Glass cloth base epoxy resin
flame retardant copper clad laminate

FR-4-86PY

■ FEATURES

- Excellent dimensional stability, through-hole reliability and warp/twist.
- Excellent electrical, chemical and heat resistance properties
- IPC-4101C specification is applicable.
- High CTI value
- Other properties are similar to FR-4-86.

■ PERFORMANCE LIST

Characteristics		Unit	Conditioning	Typical Values	SPEC	Test Method
Volume resistivity		MΩ-cm	C-96/35/90	$5.0 \times 10^8 \sim 5.0 \times 10^9$	5×10^6 ↑	2.5.17
Surface resistivity		MΩ	C-96/35/90	$5.0 \times 10^6 \sim 5.0 \times 10^7$	10^5 ↑	2.5.17
Permittivity 1MHZ		-	C-24/23/50	4.5~4.7	5.4 ↓	2.5.5.9
Permittivity 1GHZ		-	C-24/23/50	4.0-4.2	-	2.5.5.9
Loss Tangent 1MHZ		-	C-24/23/50	0.010~0.016	0.035 ↓	2.5.5.9
Loss Tangent 1GHZ		-	C-24/23/50	0.010-0.016	-	2.5.5.9
Arc resistance		SEC	D-48/50+D-0.5/23	120 ↑	60 ↑	2.5.1
Dielectric breakdown		KV	D-48/50	60 ↑	40 ↑	2.5.6
Water absorption		%	D-24/23	0.05~0.10	0.35 ↓	2.6.2.1
Flammability		-	C-48/23/50	94V0	94V0	UL94
Peel strength 1 oz		lb/in	288℃x10" solder floating	8-12	6 ↑	2.4.8
Thermal stress		SEC	288 ：dipping	200 ↑	10 ↑	2.4.13.1
Flexural strength	LW	N/mm^2	A	480~550	415 ↑	2.4.4
	CW	N/mm^2	A	415~480	345 ↑	2.4.4
Dimensional stability X-Y axis		%	E-0.5/170	0.005~0.030	0.05 ↓	2.4.39
Coefficient of thermal expansion Z-axis before Tg Z-axis after Tg		 ppm/ ： ppm/ ：	 TMA TMA	 50-70 250-350	N/A	2.4.24
Glass transition temp		：	DSC	140 ± 5	N/A	2.4.25
Comparative Tracking Index			C-96/20/65	600	PLC 0	ASTM D-3638

Data shown are nominal values for reference only

NOTE:
The average value in the table refers to samples of .062" 1/1.
Test method per IPC-TM-650