



**Glass cloth and glass mat base epoxy resin
Flame retardant copper clad laminate**

CEM-3-10

■ FEATURES

- Good tracking resistance (CTI 600)
- IPC-4101E L12

■ APPLICATIONS

- Power supply units
- Display
- Air conditioners
- Washing machines

■ STANDARD SPECIFICATION

Part Number	Copper Foil Thickness	Code Name	Actual Thickness and Tolerance(mm)
CEM-3-10	18μm (Hoz) 35μm (1oz)	0.8	0.8 ± 0.10
		1.0	1.0 ± 0.10
		1.2	1.2 ± 0.13
		1.5	1.5 ± 0.13
		1.6	1.6 ± 0.13

• Please consult in advance for production support.

■ PERFORMANCE LIST

Characteristics		Unit	Condition	Typical Values	SPEC	Test Method
Volume resistivity		MΩ-cm	C-96/35/90	5.0 x 10 ⁷	10 ⁶ ↑	2.5.17
Surface resistivity		MΩ	C-96/35/90	9.5 x 10 ⁵	10 ⁴ ↑	2.5.17
Permittivity 1MHz		-	C-24/23/50	4.7	5.4 ↓	2.5.5.2
Loss tangent 1MHz		-	C-24/23/50	0.021	0.035 ↓	2.5.5.2
Dielectric breakdown		KV	D-48/50	60 ↑	40 ↑	2.5.6
Moisture absorption		%	D-24/23	0.09	0.50 ↓	2.6.2.1
Flammability		-	C-48/23/50	V-0	V-0	UL94
Peel strength 1oz (≥0.5mm)		lb/in	288°C x 10" solder floating	8-11	6 ↑	2.4.8
Thermal stress		SEC	260°C dipping	200 ↑	40 ↑	2.4.13.1
Flexural strength	LW	N/mm ²	A	300-400	276 ↑	2.4.4
	CW	N/mm ²	A	200-300	186 ↑	2.4.4
Coefficient of thermal expansion Z-axis before Tg Z-axis after Tg		ppm/°C ppm/°C	TMA	40-60 230-330	N/A	2.4.24
Glass transition temperature		°C	DSC	135 ± 5	N/A	2.4.25
Comparative Tracking Index		V	Etched	600 ↑	N/A	ASTM-D3638
Thermal conductivity		W/mK	A	0.7	N/A	ASTM-D5470

Data shown are nominal values for reference only.

NOTE:

The average value in the table refers to samples of .062" 1/1.

■ CERTIFICATION UL

- UL File No.: E98983
- ANSI TYPE: CEM-3