ADDITIVE CIRCUITS (S) PTE LTD

MANUFACTURING CAPABILITY SPECIFICATION

	Volume Products	Engineering		
TERM	**MINIMUM SPECIFICATION**	**MINIMUM SPECIFICATION**	**Unit**	**REMARKS**
Material				
Base material	FR4,FR402,FR4-06, BT-Resin, Polymide,Nelco 4000 series Roger 4000 series,			
Minimum dielectric thickness	0.1	0.1	mm	Copper weight dependant
Minimum core thickness	0.1	0.1	mm	
Minimum copper foil weight	0.5	0.5	oz	
Maximum copper foil weight	2	2	oz	
Board Size				
Minimum Board Dimension	1 x 1	1 x 1	inch	
Maximum Board Dimension	20 x 25	23 x 31	inch	
Board Thickness				
Maximum Board Layers (62 mils thick)	12 Layer	12 Layer		
Maximum Board Layers (120 mils thick)	22 Layer	24 Layer		
Maximum Board Thickness	196	250	mils	
Board Thickness Tolerance(62mils and above)	8	5	%	
Board Thickness Tolerance(Less than 62mils)	+/-5	5	mils	
Aspect Ratio (Thickness to Drill ratio)				
Throught Hole	8.4 : 1	15 : 1	-	
Blind via	1 : 1	6 : 1	-	Subjected to desgin
Buried via	6.4 : 1	6.4 : 1	-	Subjected to desgin
Drilling				
Minimum drilled hole size	0.25	0.2	mm	
Maximum drilled hole size	6.35	6.5	mm	
Minimum finished (PTH) holesize (62mils board thick)	0.15	0.10	mm	subjected to board finishing
Minimum finished (PTH) holesize (120mils board thick)	0.35	0.35	mm	subjected to board finishing
PTH Size Tolerance	(+)/(-) 3	(+)/(-) 2	mils	
NPTH Size Tolerance	(+)/(-) 2	(+)/(-) 2	mils	
X,Y Tolerance (Drilling machine)	(+)/(-) 2	(+)/(-) 1	mils	
Hole to hole location tolerance (NPTH)	4	4	mils	
Drill hole gap to Trace/pad	4.7	4	mils	
Trace width & Spacing				
Inner layer minimum trace width	4	3	mils	Copper weight dependant
External layer minimum trace width	4	4	mils	Copper weight dependant
Inner layer minimum trace spacing	4	3	mils	
External layer minimum trace spacing	4	3	mils	
Tolerance	(+)/(-) 20	(+)/(-) 20	%	
Copper ring ,Isolation & Imaging				
Copper ring (**per side**) with respect to drill hole	outer 5 / inner 5	outer 4 / inner 4	mils	
Clearance Pad (Inner Plane)(**per side**)	8	5	mils	
Thermal connection (Inner Plane)	8	8	mils	
Imaging Accuracy (Outer)	2	2	mils	
Soldermask & Legend				
Soldermask Clearance Pad	Conventional Mask 8	Conventional Mask 5	mils	
	Photo Imagable Mask 4	Photo Imagable Mask 2	mils	
Soldermask Clearance Pad	Conventional Mask 8	Conventional Mask 5	mils	
to Trace edge	Photo Imagable Mask 4	Photo Imagable Mask 3	mils	
Minimum soldermask damp	4	3	mils	
Soldermask Thickness	0.4	0.4	mils	
Visible Legend Line Width	8	8	mils	
Visible Legend Height	31	31	mils	
Visible Legend Gap	8	8	mils	

Board Profiling				
Hole to board edge tolerance (NPTH)	5	5	mils	
Pattern to board edge tolerance	5	5	mils	
Routing Tolerance	(+)/(-) 5	(+)/(-) 5	mils	
V-cut (end to end only)	30	30	degree	Min Bd thickness 0.60mm
V-cut tolerance	(+)/(-) 10	(+)/(-) 10	mils	Due to burr after breaking
Hole Wall Thickness				
Minimum Hole Wall Thickness (Througth Hole)	0.8	1.3	mils	
Minimum Hole Wall Thickness (Blind/Buried Hole)	0.5	0.8	mils	
Type of Finishing				
OSP(Entek)	8min-23max	8min-23max	u'Inch	
Electrolytic Nickel Plat'n Thick	350 (max)	350 (max)	u'Inch	
Electroless Nickel Plat'n Thick	120(min)-200(max)	120(min)-200(max)	u'Inch	
Electrolytic Gold Plat'n Thick (Selective)	80(max)	80(max)	u'Inch	
Electrolytic Gold Plat'n Thick (Full board)	5 (min.)(max.) 60	5 (min.)(max.) 60	u'Inch	
Electroless Gold Plat'n Thick (Full board)	2(min)-6(max)	2(min)-6(max)	u'Inch	
HASL	100(min)	100(min)	u'Inch	
Impedance				
Impedance Measurement	Yes	Yes	-	Printed reports provided
Impedance Tolerance for 50 Ohms & above	(+)/(-) 10	(+)/(-) 10	%	
Impedance Tolerance for below 50 ohms	(+)/(-) 5	(+)/(-) 5	Ohms	
Warpage				
Warp & Twist	0.75	0.5	%	

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