

rev:032520

Properties	Test Method	Standard Dk			High Dk		Low Df
		MC24M	MC12M	MC8M	MC12TM	MC8TM	MC25L
Dielectric Thickness, μm	Nominal	22	12	8	12	8	25
Cp @ 1 MHz, nF/in ² (pF/cm ²)	Nominal	1.2 (186)	2.0 (320)	3.1 (480)	4.2 (650)	6.5 (1010)	0.9 (130)
Dk (Dielectric Constant) @ 1 MHz/1 GHz	Mitsui Method	4.4/3.5	4.4/3.5	4.4/3.5	10.0/9.5	10.5/10.0	3.9/3.8
Df (Loss Tangent) @1 MHz/1 GHz	Mitsui Method	0.015/0.016	0.015/0.020	0.016/0.021	0.015/0.020	0.020/0.021	0.004/0.005
Peel Strength, kN/m 1 oz Cu	IPC TM-650 2.4.8C*	1.5	1.5	1.5	0.9	0.9	1.0
Breakdown Voltage, V	IPC TM-650 2.5.6.2A*	$\geq 5000\text{V}$	$\geq 4000\text{V}$	$\geq 3500\text{V}$	$\geq 2500\text{V}$	$\geq 1500\text{V}$	$\geq 5000\text{V}$
Tensile Strength, MPa (kpsi)	ASTM D-882	219 (31.8)	194 (28.2)	126 (18.3)	153 (22.2)	127 (18.4)	227 (32.9)
Elongation, %	ASTM D-882A	36.0	13.5	8.5	31.4	14	47.0
CTE, ppm/°C, x-y, TMA	IPC TM-650 2.4.24.5*	24	23	32	28	22	30
Tg, °C, DMA	IPC TM-650 2.4.24.4*	183	187	188	189	191	170
Hi-Pot test (each panel)	IPC TM-650 2.5.7.2*	PASS (500V)	PASS (500V)	PASS (500V)	PASS (500V)	PASS (250V)	PASS (500V)
Thermal Stress (10 Sec Float @288°C), Times	Mitsui Method	>10	>10	>10	>10	>10	>10
Moisture Absorption %	TM-650 2.6.2.1*	1.3	1.3	0.5	0.8	0.5	0.3
THB, 85°C/85% RH/dc bias	Mitsui Method	PASS (50V)	PASS (50V)	PASS (35V)	PASS (50V)	PASS (35V)	PASS (50V)
HAST, 130°C/85% RH/dc bias	Mitsui Method w/GEA-700G	PASS (50V)	PASS (50V)	PASS (50V)	PASS (50V)	PASS (50V)	PASS (50V)
Flammability/Temp Rating	UL 94	V0 130°C	V0 130°C	V0 130°C	V0 130°C	V0 130°C	V0 130°C
PWB Processing	—	Both sides	Both sides	Both sides	Both sides	Both sides	Both sides

*Common copper weights: 0.5 oz, 1.0 oz, 2.0 oz

Note: This chart provides typical values for FaradFlex® products. *Indicates some modifications to test method. For a full list of our products please contact us.

rev08030

Properties	Test Method	High Dk/Low Df		High Dk		
		MC12LD	MC12ST	MC8TM	MC8T	MC3TB
Dielectric Thickness, μm	Nominal	12	12	8	8	3
Cp @ 1 kHz/1 MHz, nF/in ²	Nominal	- /4.3	10.9/10.5	7.0/6.5	24.2/21.9	40.0/38.5
Dk (Dielectric Constant) @ 1 kHz/1 MHz	Mitsui Method	7.3@1MHz 7.9@1GHz	23.1/22.8	10/10.5	30.0/24.0	22.4/21.7
Df (Loss Tangent) @1 kHz/1 MHz	Mitsui Method	0.002@1MHz 0.0017@1GHz	0.006/0.005	0.020/0.020	0.020/0.025	0.010/0.008
Peel Strength, kN/m 0.5 oz Cu	IPC TM-650 2.4.8C*	0.70	0.70	0.77	0.70	0.70
Breakdown Voltage, V	IPC TM-650 2.5.6.2A*	$\geq 300\text{V}$	$\geq 150\text{V}$	$\geq 1500\text{V}$	$\geq 200\text{V}$	$\geq 50\text{V}$
Tensile Strength, MPa (kpsi)	ASTM D-882	N/A	NA	127 (18.4)	NA	NA
Elongation, %	ASTM D-882A	N/A	NA	14	NA	NA
CTE, ppm/°C, x-y, TMA	IPC TM-650 2.4.24.5*	55	32 (@1) 97 (@2)	22	17 (@1) 42 (@2)	32 (@1) 121 (@2)
Tg, °C, DMA	IPC TM-650 2.4.24.4*	215	160	191	191	136
Hi-Pot test (Sampling/Lot)	IPC TM-650 2.5.7.2*	N/A	PASS (50V)	PASS (100V)	PASS (50V)	PASS (20V)
Thermal Stress (10 Sec Float), Times	Mitsui Method	>10 (288°C)	>10 (288°C)	>10 (288°C)	>10 (288°C)	>10 (300°C)
Moisture Absorption %	TM-650 2.6.2.1*	0.37	0.14	0.5	0.4	0.2
THB, 85°C/85% RH/dc bias	Mitsui Method	PASS (10V)	PASS (3.7V)	PASS (35V)	PASS (3.7V)	PASS (3.7V)
HAST, 130°C/85% RH/dc bias	Mitsui Method w/GEA-700G	N/A	PASS (2.8V)	PASS (50V)	PASS (2.8V)	PASS (2.8V)
Flammability/Temp Rating	UL 94	N/A	NA	V0 130°C	V0 130°C	NA
PWB Processing	—	Sequential	Sequential	Both sides	Sequential	Sequential

*Common copper weights: 0.5 oz, 1.0 oz, 2.0 oz

Note: This chart provides typical values for FaradFlex® products. *Indicates some modifications to test method. For a full list of our products please contact us.