ILFA Technical Capabilities

ILFA Printed Circuit Boards: Dimensions, thicknesses and prepreg fabric style		**STANDARD**	**HIGH END (ON REQUEST)**
Max. board dimensions		420x570mm	on request
Thickness single and double sided (mm)		0.5/0.8/1.0/1.2/1.55/2.0	0.05 to 3.2
Tolerance single and double sided		acc. IPC 4101 Cl. B/L	acc. IPC 4101 Cl. C/M, more on request
Thickness multilayer		0.3 - 4.2mm	on request
Tolerance multilayer	(thickness ≥1.0mm)	± 10%	on request
	(thickness <1.0mm)	± 0.1mm	on request
Prepreg (fabric style)		106/1080/2113/2116/7628	on request
ILFA copper thickness			
On inner layer (µm)		17/35	5/9/12/70/105/210/300/400/500
On outer layer (µm)		17/35/70/105	on request
In via-hole (µm)		≥25µm	on request
In blind vias (µm)	>150µm end-Ø	acc. IPC 6012	on request
In micro vias (µm)	≤150µm end-Ø	acc. IPC 6012	on request
ILFA finish			
Solder mask	type	Lackwerke Peters 2467 (green)	blue, red, black, white, transparent
	coverlay	DuPont Pyralux FR	DuPont Pyralux LF, more on request
Solder mask thickness	on conductor edge (µm)	usual[1]: minimum 5	
	on track (µm)	usual[1]: 5 to 40	
	on base material (µm)	usual[1]: 10 to 55	
Legend print	inkjet print	Taiyo IJR-4000 (white)	
	screen printing, wet film resist	not applicable	yellow, black, white
Final surface		ENIG (electroless Ni/Au), HAL lead and lead-free, immersion Sn, OSP (Glicoat SMD F2) ENIG with TRG (electroless Ni/Au semi reductive), ENEPIG (electroless Ni/Pd/Au), immersion Ag, galv. Ni/Au (partial), galv. connector gold, carbon conductive print, heat sink print, peelable soldermask	on request
ILFA design basics			
Conductor width min. (µm) at copper thickness [µm]		75 [17], 125 [35], 150 [70]	50 [17], 75 [35], 130 [70], 400 [210]
Conductor spacing min. (µm) at copper thickness [µm]		75 [17], 125 [35], 150 [70]	60 [17], 85 [35], 140 [70], 400 [210]
Circular annular ring to end-Ø inner layer (µm)		≥150	on request
Circular annular ring to end-Ø outer layer (µm)		≥150	on request
Min. fillet width (µm)	on copper	80	
	on basic material	80	
Line width legend print (µm)		80	
ILFA drilling and routing technique			
Smallest end-Ø (mm)	mechanical	0.100	on request
	laser	0.050	on request
Aspect ratio (drilling -Ø to PCB-thickness)	via-hole	≥ 1 : 8	on request
	blind via	≥ 1 : 1	on request
Tolerance end-Ø (mm)	DK	+0.10/-0.05	on request
	NDK	±0.05	on request
Tolerance routed contour (mm)		±0.20	on request
ILFA positioning accuracy			
Outline (routed) to drilling pattern (mm)		±0.200	on request
Outline (routed) to image pattern (mm)		±0.200	on request
V-cut outline to image pattern (mm)		±0.200	
Hole to hole - common clamping (mm)		±0.050	
Drilling (NPTH) 2nd clamping (mm)		±0.200	
Drilling pattern (PTH) to image pattern (mm)		±0.050	on request
Drilling pattern (NPTH) to image pattern (mm)		±0.200	on request
Image pattern to solder resist (mm)		±0.050	on request
Min. V-cut fillet		±0.100	
Warp / twist	symmetrical ML[2]	≤0.75%	on request
	asymmetrical ML	on request	on request
ILFA certificates and guidelines			
DIN ISO EN 9001:2008		certified compliance to IPC 6010-Series	
DIN ISO EN 14001:2009		certified compliance to IPC A-600	
DIN ISO EN 50001:2011		certified compliance to IPC QL-653	
UL-Recognized US/Canada	file no.: E132781	certified compliance to IPC SM-840	
Certified IPC member	no.: 1292020	conflict-free sourcing initiative	CMRT on request
		RoHS-conform [3]	

[1] Real value can vary due to layout
[2] Standard for THM-Circuit boards according to IPC 6012: ≤1.5%
[3] Not for final surface HAL lead plated

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