



Aluminium PCB Capacity And Laminate Data

Technical standard for aluminium metal core boards, plus measured laminate characteristics.

Aluminium Based PCB Technical Standard

ITEM	TECHNICAL SPECIFICATION
Maximum board size	450 x 450 mm, single and double sided
Board thickness	0.3 to 3.0 mm
Minimum track width	0.15 mm
Minimum track space	0.15 mm
Minimum hole size	0.5 mm
Plated hole wall thickness	>0.02 mm
Plated hole diameter tolerance	± 0.05 mm for $\phi \leq 0.8$ mm / ± 0.08 mm for $\phi > 0.8$ mm
Non-plated hole diameter tolerance	± 0.05 mm for $\phi \leq 0.4$ mm / ± 0.1 mm for $\phi > 0.4$ mm
Hole position tolerance	± 0.05 mm
Outline tolerance	± 0.2 mm
Insulation resistance	$10^{12} \Omega$ at normal condition
Dielectric strength	>1.3 kV/mm
Peel-off strength	1.4 N/mm
Solder mask abrasion	>5H
Thermal stress	265 °C for 5 seconds
Flammability rating	94V-0
Maximum working temperature	125 °C
Bow and twist	<0.01 mm/mm

Aluminium Based Copper Clad Laminate Characteristics

TEST ITEM	INDEX VALUE	TEST VALUE	TEST METHOD
Peel strength	1.8 N/mm	2.2 N/mm	GJB1651 clause 4010
Breakdown voltage	4 kV DC	6 kV DC	GJB1651 clause 5040
Dielectric loss tangent at 1 MHz	≤ 0.03	0.02	40 °C, 93% RH, 96 h
Dielectric constant at 1 MHz	≤ 4.4	3.5	40 °C, 93% RH, 96 h
Thermal shock, 2 min at 260 °C and 288 °C	No bubble, no delamination	No bubble, no delamination	GB/T4722 clause 17
Flammability	FV-0	FV-0	GB/T4722 clause 26

TEST ITEM	INDEX VALUE	TEST VALUE	TEST METHOD
Thermal resistance	1.5 °C/W	1 °C/W	TO-220

Thermal resistance of 1 °C/W is a measured value against an index value of 1.5 °C/W, tested on a TO-220 package. Maximum working temperature is 125 °C.