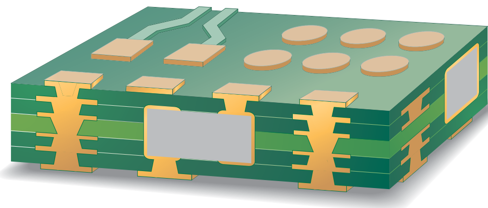
Embedded Components Technology



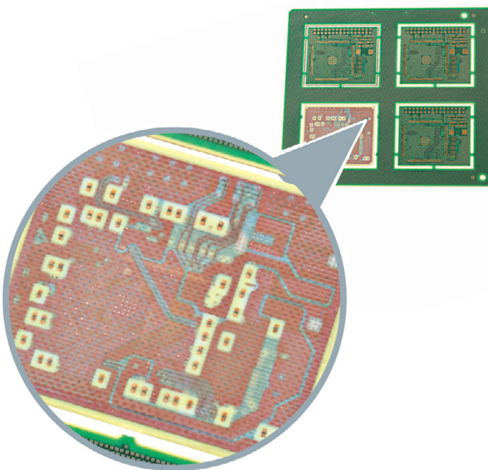
FEATURES

- Embedment of active and passive components in AnyLayer or HDI PWB
- Miniaturization and sophistication of PWB size and design
- Improvement of signal integrity with shorter circuits
- Laser via connection for higher electrical reliability and design flexibility
- Robustness and reliability increase against outer influences

APPLICATIONS

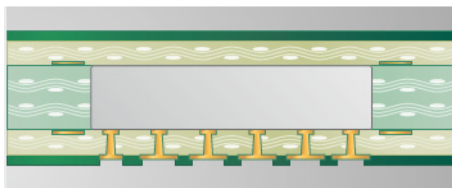
- SiP modules for industrial equipment
- High performance network and telecommunication packaging such as W-LAN
- Medical equipment
- Automotive industry

Embedded Passive Substrate Design Rules

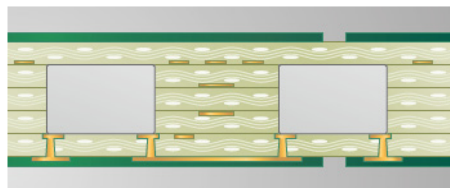


Label	Description	Nominal Value
A	Minimum width of copper ring	130 µm
B	Cavity edge to MLCC	50 µm
C	MLCC to MLCC clearance	100 µm
D	Minimum pitch of via on MLCC electrode	130 µm
E	Cavity width (1 MLCC type)	600 µm
F	Cavity length (1 MLCC type)	1100 µm
G	Cavity width (2 MLCC type)	1200 µm
H	Cavity length (2 MLCC type)	2200 µm
J	Minimum via land	125 µm
K	Minimum cavity edge to PTH	250 µm
L	Core thickness	60, 100, 150, 200 µm
M	MLCC thickness	M=N
N	Total thickness circuits and core	

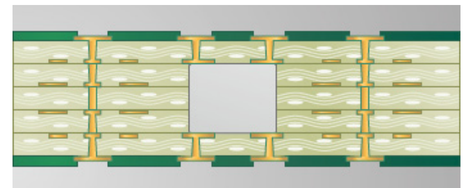
New Design Concepts with Embedded Component Substrates



Embedded LSI in core with plated copper for EMI shield



Embedded passive component (1005R, 0.15mm thickness) in 6 layer 1-(1-2-1)-1 HDI substrate



Embedded passive component (0603C, 0.33mm thickness) in 8 layer 1-(2-2-2)-1 HDI substrate

Kyocera reserves the right to modify these specifications without notice. Kyocera Fineceramics GmbH, April 2016

KYOCERA Fineceramics GmbH · Fritz-Mueller-Strasse 27 · 73730 Esslingen / Germany
Contact Person: Mr Jan-Ole Post · Tel: +49 (0)711-93 93 48 24 · E-Mail: sales.germany@kyocera.de · www.kyocera.de