

DS-7409 (S)

(ANSI : FR-4) SUPERIOR HEAT RESISTANCE

COPPER CLAD LAMINATES

FEATURES

- Superior Heat Resistance
- Low Water Absorption
- Good Dimensional Stability
- High Tg (over 180°C)
- Superior Moisture Resistance
- UV blocking & AOI compatible

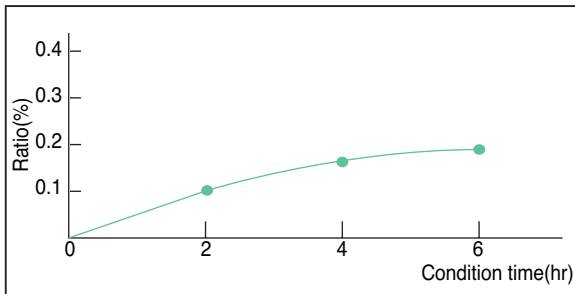
APPLICATIONS

Multilayer printed circuit boards.
Thin copper clad laminates for build up PCBs.

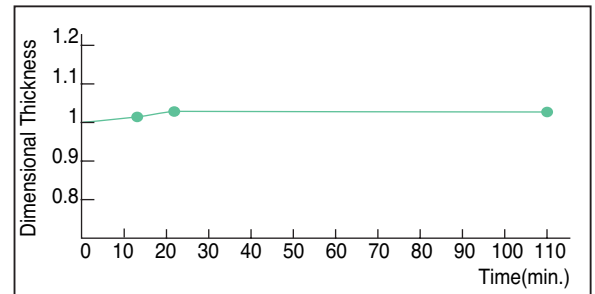
INTERNATIONAL STANDARD RECOGNITION

- UL : E103670

■ Water absorption(D-X/100)

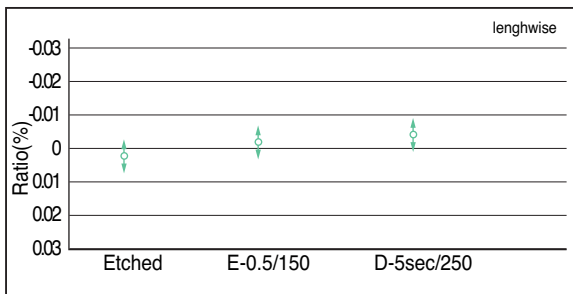


■ Time to Delamination (Test by TMA)

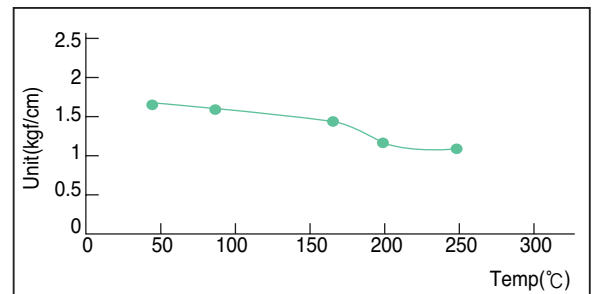


■ Dimensional stability

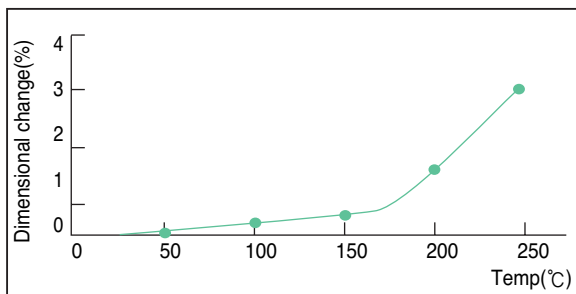
PCB process(size360X310mm span310X254mm)



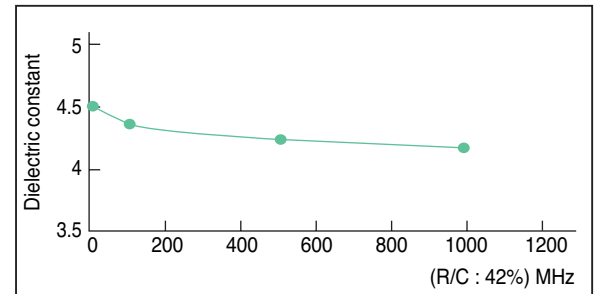
■ Peel strength at elevated temp. (Cu.Foil 1 oz)



■ Thermal expansion of Z-direction(Test by TMA)



■ Dielectric constant



COPPER CLAD LAMINATES

GENERAL PROPERTIES

Test Item	Unit	Treatment Condition	Designation	DS-7409 (S)
			ANSI Grade	FR-4
			Property Data	
			Standard Value	Guaranteed Value
Tg	°C	DSC TMA	180	above 175
			173	above 170
CTE x-axis y-axis z-axis	ppm/°C	Ambient to Tg	15	less than 20
			13	less than 15
			45	less than 60
Flammability	-	UL-94	V-0	V-0
Insulation Resistance	ohm	C-96/20/65	$1 \times 10^{12} - 1 \times 10^{13}$	above 5×10^{12}
		C-96/20/65+D-2/100	$1 \times 10^{10} - 1 \times 10^{11}$	above 1×10^9
Volume Resistivity	ohm-cm	C-96/20/65	$1 \times 10^{14} - 1 \times 10^{15}$	above 1×10^{13}
		C-96/20/65+C-96/40/90	$5 \times 10^{13} - 5 \times 10^{14}$	above 5×10^{12}
Surface Resistance	ohm	C-96/20/65	$5 \times 10^{13} - 5 \times 10^{14}$	above 1×10^{12}
		C-96/20/65+C-96/40/90	$1 \times 10^{12} - 1 \times 10^{13}$	above 1×10^{11}
Arc Resistance	min.seconds		110	above 60
Dielectric Constant (1 MHz)	-	C-96/20/65	4.5 - 4.8	less than 5.5
		C-96/20/65+D-48/50	4.6 - 5.2	less than 5.8
Dissipation Factor (1 MHz)	-	C-96/20/65	0.015 - 0.020	less than 0.035
		C-96/20/65+D-48/50	0.018 - 0.023	less than 0.045
Comparative Tracking Index	volt	IEC Method	-	-
Solder Float(288°C)	sec	A	above 300	above 180
Peel Strength	Cu.foil 1oz (0.035mm) kgf/cm	A	1.4 - 1.6	above 1.2
Flexural Strength	MPa	A	500	above 400
Flexural Modulus	Gpa	A	22 - 25	above 22
Water Absorption	%	E-24/50+D-24/23	0.05 - 0.08	less than 0.20

Specimen Thickness : 1.6mm

PURCHASING INFORMATION

- Copper foil : 1/3oz/ft²(0.012 mm), 0.5 oz/ft²(0.018 mm), 1 oz/ft²(0.035 mm), 2 oz/ft²(0.070 mm) available
- Thickness : 0.1mm to 3.2mm

Standard Size		Tolerance(mm)
1,020 X 1,220mm (40" X 48")	915 X 1,220mm (36" X 48")	+3
1,070 X 1,220mm (42" X 48")	970 X 1,220mm (38" X 48")	-0
1,020 X 1,020mm (40" X 40")		

※ Other sheet size and thickness could be available upon request.