

# 浙江华正新材料股份有限公司



铝基覆铜板检测报告及品质保证书

Zhejiang Wazam New Materials Co., Ltd.

ALUMINUM SUBSTRATE COPPER CLAD LAMINATE QUALITY TEST REPORT AND COC

订单号 (P/O No):

出货日期 (Delivery Date): 2023.8.16

客户 (Customer): LLCElectroconnect	数量 (Quantity): 100
型号 (Type): HA80 2.0 1/0 1000X1220mm (胶膜)	铝型 (Aluminum type): 5052
绝缘层厚度 (Dielectric Thickness): 100	箱号 (P/N): 1358228

批号 (Lot No.): 23808PBE2005A	(CPCA4105-2010 P/N):	类型
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序号	检测项目	单位	检测条件	规范值	样品
No	Item	Unit	Test Condition	Specification Value	Actual Value
1	外观	—	A	CLASS A	PASS
	Visuals		IPC-TM-650 2.1.5.2.1.9	IPC-4101 3.8.3.1	
2	热导率* (见备注) Thermal Conductivity	W/m·K	ASTMD5470	≥2	2.01
3	剥离强度 Peel Strength	N/mm	288℃, 10s	≥1.20	1.36
			IPC-TM-650 2.4.8	IPC-4101 3.9.1.1	
4	板材厚度	mm	A	2.0± 0.10	1.96
	Thickness				
5	绝缘层厚度 Dielectric Thickness	μm	A	100±15	109
6	耐电压	KV	A	≥4	4
	Dielectric Breakdown		IPC-TM-650 2.5.6.2	IPC-4101 3.11.1.7	
7	热应力	—	288℃*10S, solder dip	>6cycles No delamination	PASS
	Thermal stress		IPC-TM-650 2.4.13.1	IPC-4101 3.10.1.2	
8	玻璃化转变温度(Tg)	℃	DSC	≥100	110
	Glass transition temperature		IPC-TM-650 2.4.25	IPC-4101 3.10.1.6	
9	燃烧性	—	E 24/125	UL94V-0	V-0
	Flammability		IPC-TM-650 2.3.10		
10	表面电阻率	MΩ	After moisture	≥1.0×10 <sup>4</sup>	6.03×10 <sup>6</sup>
	Surface Resistivity		IPC-TM-650 2.5.17.1	IPC-4101 3.11.1.4	
11	体积电阻率	MΩ·cm	After moisture	≥1.0×10 <sup>6</sup>	5.52×10 <sup>7</sup>
	Volume Resistivity		IPC-TM-650 2.5.17.1	IPC-4101 3.11.1.3	
12	吸水率	%	D 24/23	≤0.8	0.55
	Water Absorption		IPC-TM-650 2.6.2.1	IPC-4101 3.12.1.1	
13	相比漏电起痕指数 CTI	V	IEC-60112	≥600	600

**Note**

备注: 绝缘层热导率采用金属板厚度1.00mm、铜箔厚度35 μm、绝缘层厚度为75 μm的金属基覆铜板, 采用ASTM D5470测试计算所得。  
Remark: The thermal conductivity of the insulating layer is a metal-based copper clad laminate having a metal plate thickness of 1.00 mm, a copper foil thickness of 35 μm, and an insulating layer thickness of 75 μm, which is calculated by ASTM D5470.

- 1、请不要带包装烘板。Please do not bake the Laminate with packing.
- 2、保护膜的使用方法见我司随货或随单的说明书。The usage of protecting film please see the instruction of our company with goods or order.
- 3、符合欧盟RoHS指令。The above laminate(s) is accord with RoHS directive.

证明 CERTIFICATE OF CONFORMANCE

结论 (Result)

兹证明: 上述特性均经测试并合格。  
Hereby certify: above characteristic is tested and qualified.

Inspector: 牛小娟



检测 (Test): 牛小娟 审核 (Check): 谢观松



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订单号 (P/O No):

出货日期 (Delivery Date): 2023. 8. 16

客户 (Customer): LLCElectroconnect			数量 (Quantity): 100		
型号 (Type): HA80 1.5 1/0 1000X1220mm (胶膜)			铝型 (Aluminum type): 5052		
绝缘层厚度 (Dielectric Thickness): 100			箱号 (P/N): 1358227		
批号 (Lot No.): 23807PCF2004A			(CPCA4105-2010 P/N):		类型
序号	检测项目	单位	检测条件	规范值	样品
No	Item	Unit	Test Condition	Specification Value	Actual Value
1	外观	—	A	CLASS A	PASS
	Visuals		IPC-TM-650 2.1.5.2.1.9	IPC-4101 3.8.3.1	
2	热导率* (见备注) Thermal Conductivity	W/m·K	ASTMD5470	≥2	2.01
3	剥离强度 Peel Strength	N/mm	288°C, 10s	≥1.20	1.35
			IPC-TM-650 2.4.8	IPC-4101 3.9.1.1	
4	板材厚度	mm	A	1.5± 0.10	1.48
	Thickness				
5	绝缘层厚度 Dielectric Thickness	μm	A	100±15	110
6	耐电压	KV	A	≥4	4
	Dielectric Breakdown		IPC-TM-650 2.5.6.2	IPC-4101 3.11.1.7	
7	热应力	—	288°C*10S, solder dip	>6cycles No delamination	PASS
	Thermal stress		IPC-TM-650 2.4.13.1	IPC-4101 3.10.1.2	
8	玻璃化转变温度(Tg)	°C	DSC	≥100	110
	Glass transition temperature		IPC-TM-650 2.4.25	IPC-4101 3.10.1.6	
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	Flammability		IPC-TM-650 2.3.10		
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	Surface Resistivity		IPC-TM-650 2.5.17.1	IPC-4101 3.11.1.4	
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	Volume Resistivity		IPC-TM-650 2.5.17.1	IPC-4101 3.11.1.3	
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13	相比漏电起痕指数 CTI	V	IEC-60112	≥600	600
Note	备注: 绝缘层热导率采用金属板厚度1.00mm、铜箔厚度35 μm、绝缘层厚度为75 μm的金属基覆铜板, 采用ASTM D5470测试计算所得。 Remark: The thermal conductivity of the insulating layer is a metal-based copper clad laminate having a metal plate thickness of 1.00 mm, a copper foil thickness of 35 μm, and an insulating layer thickness of 75 μm, which is calculated by ASTM D5470.				
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3、符合欧盟RoHS指令。The above laminate(s) is accord with RoHS directive.					
证明 CERTIFICATE OF CONFORMANCE					
兹证明: 上述特性均经测试并合格。 Hereby certify: above characteristic is tested and qualified.					
检测 (Test)	11年小娟		11.01	审核 (Check): 谢观松	结论 (Result) QA专用章 QUALITY ASSURANCE PASS