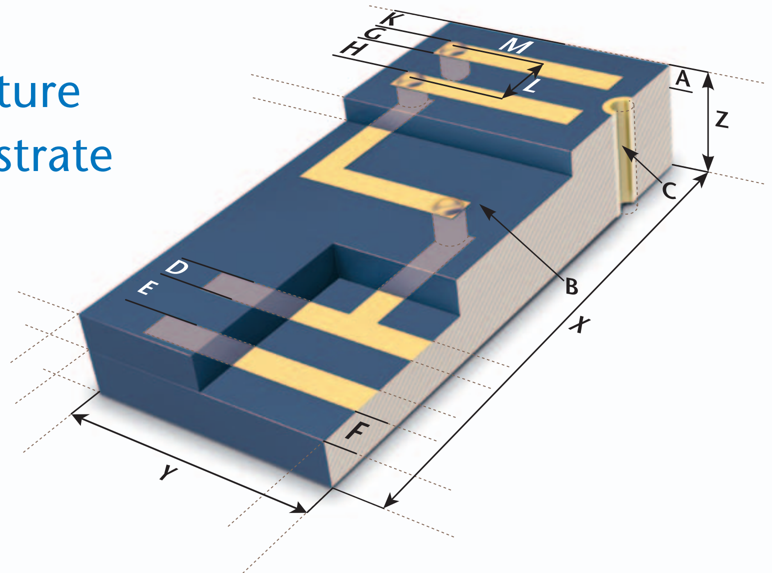
Design rule for Low Temperature Cofired Ceramics (LTCC) substrate



Packages for:

- Radar applications
- High frequency applications

Materials Data:

		mark	standard	tolerance	special	tolerance
Structure Parameters	Length	X 1)	5 - 25	± 1%	2 - 50 1)	± 0.5%
	Width	Y 1)	5 - 25	± 1%	2 - 50 1)	± 0.5%
	Substrate Thickness	Z	0.4 - 3	± 7%	0.2 - 5	± 2%
	Layer Thickness	A	0.090, 0.135, 0.2	± 7%	0.1	± 5%
	Flatness (as-fired)		0.08 / 10 mm		0.05 / 10 mm	
	Flatness (machined)		0.02 / 10 mm		0.005 / 10 mm	
Vertical Interconnects	Filled Via					
	Typical Diameter	B	0.18		0.1	
	Diameter Range		0.15 - 0.2		0.1 - 0.3	
	Via-to-Via Centerline	L	2.5 B		2 B	
	Via-to-Edge	M	B + 0,15			
	Thermal Via					
		C			0.21	
					0.17, 0.26	
Internal Metal Circuit	Line Width (without via)	D	0.1	± 20 %	0.08	
	Line-to-Line Space (far from via)	E	0.12	± 20 %	0.08	
	Line Width (with via)	G	D + 0.1	± 20 %	D + 0.08	
	Line-to-Line Space (near via)	H	0.15	± 20 %	0.12	
	Space from edge	F	0.3		0.20	
Surface Metal Circuit	Line Width (without via)	G	0.1	± 20 %	0.08	
	Line-to-Line Space (far from via)	H	0.12	± 20 %	0.08	
	Line Width (with via)	G	D + 0.10	± 20 %	D + 0.08	
	Line-to-Line Space (near via)	H	0.15	± 20 %	0.2	
	Space from edge	K	0.25		0.1	

1) minimum ± (50 µ + 0.5 %)

unit: mm, %

No responsibility can be taken for the accuracy of this information. Despite the fact that all reasonable care was taken in presenting and keeping this information up to date, SCHOTT neither accepts legal responsibilities nor guarantees the completeness, accuracy and up-to-dateness of the information presented here. Date issued: March 2012

For more information on LTCC technology, please contact
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