

FR-2

Features

- Less odor
- Halogen-free, Friendly to the environment.
- High CTI over 600V
- Superior heat and humidity resistance
- Suitable for punching at 40~70°C
- Warp and twist are small and stable.

General Properties

Test Item		Unit	Test Condition	Testing Method	Specification	Typical Value
Solder Resistance (260°C)		Sec	A	JIS C 6481	≥ 10	20~30
Heat Resistance		—	130°C 30min	JIS C 6481	No Change	No Change
Peel Strength (Copper Foil 35 μ m)		kgf/cm	A 260°C 10Sec	JIS C 6481	≥ 1.2	1.8~2.0 1.7~1.9
Flexural Strength	Lengthwise	kgf/mm ²	A	JIS C 6481	≥ 8	14~16
	Crosswise				≥ 8	13~14
Volume Resistivity		Ω -cm	C-96/20/65 C-96/20/65+C-96/40/90	JIS C 6481	5×10^{10} 5×10^9	$1.0 \times 10^{12} \sim 10^{13}$ $1.0 \times 10^{12} \sim 10^{13}$
Surface Resistivity	Adhesive Side	Ω	C-96/20/65 C-96/20/65+C-96/40/90	JIS C 6481	1×10^{12} 1×10^{11}	$1.0 \times 10^{12} \sim 10^{13}$ $1.0 \times 10^{11} \sim 10^{12}$
	Laminate Side		C-96/20/65 C-96/20/65+C-96/40/90		1×10^{11} 5×10^8	$1.0 \times 10^{11} \sim 10^{12}$ $1.0 \times 10^{10} \sim 10^{11}$
Insulation Resistance		Ω	C-96/20/65 C-96/20/65+D-2/100	JIS C 6481	1×10^{11} 1×10^8	$1.0 \times 10^{11} \sim 10^{12}$ $1.0 \times 10^9 \sim 10^{10}$
Chemical Resistance		—	3% NaOH 40°C 3min	JIS C 6481	No change	No Change
			Boiled in trichloroethylene for 3 min	JIS C 6481	No change	No Change
Moisture Absorption		%	E-24/50+D-24/23	JIS C 6481	≤ 0.75	0.5~0.75
Flammability		Rating	A	UL94	UL94 V-0	V-0
Dielectric Constant (1 MHz)		—	C-96/20/65 C-96/20/65+D-24/23	JIS C 6481	≤ 5.0 ≤ 5.3	3.5~5.0 4.0~5.3
Dissipation Factor		—	C-96/20/65 C-96/20/65+D-24/23	JIS C 6481	≤ 0.04 ≤ 0.05	0.025~0.035 0.030~0.045
CTI Value		V	0.1% NH ₄ CL	IEC 112	600	≥ 600
Punching Temperature		°C	A	GB/T4722	40-70	40-70

Remarks: Typical values for reference only Stand values according to JIS-C-6485 JIS-C-6485

A = Keep the specimen originally without any process

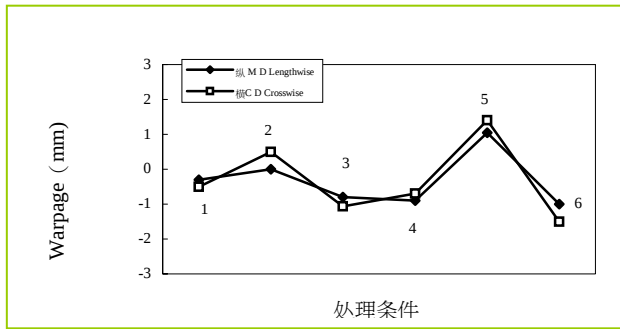
C = Temperature and humidity conditioning

D = Immersing in distilled water with temperature control.

E = Temperature conditioning

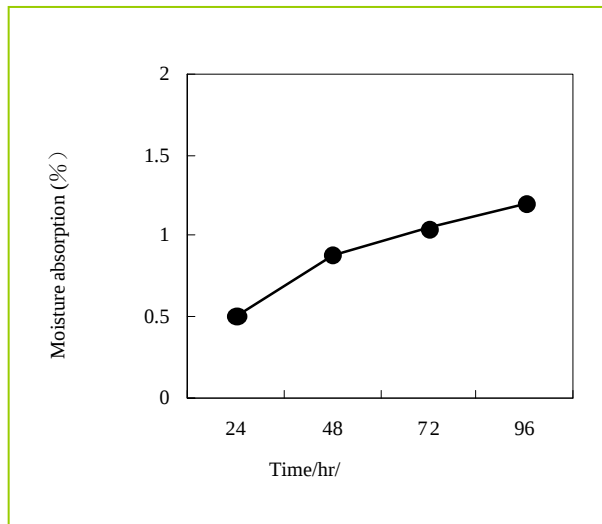
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Warpage of PCB during processing/(Thickness
1.6mm single side)

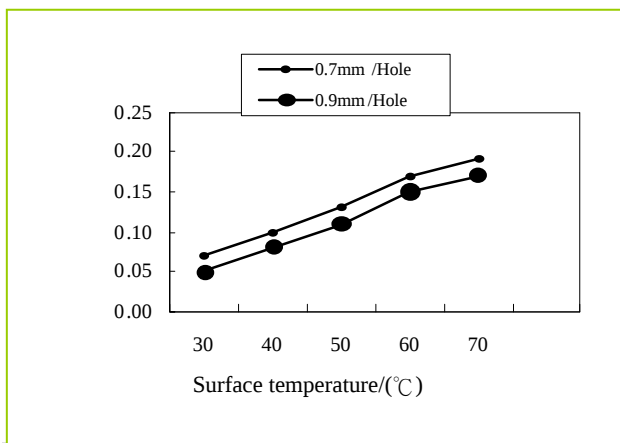


1.Feeding Hol	2.Heating at 130℃ for 90 sec 130℃	3.Etching. Rinsing, Drying
4.Heating at 200℃ for 30 sec 200℃	5.Punching at 50℃	6.Soldering at 260℃ for 5sec 260℃

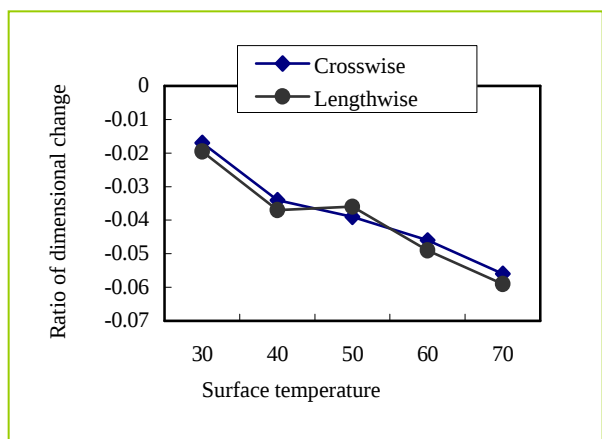
Moisture absorption



Punched hole shrinkage



Dimensional change of punched PCB



Purchasing Information

Type	Thickness	Copper Cladding	Regular Size (mm)	CTI Value
FR-2	1.6mm	35μm	510*11500mm	600V

Note: Other sheet size and thickness could be available upon request.