

TECHNOLOGIES	STANDARD	PROTOTYPE	ADVANCED (HDI)
Up To 20 Layers	Yes	Yes	Yes
Blind & Buried Vias	Yes	Yes	Yes
Via In Pad	Yes	Yes	Yes
Sequential Lamination	Yes	Yes	Yes
Impedance Control	Yes	Yes	Yes
Hybrids & Mixed Dielectrics	Yes	Yes	Yes
Metal Core	Yes	Yes	Yes
Conductive Hole Fill	Yes	Yes	Yes
Edge Plating & Constellation	Yes	Yes	Yes
Rigid, Flex & Rigid-Flex	Yes	Yes	Yes
Variety of Panel Sizes Available	Yes	Yes	Yes
DIMENSIONS			
Maximum Panel Size	18" X 24" (457mm X 609mm)	18" X 24" (457mm X 609mm)	12" X 18" (305mm X 457mm)
Maximum Usable Area	16" X 22" (406mm X 559mm)	16" X 22" (406mm X 559mm)	10.4" X 16" (264mm X 406mm)
Minimum Board Thickness	0.030" (0.762mm)	0.005" (0.127mm)	0.005" (0.127mm)
Minimum Core Thickness	0.014" (0.356mm)	0.005" (0.127mm)	0.003" (0.076mm)
Thickness Tolerances	±10%	±8%	±7%
Dimensional Tolerances	±0.010" (±0.254mm)	±0.007" (±0.178mm)	±0.005" (±0.127mm)
COPPER PADS & TRACES			
Min. Trace Width & Spacing	0.007"/0.007" (0.178mm/0.178mm)	0.005"/0.005" (0.127mm/0.127mm)	0.003"/0.003" (0.076mm/0.076mm)
Minimum SMD Spacing	0.004" (0.102mm)	0.004" (0.102mm)	0.004" (0.102mm)
Minimum SMD Pitch	0.008" (0.203mm)	0.008" (0.203mm)	0.008" (0.203mm)
Min Annular Ring - Via	0.005" (0.127mm)	0.004" (0.102mm)	0.003" (0.076mm)
Min Annular Ring - Component	0.007" (0.178mm)	0.005" (0.127mm)	0.003" (0.076mm)
Max Finish Cu Weight - Outer	8 OZ	20 OZ	40 OZ
Max Finish Cu Weight - Inner	1 OZ	4 OZ	6 OZ
Minimum Pad Size For testing	0.010" (0.254mm)	0.008" (0.203mm)	0.006" (0.152mm)
SURFACE FINISHES			
HASL	Yes	Yes	Yes
ENIG	Yes	Yes	Yes
ENEPIG	Yes	Yes	Yes
Immersion Silver	Yes	Yes	Yes
Immersion Tin	Yes	Yes	Yes
Lead Free HASL	Yes	Yes	Yes
SOLDER MASK & LEGEND			
Green, Red, Black, Blue, Clear, Yellow, White, Grey, Purple	Yes	Yes	Yes

DRILLS	STANDARD	PROTOTYPE	ADVANCED (HDI)
Smallest Drill Diameter	0.012" (0.305mm)	0.008" (0.203mm)	0.006" (0.152mm)
Minimum Plated Hole Size	0.008" (0.203mm)	0.006" (0.152mm)	0.006" (0.152mm)
Minimum Unplated Hole Size	0.008" (0.203mm)	0.006" (0.152mm)	0.006" (0.152mm)
Tolerance Of Plated Holes	±0.003" (±0.076mm)	±0.002" (±0.051mm)	±0.002" (±0.051mm)
Tolerance of Unplated Holes	±0.002" (±0.051mm)	±0.002" (±0.051mm)	± 0.001" (±0.025mm)
Max PTH Aspect Ratio	5:1	8:1	10:1
Blind And Buried Vias			
Max Blind Via Aspect Ratio	5:1	8:1	10:1
Min Blind Via Hole Size	0.008" (0.203mm)	0.008" (0.203mm)	0.008" (0.203mm)
Min Buried Via Hole size	0.008" (0.203mm)	0.008" (0.203mm)	0.008" (0.203mm)
Via In Pad			
Conductive Hole Fill	Yes	Yes	Yes
Non-Conductive Hole Fill	Yes	Yes	Yes
FABRICATION			
V-Score	Yes	Yes	Yes
V-Score Angles	30°	30°	30°
Bevel Angles	15°, 30° & 45°	15°, 30° & 45°	15°, 30° & 45°
QUALITY AND TESTING			
Certifications			
ISO 9001:2015	Yes	Yes	Yes
UL E103209	Yes	Yes	Yes
IPC 6012, CLASS 1, 2 AND 3	1 and 2	1 and 2	1 and 2
Test & Measurement			
ZMetrix TDR	Yes	Yes	Yes
Camtek AOI	Yes	Yes	Yes
CMI XRF	Yes	Yes	Yes
MicroCraft, ATG FPT	Yes	Yes	Yes
Electrical Test Ranges			
Continuity	5-80 volts	5-80 volts	5-80 volts
Isolation	10Mohm	10Mohm	10Mohm
Voltages	100volts	100volts	100volts
Controlled Impedance Tolerance	±10%	±8%	±7%
AVAILABLE REPORTS			
Microsection	Yes	Yes	Yes
Solderability	Yes	Yes	Yes
CTM via X-Ray Fluorescence	Yes	Yes	Yes
Time Domain Reflectometry	Yes	Yes	Yes
COC & FIR	Yes	Yes	Yes