

Rigid PCB

Item	Standard	Advanced
Layers Count	1..12	1..40
Max Board Size	20" x 48" (508 mm x 1219 mm)	
Board Thickness	0.4 ÷ 6.0 mm	0.2 ÷ 8.0 mm
Warpage	Max ≤ 0.5%	
Surface Finishes	HASL-LF (Pb Free)	40 ÷ 1600 μ" (1 ÷ 40 μm)
	HASL-Pb	40 ÷ 1600 μ" (1 ÷ 40 μm)
	ENIG (Ni-Au)	Au: 2 ÷ 5 μ" (0.05 ÷ 0.13 μm) Ni: 120 ÷ 250 μ" (3.00 ÷ 6.25 μm)
	Immersion Silver	8 ÷ 15 μ" (0.20 ÷ 0.39 μm)
	Immersion Tin	12 ÷ 40 μ" (0.3 ÷ 1.0 μm)
	OSP	Entek Plus HT, Preflux F2 LX 2 ÷ 24 μ" (0.05 ÷ 0.62 μm)
	Flash Gold	5 ÷ 15 μ" (0.13 ÷ 0.39 μm)
	Gold Finger	30 ÷ 50 μ" (0.77 ÷ 1.28 μm)
	Laminates	FR4 – All Types (Default Shengyi)
CEM-1/CEM-3		
Metal Backed Boards (ALU/Cu)		
Metal Backed Boards (ALU)	Laminate	Default EPA-M0/1/2/2CTI/3
	Thermal Conductivity	1.3 ÷ 3.2 W/m·K
	Dielectric Thickness	60 ÷ 150 μm
	CTI	≥ 550
	Break-down Voltage	3 ÷ 7 kV AC

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Rigid PCB cont.

Item		Standard	Advanced
Max Copper Thickness	Inner Layers	4 oz (120 μ m)	5 oz (170 μ m)
	Outer Layers		10 oz (350 μ m)
Minimum Track Thickness			3 mils (75 μ m)
Minimum Track Space			3 mils (75 μ m)
Track Width/Spacing Tolerance			\pm 20 %
Layer to Layer Tolerance			\pm 3 mils (75 μ m)
Minimum Hole Size (Drilled)		8 mils (0.2 mm)	6 mils (0.15 mm)
Minimum Hole Size (Laser)		5 mils (0.125 mm)	4 mils (0.100 mm)
PTH Wall Thickness		0.8 mils/(20 μ m)	1.2 mils (30 μ m)
Finish hole tolerance (PTH)			\pm 2 mils/ \pm 50 μ m
Finish hole tolerance (NPTH)			\pm 2 mils/ \pm 50 μ m
Hole Location Tolerance			\pm 2 mils/ \pm 50 μ m
Hole to Edge Tolerance			\pm 4 mils/ \pm 100 μ m
Aspect Ratio		12:1	15:1
Vias		Tenting / Plugged / Blind / Buried / Micro Vias	
Impedance Control		\pm 10% (Advanced \pm 5%)	
Solder Mask		Green / White / Snow White / Black / Black Mate / Blue / Red	
Snow White Solder Mask	Standard	PSR-550B WH-70 / H-9100	
	Advanced	SFR-6 (SEKISUI) / TAIYO PSR9000	
Peelable Mask		Peters (Default SD2955)	
Quality standard		Class 2 or 3 / Acceptable or Target (according to IPC-600)	

Flexible/Flex-Rigid PCB

Item	Standard	Advanced
Types of Flex boards	IPC 6013 - Type 1/2/3/4	
Layers Count	1-8 Layers (Flexible PCB) 2-12 Layers (Flex-Rigid PCB / HDI + Flex-Rigid PCB)	
Max Board Size	21.5" x 24.5" (546 mm X 622 mm)	
Standard Thickness (FLEX)	Polyamide (PI)	12...127 μ m
	Adhesive (Adhesive)	12...152 μ m
	Copper	12/18/35 μ m (ED Cu) / 18/35/70 μ m (RA Cu)
Laminate	DuPont , ThinFlex	
Minimum Track Thickness	3 mils / 75 μ m	2 mils/ 50 μ m
Minimum Track Space	3 mils / 75 μ m	2 mils/ 50 μ m
Maximum Hole Size (CNC)	6,5 mm	
Minimum Hole Size (CNC)	8 mils (0.2 mm)	6 mils (0.15 mm)
CNC Hole Diameter Tolerance	\pm 0.1 mm	
Slot Length vs Width Ratio (CNC)	2:1	
Aspect Ratio	6:1	
Bending Flexibility	Min. 20 bend cycles for angle of 180° and mandrel diameter of 1.2 mm (according to IPC 6013 point 3.6.1)	
Flexible Endurance	Min. 50 k flex cycles (according to IPC 6013 point 3.6.2)	