

## Capabilities

Board Construction	Standard	Advanced
Number of Layers	0-38	40+
Finished Board Thickness	.018 to .165	(< .018) and (.166 to .250)
Finished Board Thickness Tolerance	+/- 10%	+/- 5%
Cavity Boards (requires engineering review)		non-plated and plated
Plated-Edges	Yes	Selective
Castellated Holes (Half Holes)	non-plated	plated
Sequential Laminations	1 to 2	3+
OL Cu Foil	1/2 oz	1/8 oz
Build up Technology	Staggered uVias	Buried/Blind / Stacked uVias
Controlled Impedance	+/- 10%	< ±10%

Mechanical Drilling	Standard	Advanced
Min Drill Size	0.008	0.0059
Hole Location Tolerance	> .006 DTP	.003-.006 DTP
Hole Tolerance:		
Plated	-0.003	+-.0025 (+-.002 ENIG)
Press-Fit (after Cu plate)	-0.0025	-0.002
Non-Plated	-0.002	-0.001
vias	+0.003 / -(hole size)	
Controlled-Depth Back Drilling	+/- .005	+/- .002
Hole to Etched Feature (drill to pad)	.004 DTP	.002-.004 DTP

Laser Drilling	Standard	Advanced
Min hole size	0.006	0.004
Microvia pad sizes	.011/.012	.010/.011
Blind-to-1 Layer Down	Yes	
Blind-to-2 Layer Down		Yes
Aspect Ratio	.5:1	>=.6:1
Build Up Technology (IPC-2226 5.2)	1C1	2C2

Hole Fill	Standard	Advanced
Non-Conductive	Yes	
Conductive	Yes	
Resin Fill	Yes	
Plated Shut uVia		Yes

Cu Plating	Standard	Advanced
Thru-Holes	Class 2,3 & 3A	
Blind vias	Class 2,3 & 3A	
Buried vias	Class 2,3 & 3A	



Microvias Class 2,3 & 3A  
 Plasma Etchback Yes

SolderMask	Standard	Advanced
Registration	± 0.002"	± 0.0015"
Dams and Webs (green)	0.003	0.0025
Dams and Webs (colors)	0.0035	0.003
min Clearance/Coverage on AW	.003 / .004	.002 / .003

Nomenclature	Standard	Advanced
White (Ink Jet)	0.008	0.006
Available Colors Yellow, Black, and Red	0.008	0.008
Etched (based on Cu weight)	see line width	see line width

Fabrication	Standard	Advanced*
Hole to Routed Edge	± .005	< ± .005
Hole to Adjacent Etched Feature	± .0085	< ± .0085
Min Routed Radius	0.016	.008 for thin panels
Milled Edges/Controlled-Depth Milling	± .005	± .002
Bevel	Yes	
Countersink	Yes	
Counterbore	Yes	

\* = Vision system alignment

Electrical Test	Standard	Advanced
Characteristic Impedance (Single Ended)	36-100 ±10%	< ±10%
Differential Impedance	Edge Coupled Broad-Side Coupled	
Continuity Resistance	50-140Ω 10Ω	<10Ω Ω

Isolation 10 M  
 Voltage 10 to 1000V  
 Test Point Density 300 / in<sup>2</sup> (Grid)  
 580 / in<sup>2</sup> (Split Net Grid)  
 1400+ / in<sup>2</sup> Flying Probe



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HiPot

500V

1000V

Quality Systems	Standard	Advanced
IPC-6012	Class 2,3 & 3A	
MIL-PRF-55110	Certified	Certified
NHB 5300 (N.A.S.A.)	Certified	Certified
ISO 9001:2000	Certified	Certified
AS9100	Certified	Certified
U.L. Listing	UL-94 V0	
Statistical Process Control:		
Implementation	Computer Based	Computer Based
Chemical Process Control	Yes	Yes
Laboratory Process Control	Yes	Yes
Cleanliness Controls	Yes	Yes