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# PCB Capabilities

## Materials

	Standard Capabilities	Leading Edge
Arlon 25N/FR, AD 320/350/350A/450	N	Y
Arlon 55NT, 55ST, 85NT	N	Y
BC2000™	Y	Y
DuPont™ HK 04, FaradFlex® BC24M/16M/12M	N	Y
Halogen Free - Nan Ya/Hitachi:	Y	Y
BT Epoxy	N	Y
DuPont™ Pyralux AP/FR/LF	Y	Y
FR-4 (150°C to 180°C Tg by DSC)	Y	Y
Megtron 6/GETEK (PPO)	Y	Y
Gore Speedboard C, Speedboard N	N	Y
Isola 370HR, 406, 408, 408HR, IS410, IS415	Y	Y
Isola IS620, IS680	N	Y
Nelco 4000 series	Y	Y
Nelco 5000, 8000, 9000 series	N	Y
Ohmega-Ply®	Y	Y
Polyimide - various options from Isola/Nelco/Arlon	Y	Y
Rogers 3000, 5000, 6000, TMM series	N	Y
Rogers 4000 series	Y	Y
STABLCOR® ST-10	N	Y
Taconic RF, TLC, TLG, TSM, fastRise™	N	Y
Thermagon	N	Y

## Surface Finishes

	Standard Capabilities	Leading Edge
Electrolytic Nickel/Gold	Y	Y
ENEPIG	N	Y
ENIG	Y	Y
HASL	Y	Y
Immersion Ag	Y	Y
Immersion Sn	Y	Y
Lead Free HASL	N	Y
OSP	Y	Y
Selective & Multiple Surface Finishes	N	Y
Tin-Lead Reflow	N	Y
Wire Bondable Soft Electrolytic Gold	Y	Y

## Standard Features

	Standard Capabilities	Leading Edge
Antipad over drill	0.020" [0.5mm]	0.014" [0.36mm]
Outer Layer Trace/Space	0.004"/0.004" [101µm/101µm]	0.0025"/0.003" [63.5µm/76µm]
Inner Layer Trace/Space	0.004"/0.004" [101µm/101µm]	0.002"/0.0025" [50µm/63.5µm]
Maximum PTH aspect ratio	10:1	30:1
Maximum PCB thickness	0.250" [6.35mm]	0.300" [7.62 mm]
Maximum copper weight	3 oz [107µm]	5 oz [178µm]
Maximum layer count	2-24	26-60
Maximum mechanical drill size	0.257" [6.53mm]	0.257" [6.53mm]
Maximum panel size	21" x 24"	24" x 30"
Minimum PCB thickness	0.021" [0.53mm]	0.008" [0.2mm]
Minimum copper weight	1/2 oz [18µm]	1/8 oz [4.5µm]
Minimum core thickness	0.002" [50µm]	0.001" [25µm]
Minimum dielectric	0.0025" [63.5µm]	0.0015" [38µm]
Minimum mechanical drill size	0.008" [0.2mm]	0.004" [101µm]
Pad Size = Drill + [x]; shall meet IPC-6012 Class 2	0.010" [0.25mm]	0.008" [0.2mm] [w/tear drop]
Solder mask registration	+/- 0.0025" [63.5µm]	+/- 0.0015" [38µm]
Copper feature to PCB edge	0.020" [0.5mm]	0.010" [0.25mm]

## Other

	Standard Capabilities	Leading Edge
Buried & Blind Microvias	Y	Y
Buried Capacitance (Planar)	Y	Y
Buried Resistor	Y	Y
PCB w/Cavity	N	Y
Conductive/non-conductive hole fill	Y	Y
Flat-Wrap™ Technology (on the required layer)	Y	Y
Countersink	Y	Y
Depth Control Drill & Rout	Y	Y
Edge Milling	Y	Y
Etchback (Plasma)	Y	Y
Impedance (Single Ended & Differential)	+/- 10%	+/- 5%
Scoring and PCB edge Beveling	Y	Y
In-board Beveling	N	Y
Laser Direct Imaging (LDI)	Y	Y
Metal Core (Aluminum, Copper)	N	Y
Minimum inside radius	0.016" [0.4mm]	0.012" [0.3mm]
Mixed dielectrics/hybrid construction	Y	Y
Optical Drill	Y	Y
Sequential lamination construction	Y	Y
Tolerance on overall dimensions	+/- 0.005" [127µm]	+/- 0.002" [50µm]

## Microvia Features

	Standard Capabilities	Leading Edge
Capture/Target pad size = Drill + [x]	0.006" [152µm]	0.004" [101µm]
Glass reinforced dielectrics	Y	Y
Maximum aspect ratio	0.6:1	1:1
Minimum microvia hole size	0.005" [127µm]	0.003" [76µm]
Stacked MicroVia [SMV®]	Y	Y
Solid copper plate microvia [via-in-pad application]	Y	Y
State-of-the-art laser drilling (UV Yag & CO2)	Y	Y

## Electrical Test

	Standard Capabilities	Leading Edge
CAD net-list testing (IPC-356A)	Y	Y
Computer Aided test engineering work stations	Y	Y
Electrical test compliant to IPC-9252	Y	Y
Flying Probe pitch	0.004" [101µm]	0.004" [101µm]
Gerber extracted buried resistor testing	Y	Y
Gerber extracted net-list testing	Y	Y
Standard SMD pitch	0.016" [0.4mm]	0.016" [0.4mm]

## Quality System & Certifications

AS9100
CGRP
IPC-600, 6011 / 6012 / 6013
ISO 13485:2003
ISO 9001:2008
ITAR
MIL-PRF-31032
MIL-PRF-50884
MIL-PRF-55110
NADCAP
UL

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