

Aluminum Based Copper-clad Laminate Sheet

Description and Application

Aluminum base copper-clad laminate have excellent flame retardant, high mechanical strength, dimensional stability etc. Especially it has very good heat sink, electromagnetic shielding and solder float.

It's widely used for the modifier and sparker on fire for motorcycle and mobile, power LED , sound box , power supply module and acoustics shielding system etc.



Note: Chaoshun specially produces Metal Base Copper-Clad Laminates, and our products have been compiled series with all complete specifications.

- The types and specification of Aluminum based Laminates CCAF-01, CCAF-04-A, CCAF-05 and 0.8mm, 1.0mm, 1.5mm, 2.0mm, 3.0mm etc.
- Thickness of the copper: 18um, 35um, 70um, 105um, 140um..
- Base size: 330mm x 380mm (13"x15"); 500mm x 600mm (20"x24"); 380mm x 660mm (15"x26")

CCAF-01 Aluminum-base copper-clad laminate.

Test Corp.: CHAOSHUN ELECTRONIC TECHNIQUE CO.,LTD

Test base: CCAF-01 Aluminum-base copper-clad laminate

Thickness of copper: 35um

Thickness of the dielectric: 70um

Cu base: 1.5mm

The result of the test:

Item	Test item	Technology request	Unit	Test result	
1	Peel Strength	A	≥ 1.8	N/mm	2.0
		After thermal stress (260°C)	≥ 1.8	N/mm	1.8
2	Blister test After Thermal stress (288°C , 2min)	288°C 2 min No delaminating	/	Ok	
3	Thermal resistance	≤ 2.0	°C/W	1.0	
4	Thermal-Conductive Factor		W/m·k	1.0	
5	Flammability(A)	FV-O	/	FV-O	
6	Surface Resistivity	A	$\geq 1 \times 10^5$	MΩ	5×10^7
		Constant humidity treatment (90%,35°C,96h)	$\geq 1 \times 10^5$	MΩ	2×10^6
7	Volume Resistivity	A	$\geq 1 \times 10^6$	MΩ·m	4×10^8
		Constant humidity treatment (90%,35°C,96h)	$\geq 1 \times 10^6$	MΩ·m	5×10^7
8	Dielectric Breakdown(DC)	≥ 28.5	KV/MM	31	
9	Dielectric constant (1MHz) (40°C , 93% , 96h)	≤ 4.4	/	4.2	
10	Dielectric dissipation factor (1MHz) (40°C , 93% , 96h)	≤ 0.03	/	0.02	

CCAF-04-A Aluminum-base copper-clad laminate

Test Corp.: CHAOSHUN ELECTRONIC TECHNIQUE CO.,LTD

Test base: CCAF-04-A High Thermal Resistance Aluminum-base Copper-clad laminate

Thickness of the copper: 35um

Thickness of the dielectric: 80um

Thickness of the aluminum-base: 1.5mm

The result of the test:

Item	Test item	Technology request	Unit	Test result	
1	Peel Strength	A	≥1.0	N/mm	1.05
		After thermal stress (260°C)	≥1.0	N/mm	01.05.09
2	Blister test After Thermal stress (288°C , 2min)	288°C 2 min No delaminating	/	OK	
3	Thermal resistance max	≤2.0	°C/W	0.65	
4	Thermal-Conductive Factor		W/m·k	1.5	
5	Flammability(A)	FV-O	/	FV-O	
6	Surface Resistivity	A	≥1×10 ⁵	MΩ	5.0×10 ⁷
		Constant humidity treatment (90%,35°C,96h)	≥1×10 ⁵	MΩ	4.5×10 ⁶
7	Volume Resistivity	A	≥1×10 ⁶	MΩ·m	1.0×10 ⁸
		Constant humidity treatment (90%,35°C,96h)	≥1×10 ⁶	MΩ·m	1.9×10 ⁷
8	Dielectric Breakdown(DC)	≥25	KV/MM	31	
9	Dielectric constant (1MHz) (40°C , 93% , 96h)	≤4.4	/	4.2	
10	Dielectric dissipation factor (1MHz) (40°C , 93% , 96h)	≤0.03	/	0.02	

CCAF-05 Aluminum-base copper-clad laminate

Test Corp.: CHAOSHUN ELECTRONIC TECHNIQUE CO.,LTD

The test base: CCAF-05 High Thermal Resistance Aluminum-base Copper-clad laminate

Thickness of the copper: 35um

Thickness of the dielectric: 80um

Thickness of the aluminum-base: 1.5mm

The result of the test :

Item	Test item	Technology request	Unit	Test result	
1	Peel Strength	A	≥1.0	N/mm	1.08
		After thermal stress (260°C)	≥1.0	N/mm	1.05
2	Blister test After Thermal stress (288°C , 2min)	288°C 2 min No delaminating	/	OK	
3	Thermal resistance max	≤2.0	°C/W	0.45	
4	Thermal-Conductive Factor		W/m.k	2.2	
5	Flammability(A)	FV-O	/	FV-O	
6	Surface Resistivity	A	≥1×10 ⁵	MΩ	3.68×10 ⁷
		Constant humidity treatment (90%,35°C,96h)	≥1×10 ⁵	MΩ	3.39×10 ⁶
7	Volume Resistivity	A	≥1×10 ⁶	MΩ.m	4.2×10 ⁸
		Constant humidity treatment (90%,35°C,96h)	≥1×10 ⁶	MΩ.m	3.17×10 ⁶
8	Dielectric Breakdown(DC)	≥25	KV/MM	60	
9	Dielectric constant (1MHz) (40°C , 93% , 96h)	≤4.4	/	4.24	
10	Dielectric dissipation factor (1MHz) (40°C , 93% , 96h)	≤0.035	/	0.033	