



工序能力

PROCESS CAPABILITIES



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PŁYTKI DRUKOWANE - PRODUKCJA | IMPORT | DYSTRYBUCJA

HONYA EUROPE - WYŁĄCZNY PRZEDSTAWICIEL HONYA INTERNATIONAL NA TERENIE EUROPY
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Process Capabilities

1 制作能力 Production Capabilities

1.1 工序能力(主要参数) Process Capabilities (main parameters)

序号 / NO.	项目 / Item	工序能力 / Process Capabilities	
		大量生产 (批量板) Mass Production	限量生产(样板) Limited batch(sample) (产量多少)
01.	线宽/线间外层 (1/3oz)	0.004"/0.004"	0.003"/0.003"
	Line Width/Spacing, Outer (1/3oz)		
02.	线宽/线间外层 (0.5oz)	0.005"/0.005"	0.004"/0.004"
	Line Width/Spacing, Outer (0.5oz)		
03.	线宽/线间外层 (1oz)	0.006"/0.006"	0.005"/0.005"
	Line Width/Spacing, Outer (1oz)		
04.	线宽/线间内层 (0.5oz)	0.0035"/0.004"	0.003"/0.0035"
	Line Width/Spacing, Inner (1oz)		
05.	线宽/线间内层 (1oz)	0.005"/0.005"	0.004"/0.005"
	Line Width/Spacing, Inner (2oz)		
06.	线宽/线间内层 (2oz)	0.007"/0.007"	0.006"/0.006"
	Line Width/Spacing, Inner (2oz)		
07.	最小机械微孔钻直径	0.008"	0.006"
	Min mechanical drill hole		
08.	激光微孔直径	0.008"—0.004"	0.008"—0.004"
	Laser drill hole		
09.	最小PTH孔径公差	±0.003" (PIN hole +/-0.05mm)	±0.002"
	Finish PTH hole tolerance		
10.	最大层数	12	14
	Max Layer Count		



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11.	最大内层底铜厚	4oz	4oz
	Max base copper (inner layer)		
12.	最大外层底铜厚	6oz	10oz
	Max base copper (outer layer)		
13.	最小基板厚度	0.004"	0.003"
	Min Core Thickness		
14.	内层孔到金属	0.010"(min)	0.008"(min)
	Drill to metal spacing,, inner		
15.	最小连接环宽度(外层)	0.005"	0.004"
	Minimum annular ring (outer)		
16.	最小连接环宽度(内层)	0.006"	0.005"
	Minimum annular ring (inner)		
17.	最小QFP 间距	0.020"	0.016"(not HASL)
	QFP minimum spacing		
18.	纵横比 (通孔)	≤8:1	8:1
	Aspect Ratio (via hole)		
19.	最小套板厚度 HASL	0.020"	0.020"
	Min finish board thk (HASL)		
20.	最小套板厚度 OSP	0.020"	0.014"
	Min finish board thk (OSP)		
21.	最小阻焊油桥宽度	0.003"	0.003"
	Min solder dam		
22.	锡手指间距	0.007"(min)	0.007"(min)
	QFP pitch spacing		
23.	阻抗控制公差	50-90欧姆±10%	50-90欧姆±10%
	Controlled Impedance	100-155欧姆±10%	100-155欧姆±10%
	(Single ended)/(Differential)	50 - 90 ohms +/- 8%*	50 - 90 ohms +/- 8%*
		100 - 155 ohms +/- 10%*	100 - 155 ohms +/- 10%*

*低于10%的阻抗公差能力依设计而定

* Less than 10% impedance tolerance is design dependent.



