METCLAD
INTERNATIONAL CORP

FAMILY MHST

MHST is our low cost, low loss, high performance, metal clad laminate family specifically designed for RF and microwave applications. They are available with standard dielectric constants (3.00, 3.20, 3.38, 3.48, 3.50). Other non-standard dielectric constants are available in the range of 2.94 to 3.50. They are manufactured from ceramic filled woven glass reinforced PTFE. The percentage of PTFE is very tightly controlled to accurately maintain the specified value of dielectric constant, loss and thickness. Metclad **MHST** laminates are tested in accordance with IPC-TM-650 and meet the requirements of IPC-L-125A. This material is available in a range of dielectric and cladding thicknesses.

DK	2.94	3.00	3.20	3.26	3.38	3.48	3.50
DF	.0022	.0023	.0024	.0025	.0025	.0030	.0030

Typical Parameter	Test Method	Typical Value
Dielectric Constant at 10GHz	IPC-TM-650, 2.5.5.5	see above
Tolerance		± 0.04
Dissipation Factor at 10GHz	IPC-TM-650, 2.5.5.5	see above
Intermodulation Performance		n/a
Dielectric Breakdown	IPC-TM-650, 2.5.6	45kV
Volume Resistivity	IPC-TM-650, 2.5.17.1	10^8MΩ/cm
Surface Resistivity	IPC-TM-650, 2.5.17.1	10^7MΩ
Arc Resisance	ASTM D-495	180 sec
Flexural Strength Lengthwise	IPC-TM-650, 2.4.4	23,000 lbs/in
Flexural Strength Crosswise	IPC-TM-650, 2.4.4	19,000 lbs/in
Copper Peel Strength	IPC-TM-650, 2.4.8	
(18, 35 and 70µm copper)		13 lbs/in
After Thermal Shock (30s at 260˚C)		12 lbs/in
Moisture Absorption	IPC-TM-650, 2.6.2.1	0.08%
Specific Gravity	ASTM D-792, A	2.459 g/cm^3
Thermal Conductivity	ASTM E-1225	0.230 W/m/K
Coefficient of Thermal Expansion (CTE)	IPC-TM-650, 2.4.41	
X		9 ppm/˚C
Y		12 ppm/˚C
Z		71 ppm/˚C
Flamibility	IPC-TM-650, 2.3.10	V-0

The above represents typical values. As a policy of continuous improvement, Metclad International Corp. reserves the right to change specifications at any time.