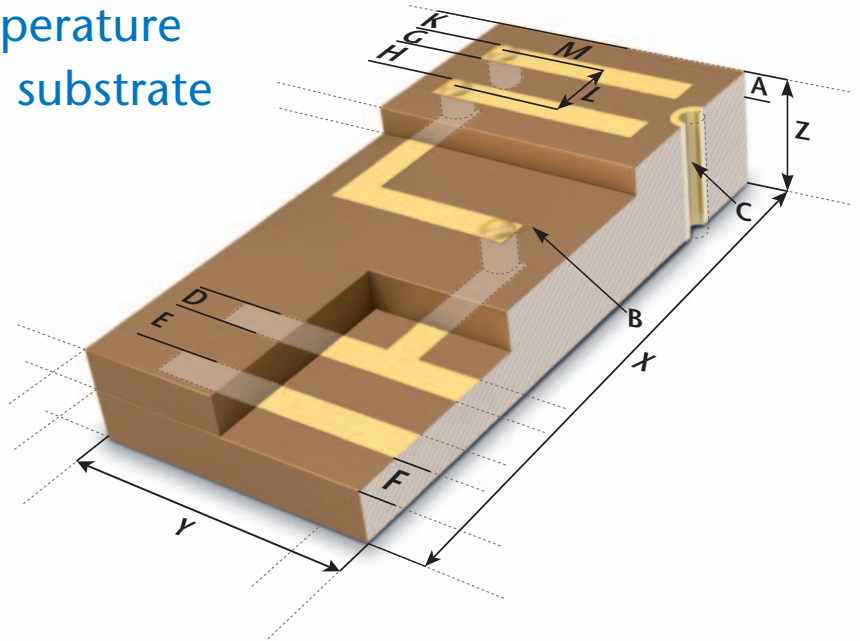


Design rule for High Temperature Cofired Ceramics (HTCC) substrate

Packages for:

- Pump lasers
- MEMS applications
- IR sensors



Materials Data:

		mark	standard	tolerance	special	tolerance
Structure Parameters	Length	X	5 - 25	± 1 % (as fired)	2 - 50	± 0.5 % (as fired)
	Width	Y	5 - 25	± 0.05% (machined)	2 - 50	± 0.03% (machined)
	Substrate Thickness	Z	0.4 - 3	± 3 %	0.2 - 5	± 1.5 %
	Layer Thickness	A	0.12, 0.2, 0.25 0.32, 0.4, 0.5	± 10 %	0.1	± 5 %
	Flatness (as-fired)				0.05 / 10 mm	
	Flatness (machined)				0.005 / 10 mm	
Vertical Interconnects	Filled Via					
	Typical Diameter	B	0.18		0.1	
	Diameter Range		0.15 - 0.3		0.1 - 0.5	
	Via-to-Via Centerline	L	1			
	Via-to-Edge	M	thickness + via diameter			
	Bore Coated Via					
	Typical Diameter (ID)	C	0.4			
Diameter Range		0.4 - 0.8				
Internal Metal Circuit	Line Width (without via)	D	0.08	± 20 %		
	Line-to-Line Space (far from via)	E	0.08	± 20 %		
	Line Width (with via)		0.25	± 20 %		
	Line-to-Line Space (near via)		0.2	± 20 %		
	Space from edge	F	0.7		0.5	
Surface Metal Circuit	Line Width (without via)	G	0.1	± 20 %		
	Line-to-Line Space (far from via)	H	0.1	± 20 %		
	Line Width (with via)		0.3	± 20 %		
	Line-to-Line Space (near via)		0.25	± 20 %		
	Space from edge	K	0.4		0	

unit: mm, %

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