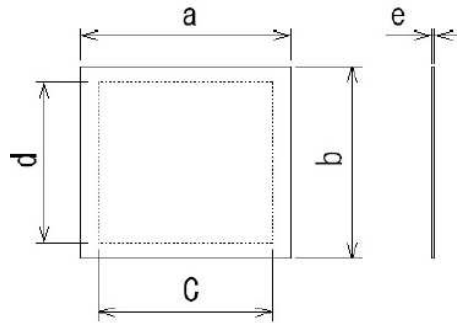
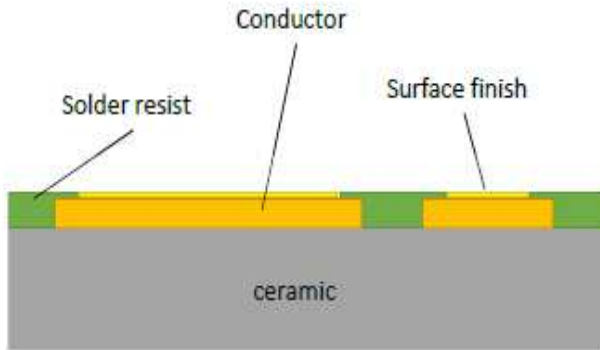


Volume Manufacturing Process – <u>Alumina 96% / Aluminium Oxide 96% / Al<sub>2</sub>O<sub>3</sub> 96%</u>	Prototypes & Low Volume <50 panels / order (DPC)	Medium & High Volume >50 panels / order (DPC)
Dimensions & Thickness		



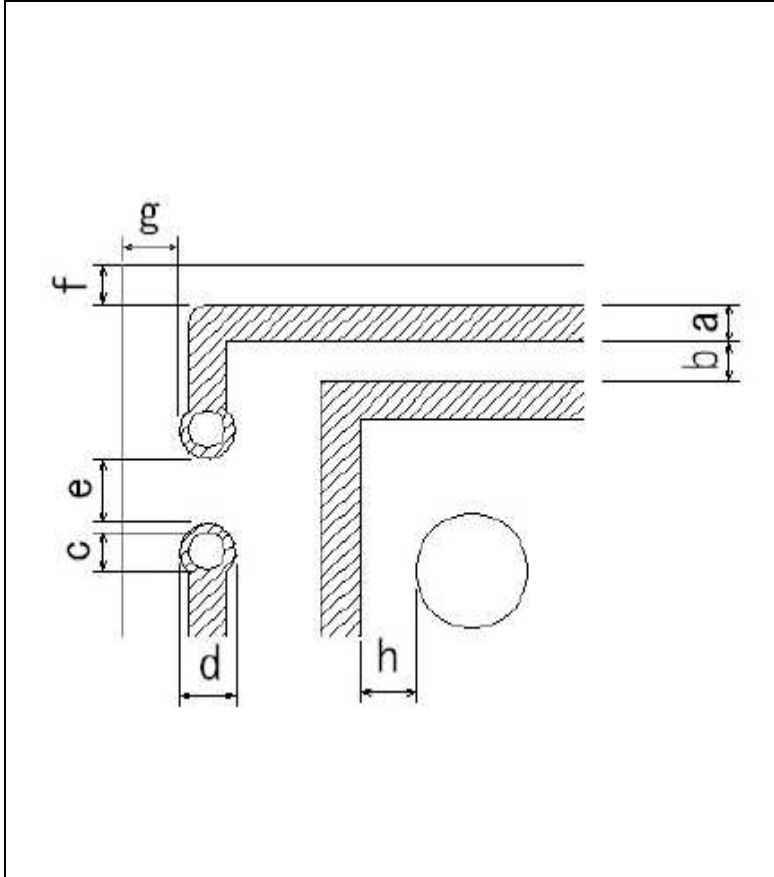
Panel Dimensions (a)x(b)			
Standard	metric	115mm x 115mm	115mm x 115mm
Special		Up to 170mm x 250mm	Up to 170mm x 250mm
Standard	imperial	4.5" x 4.5"	4.5" x 4.5"
Special		Up to 6.5" x 9.5"	Up to 6.5" x 9.5"
Thickness (e)			
Standard	metric	0.25/0.38/0.5/0.63/0.76/1.0/1.27/1.5mm	0.25/0.38/0.5/0.63/0.76/1.0/1.27/1.5mm
Special			
Standard	imperial	10 / 15 / 20 / 25 / 30 / 39 / 50 / 59 mil	10 / 15 / 20 / 25 / 30 / 39 / 50 / 59 mil
Special			4 mil or up to 118 mil

