ppm/℃	16 (x) 21 (y) 173 (z)
	CTE (typical)	0 ~ 100℃ (εr ：2.9~3.5)		ppm/℃	12 (x) 15 (y) 95 (z)
	Shrinkage Factor	2 hours in boiling water		%	☐ 0.0002
	Surface Resistivity	500V DC	Normal state	M·Ω	≥1×105
			Constant humidity and temperature		≥1×104
	Volume Resistivity	Normal state		MΩ.cm	≥6×106
		Constant humidity and temperature			≥1×105
	Surface dielectric strength	Normal state		d=1mm (Kv/mm)	≥1.2
		Constant humidity and temperature			≥1.1

www.ipcb.com

	Dielectric Constant	10GHZ	εr	2.17，2.20，2.45，2.55，2.65，2.75，2.85，2.95，3.0，3.2，3.38（±2%）	
	Dissipation Factor	10GHZ	tgδ	2.17□2.2	≤1×10-3
				2.45□3.0	≤1.5×10-3
	PIMD	2.5 GHZ	dbc	□-158	

Please visit our website https://www.ipcb.com

iPcb.com Products:

Radio/Microwave/Hybrid High Frequency , FR4 Double/Multi-Layer , 1~3+N+3 HDI , Anylayer HDI , Rigid-Flex , Blind Buried, Blind Slot , Backdrilled , IC ,Heavy Copper Board and etc.

*Any question,Don't hesitate to contact us through www.ipcb.com, We will get back to you as soon as possible.

*Send inquiry to sales@ipcb.com directly