

Ceramic PCB Materials Specifications Table

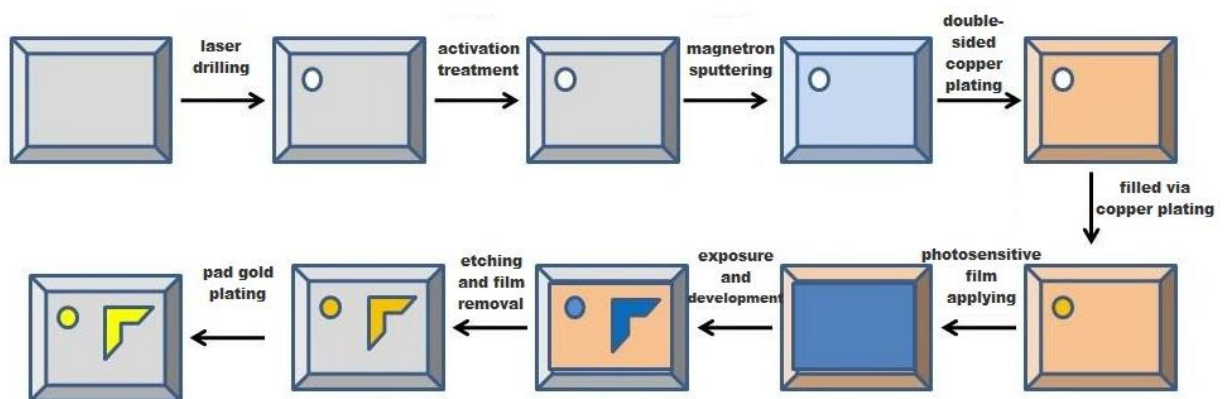
Characteristic	Unit	Alumina	Aluminum Nitride	Test Standard
Property	%	Al ₂ O ₃ ≥96	AlN	GB/T 5231
Color	/	White	Off-white	3.2
Thickness	mm	0.25~2.0	0.38~1.5	IPC-TM-650
Size/L*W	mm	100*100~138*190	100*100~138*190	IPC-TM-650
Density	g/cm ³	≥3.7	≥3.33	GB/T 2413
Water Absorption	%	0	0	IPC-TM-650
Thermal Conductivity(20°C)	W/(m.K)	≥20	≥170	GB/T 5598
Bending Resistance	MPa	≥350	≥450	GB/T 5593
Volume Resistivity(20°C)	Ω . cm	≥10 ¹⁴	≥10 ¹³	GB/T 5594
Dielectric Constant (1MHz)	/	9~10	8~10	IPC-TM-650
Dielectric Constant (1MHz)	/	≤3*10 ⁻⁴	≤4.5*10 ⁻⁴	IPC-TM-650

Ceramic PCB Manufacturing Capability Table

	Unit	Manufacturing Capability
Ceramic PCB Types	/	Single/double-sided PCB, plated through-hole filling PCB
Maximum size	mm	138*190
PCB thickness	mm	0.25, 0.38, 0.50, 0.76, 0.8, 1.0, 1.5, 2.0
Size tolerance	μm	≤±50
Trace width/space	mm	5-10μm: 0.05/0.05 HOZ: 0.075/0.075 1OZ: 0.1/0.1 2OZ: 0.127/0.127 3OZ: 0.3/0.3 6OZ: 0.5/0.5 9OZ: 0.6/0.6
Laser drilling	μm	≥75
Copper thickness	μm	2-105 (DPC) 150-300 (DBC)
Electroplated copper filling capability	/	Aspect ratio ≤ 3.8:1, PCB thickness ≤ 0.50mm