Metallisation & Finish
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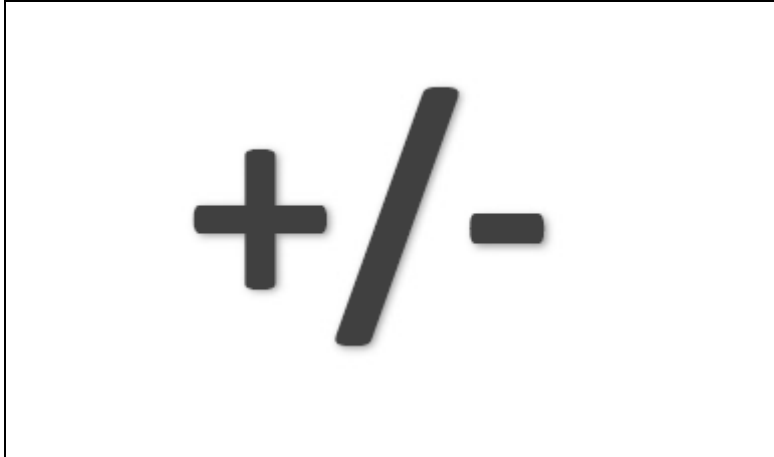
Conductor			
Standard	Special	Copper – Cu	Copper – Cu
Conductor Thickness			
Standard	metric	35µm - 70µm	35µm - 70µm
Special		18µm	18µm
Standard	imperial	1oz – 2oz	1oz – 2oz
Special		0.5oz	0.5oz
Surface finish			
Standard		Immersion Silver, ENIG, ENEPIG	Immersion Silver, ENIG, ENEPIG
Special		IPIG (no nickel), please enquire	IPIG (no nickel), please enquire
Solder resist			
Standard		Green, Black, White	Green, Black, White
Special		Other – please enquire	Other – please enquire
Silk screen / legend			
Standard		Black, white	Black, white
Layers			
Standard		Singe – double sided	Singe – double sided
Special			

Volume Manufacturing Process – <u>Alumina 96% / Aluminium Oxide 96% / Al2O3 96%</u>	Prototypes & Low Volume <50 panels / order (DPC)	Medium & High Volume >50 panels / order (DPC)
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Min. line width (a)		
Standard	0.2mm / 8 mil	0.2mm / 8 mil
Special	0.1mm / 4 mil	0.1mm / 4 mil
Min. line width (b)		
Standard	0.2mm / 8 mil	0.2mm / 8 mil
Special	0.1mm / 4 mil	0.1mm / 4 mil
Line/pad to edge spacing (f)		
Standard	0.2mm / 8 mil	0.2mm / 8 mil
Special	0.1mm / 4 mil	0.1mm / 4 mil
Via Specifications		
Via diameter (c)	0.08mm / 3 mil	0.08mm / 3 mil
Min. via spacing (b)	0.15mm / 6 mil	0.15mm / 6 mil
Via/hole to edge spacing	3 x via diameter	3 x via diameter
Through hole metallisation	Plated through hole (PTH)	Plated through hole (PTH)
Annular ring specifications		
Min. annular ring diameter (d)	0.10mm / 4 mil	0.10mm / 4 mil
Min. annular ring spacing (e)	0.10mm / 4 mil	0.10mm / 4 mil
Annular ring to edge spacing (g)	0.15mm / 6 mil	0.15mm / 6 mil
Line to hole/via spacing (h)		
Standard	0.15mm	0.15mm
Special	0.2mm / 8 mil	0.2mm / 8 mil
Special	0.1mm / 4 mil	0.1mm / 4 mil

Tolerance		
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Dimensional tolerance		
Standard	+/- 100µm / 4 mil	+/- 100µm / 4 mil
Special	+/- 50µm / 2 mil	+/- 50µm / 2 mil
Thickness tolerance		
Standard	+/- 10%	+/- 10%
Special	+/- 5%	+/- 5%
Hole tolerance		
Standard	+/- 100µm / 4 mil	+/- 100µm / 4 mil
Special	+/- 50µm / 2 mil	+/- 50µm / 2 mil
Pad to hole/via tolerance		
Standard	+/- 100µm / 4 mil	+/- 100µm / 4 mil