

## Design rules & specifications ceramic PCB

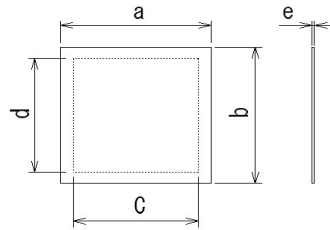


### Transparent Ceramic | ELITE™ substrates

Last update: Jan 2018

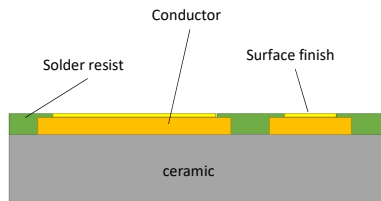
Volume	All volumes > 100 panels / order
Manufacturing process	

#### Dimensions & thickness



Panel Dimensions (a)x(b)		
Standard	metric	100mmx100mm
Special		125mmx125mm
Standard	imperial	4" x 4"
Special		5" x 5"
Thickness (e)		
Standard	metric	0.38mm
Special		0.5mm   1mm (high volume only)
Standard	imperial	15 mil
Special		20 mil   39 mil (high volume only)

#### Metalization & finish



Conductor		
Standard		Silver - Ag
Special		
Conductor thickness		
Standard	metric	7um - 20um
Special		14um - 40um
Standard	imperial	0.5oz - 1.5um
Special		
Surface finish		
Standard		None, ENIG
Special		IPIG (no nickel), please inquire
Solder resist		
Standard		Glass coating: translucent
Special		
Silk screen / legend		
Standard		black
Layers		
Standard		single - double sided
Special		

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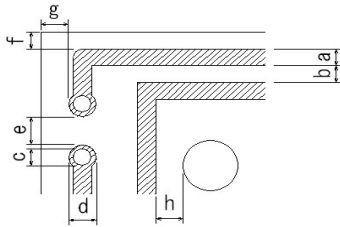
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Volume

All volumes  
> 100 panels / order

Manufacturing process

#### Spacing & vias



<b>Min. line width (a)</b>	
Standard	0.2mm / 8 mil
Special	0.1mm / 4 mil
<b>Min. line spacing (b)</b>	
Standard	0.2mm / 8 mil
Special	0.15mm / 6 mil
<b>Line/pad to edge spacing (f)</b>	
Standard	0.2mm / 8 mil
Special	0.1mm / 4 mil
<b>Via specifications</b>	
Via diameter (c)	0.5mm ~ 0.6mm / 20 mil ~ 24 mil
Min. via spacing (b)	0.3mm
Via/hole to edge spacing	600µm / 24 mil
Through hole metallisation	Silver (Ag) Filled vias (aspect ratio should be less than 4)
<b>Annular ring specifications</b>	
Min. annular ring diameter (d)	0.2mm / 8 mil
Min. annular ring spacing (e)	0.2mm / 8 mil
Annular ring to edge spacing (g)	0.2mm / 8 mil
<b>Line to hole/via spacing (h)</b>	
Standard	0.2mm / 8 mil
Special	0.1mm / 4 mil

#### Tolerance



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