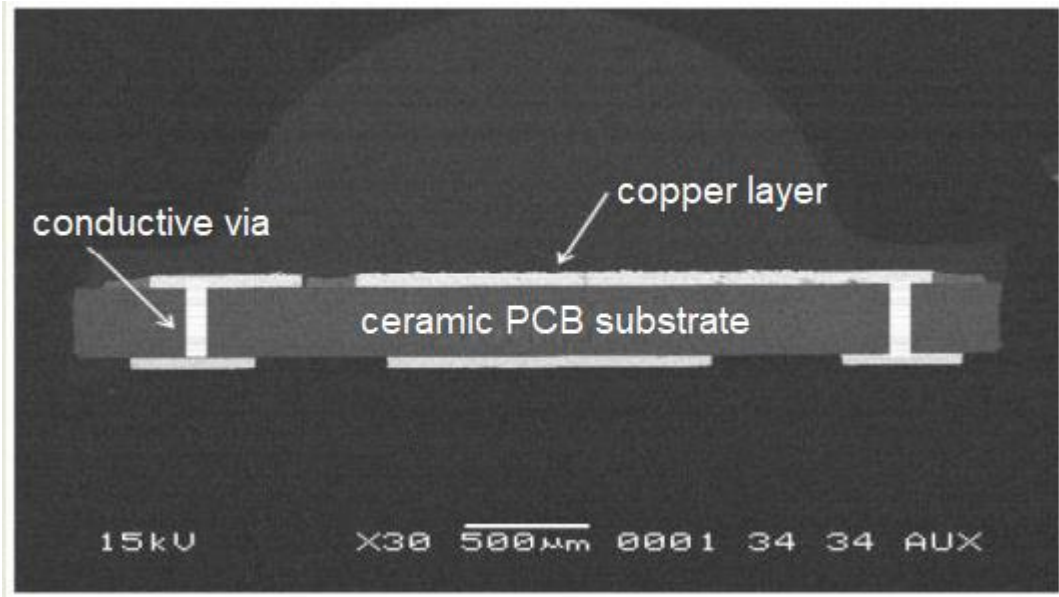
Copper foil peel strength	N/mm	> 2 (IPC-TM-650 2.4.8)
Thermal resistance	/	350±10°C, 15min, no peeling, no popcorn (IPC-TM-650 2.4.7)
Solderability	/	> 95% (IPC-TM-650 2.4.14)
Surface finish	/	OSP/immersion gold/immersion silver/nickle palladium gold
Laser prototyping	/	Laser engraving depth ≤ 0.7mm Laser-cut PCB thickness ≤ 3.0mm

Ceramic PCB Manufacturing Workflow

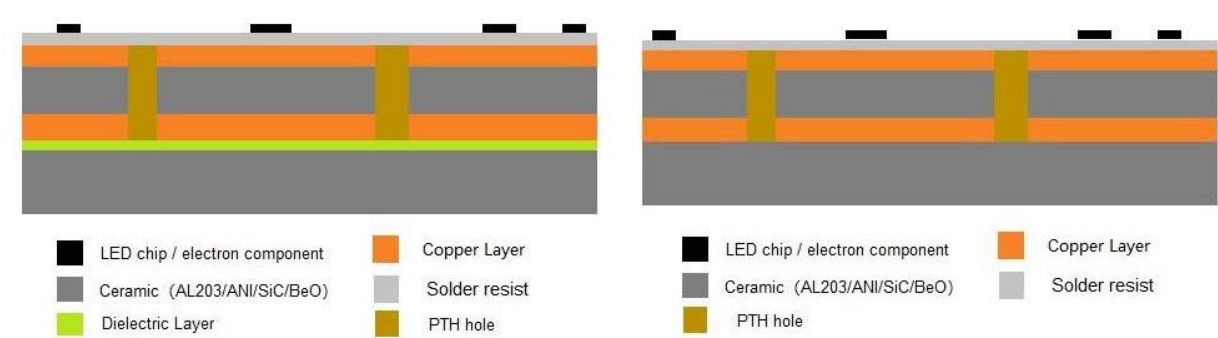


Ceramic PCB Structure

- 2 layer



- 2+1 layer



- 4 layer

	Thickness	Thermal conductivity
Solder resist	0.02	
copper 15um		
Aluminum Nitride	0.38-1.5mm	Sintering process
copper 15um		
Aluminum Nitride	0.2-0.38mm	
copper 15um		
Aluminum Nitride	0.38-1.5mm	
copper 15um		
Solder resist		