

DS-7409

(ANSI : FR-4) MULTI-FUNCTIONAL

Features

- Multi-functional epoxy resin type
- High Tg (above 170°C)
- Good performance through multiple thermal excursions
- Excellent chemical & thermal resistance
- UV blocking & AOI compatible

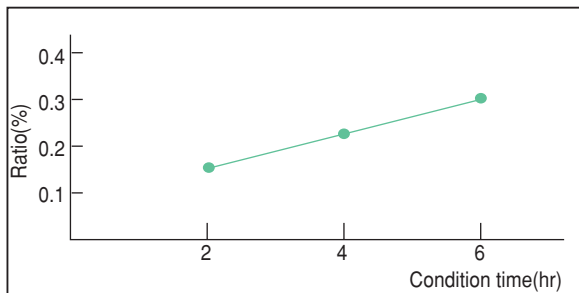
Applications

Computer, Telecommunications, Instruments
Military hardware, etc.

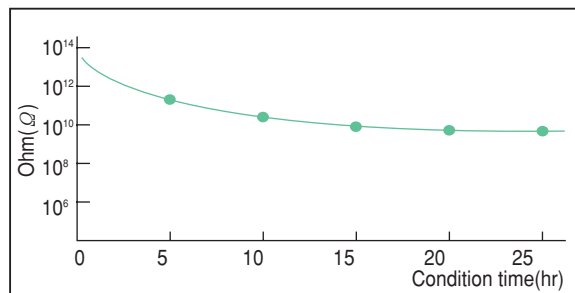
International Standard Recognition

- UL : E103670
- BSI : 6741

Water absorption (D-X/100)

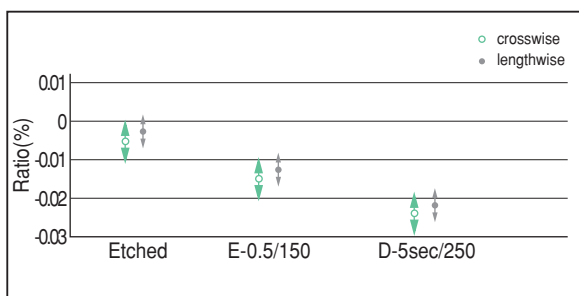


Insulation resistance at pressure cooker

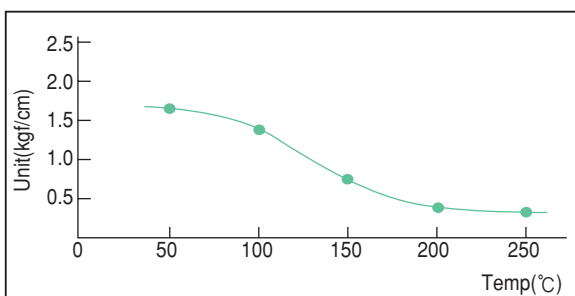


Dimensional stability

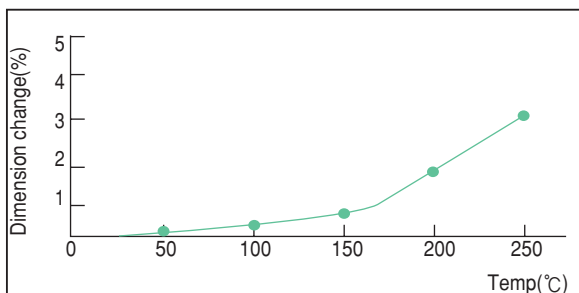
PCB process (size 360X310mm span 310X254mm)



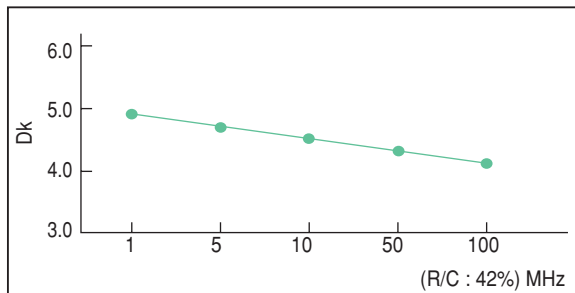
Peel strength at elevated temp. (Cu.foil 1 oz)



Thermal expansion of Z-direction (Test by TMA)



Dielectric constant



COPPER CLAD LAMINATES

High Tg

General Properties

Test Item	Unit	Treatment Condition	Designation	DS-7409
			ANSI Grade	FR-4
			Property Data	
			Standard Value	Guaranteed Value
Tg	°C	DSC TMA	170	above 160
			160	above 155
CTE x-axis y-axis z-axis	ppm/°C	Ambient to Tg	15	less than 20
			13	less than 15
			55	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^{11}
		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	$2 \times 10^{13} - 2 \times 10^{14}$	above 2×10^{12}
Surface Resistance	ohm	C-96/20/65	$1 \times 10^{13} - 1 \times 10^{14}$	above 1×10^{12}
		C-96/20/65+C-96/40/90	$5 \times 10^{12} - 5 \times 10^{13}$	above 1×10^{12}
Arc Resistance	min. sec		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(260°C)	sec	A	above 180	above 120
Peel Strength	Cu.foil 1oz (0.035mm) kgf/cm	A	1.6 - 1.8	above 1.43
Flexural Strength	kgf/mm ²	A	40 - 50	above 32.7
Water Absorption	%	E-24/50+D-24/23	0.10 - 0.14	less than 0.25

Specimen Thickness : 1.6mm

Purchasing Information

- Copper foil : 0.5 oz/ft²(0.018 mm), 1 oz/ft²(0.035 mm), 2 oz/ft²(0.070 mm)
- Thickness : 0.05mm to 1.6mm

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.