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3.2 工序能力(其他参数) Process Capability (other parameters)

项目 / Item		工序能力 / Process Capabilities	
		标准 Standard	高级 Advance
工作板尺寸 (最大) Max working panel size	沉金/无铅/OSP	18.5"X24.5"	18.5"X24.5"
	Imm Au/Lead-free/OSP		
	有铅喷锡	18"X22"	18"X22"
	Leaded		
	板厚≤24mil	16"X20"	16"X20"
	Board thickness≤24mil		
	36mil>板厚>24mil	18.5"X22"	18.5"X22"
	36mil>Board thickness>24mil		
	板厚≥36mil	18.5"X24.5"	18.5"X24.5"
Board thickness≥36mil			
电镀孔/非电镀孔孔径公差		±3mil	±2mil
Hole size tolerance(PTH/NPTH)			
完成板厚	有铅Leaded	0.4-3.2mm	0.4-4.0mm
	无铅Lead-free	0.4-3.2mm	0.4-4.0mm
	其它Other	0.4-3.2mm	0.2-4.0mm
板曲(inch/inch)		0.70%	0.50%
Board warpage (inch/inch)			
线宽/线间控制		± 20%	± 15%
Line width/spacing tolerance			
焊盘宽度		5mil (min)	4mil (min)
Annular ring			



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孔壁粗糙度	1.2 mil (max)	1.0 mil(max)
Hole wall roughness		
钻孔/钻槽范围	0.20mm(min), 6.5mm(max)	
Drill hole/ slot size	Slot≥0.6mm	
绿油拍板对位精度	±3.0 mil	±2.5 mil
Solder mask registration		
白字对位公差	±6.0 mil	
Legend printing registration		
最小白字宽度	5 mil	4 mil
Min Legend width		
绿油到 pad 距离	2.5 mil (min)	2 mil (min)
Solder mask clearance		
开窗与塞孔位间隙	3 mil (opening not on hole)	
Min plugged hole to pad edge spacing		
塞孔孔径最小	10 mil	
Via plugging min hole size		
塞孔孔径最大	20 mil	24 mil
Via plugging max hole size		
丝印盖孔最小孔径	20mil	
Min hole size for tenting with S/M		
蓝胶厚度	0.4mm +/-0.1mm	
Peelable mask thickness		
蓝胶掩孔	5.5mm(max)	
Hole size for tenting with Peelable mask	0.7mm((min))	
绿油字符最小线宽	6mil(min)	6mil(min)
Solder mask legend line width		
碳油厚度	0.3 mil (min)	
Carbon ink thickness		

Process Capabilities

碳油线间		14 mil (min)	
Carbon ink line spacing			
碳油线宽		12 mil (min)	
Carbon ink line width			
碳油对位公差		±6 mil	
Carbon ink registration			
碳油线宽公差		+5 / - 3 mil	
Carbon ink width tolerance			
碳油菲林至焊盘 Min spacing between Carbon ink and copper		8 mil (min) per side	6 mil (min) per side
沉金金厚		1 - 5 μ"	1 - 5 μ"
Imm Au/Ni Au thickness			
沉金镍厚		100 - 200 μ"	100 - 200 μ"
Imm Au/Ni Ni thickness			
osp膜厚度		0.15 - 0.3 μm	
OSP thickness			
V-scoring	线与线平行度	±4 mil (min)	
	Parallelism		
	余厚精度	±4 mil (min)	
	Web thickness		
	线与线垂直度	±4 mil (min)	
	Top/bottom v-cut alignment		
	角度公差	±5°	
v-cut angle tolerance			
锣板	外形尺寸精度	±6 mil (min)	±4 mil (min)
	Outline tolerance		
	孔到边精度	±4 mil (min)	
	Hole to edge tolerance		



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锣板	槽位置精度	±4 mil (min)	
	Slot location accuracy		
	槽位长度精度	±4 mil (min)	
	Slot length tolerance		
锣板	长度精度	±6 mil (min)	±4 mil (min)
	Length tolerance		
	宽度精度	±6 mil	±4 mil
	Width tolerance		
最小拼板尺寸(沉银线)		50mm X 70mm	
Min finish panel size (Imm silver line)			
最小拼板尺寸(洗板线)		50mm X 50mm	
Min set size (Washing Machine line)			
电镀槽精度	宽度精度	±5 mil	
	(Width tolerance)		
	长度精度	±5 mil	
	(Length tolerance)		
V-Cut刀最小跳刀距离		7 mm	
Min distance for jumping V-Cut from panel edge			
喷锡面任意两点高度偏差		800 u" (max)	
Solder height deviation of any two point			
干膜盖孔/槽		≤4.0×5.0 mm	≤4.5×5.5 mm
Dry film tenting hole/ slot			



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