

金安国纪科技股份有限公司

GOLDENMAX INTERNATIONAL TECHNOLOGY LTD.

GF 122 A1 级覆铜箔板技术指标 (UL E224772 type: GDM-R1) GF122 A1 Grade Laminate Property Values

试验项目 Test item	试样处理 Test Condition	标准值 Standard Value	典型值 Typical value
1. Peel strength lb/inch, minimum (HOZ) 抗剥强度 磅/英寸, 最小值 (H OZ) Receiving status 接收状态 After thermal stress 热应力后 Increase temperature 提高温度下	A A 125°C	≥6.0 ≥6.0 ≥4.0	6.0-8.0 6.0-8.0 5.5
2. Volume resistance, minimum, 体积电阻, 最小值 MΩ.CM At elevated temperatures 在提高温度下	E-24/125	≥10 ³	3×10 ⁶
3. Surface resistance, minimum, 表面电阻, 最小, MΩ At elevated temperatures 在提高温度下	E-24/125	≥10 ³	3×10 ⁶
4. Absorption, maximum 吸水性, 最大值 (%)	E-1/105+des	≤0.80	0.15-0.30
5. Breakdown voltage, minimum value 击穿电压, 最小值 (KV) step (thickness ≥ 0.50 mm) 步进 (厚度 ≥ 0.50 mm)	D-48/50 D-0.5/23	≥40	65
6. Bending strength, minimum 抗弯强度, 最小值 (N/mm ²) (thickness ≥ 0.50 mm) (厚度 ≥ 0.50 mm) vertical 经向 Zonal 纬向	A A	≥415 ≥345	490 410
7. Arc resistance, minimum, second 抗电弧性, 最小值, 秒	D-48/50 D-0.5/23	≥60	90
8. Flame retardancy 阻燃性	A	UL94V0	UL94V0
9. Solderability 可焊性	A	Solderable 可焊	Solderable 可焊
10. Dielectric constant, 1MHZ Max 介电常数, 1MHZ 下	A	≤ 5.4	4.5-4.8
11. Loss tangent, 1MHZ Max 损耗角正切, 1MHZ 下	A	≤0.035	0.00-0.030
12. Bow and Twis, 弯曲和翘曲 (%) Double sides (thickness > 0.78mm; 300×300mm) Single sides (thickness > 0.78mm; 300×300mm) Double sides (thickness 0.5~0.78 mm; 300×300mm) Single sides (thickness 0.5~0.78 mm; 300×300mm)	A A A A	≤1.0 ≤1.5 ≤1.5 ≤2.0	0.15-0.50 0.25-0.60 0.20-0.55 0.30-0.70
13. Thermal stress, 288°C, Tin drift 10 seconds 热应力, 288°C, 漂锡 10 秒 Unetched sample 未蚀刻试样	A	NO DEFECT	60-100sec.
14. Tracking index 相比漏电起痕指数, CTI	IEC60112 method	≥175V	175V
15. Glass transition temperature 玻璃化转变温度, TG(DSC, °C)	A	≥135	140±5
16. Z 轴膨胀系数 (CTE) Z-axis expansion coefficient	Before Tg (μm/m°C)	TMA	—
	After Tg (μm/m°C)	TMA	—
	50~260°C (%)	TMA	—
17. 工艺适应性: 适合常规加工工艺。Process adaptability: suitable for conventional.			
18. 适用范围: 军工、通讯、信息产业和汽车电路。不适用于计量用仪表。Scope of application: Military, communications, information industry and automotive circuits. Not suitable for metering instruments.			
19. 适用线路: 无特别限制。Applicable lines: no special restrictions.			
20. 适用板面: 单片面积 ≤ 300×300mm, 长宽比 ≤ 5。Applicable board surface: single piece area ≤ 300 × 300mm, aspect ratio ≤ 5.			

Remark: 1. 处理方法中字母及数值的含义: A-板材交货阶段 D-恒温水浴 E-高温烘培 数 1/数 2: 1-时间(小时) 2-温度(°C) des-干燥 10 分钟以上或干燥状态下冷却至室温。/The meaning of letter and date about treat condition :A-normal condition D- thermostatic water-bath E-bake in high temperature date1/date2: 1-time(hour) 2-temperature(°C) des-dry sample and fall on nature temperature.

2. 上表所定翘曲度标准仅适用于覆铜箔板交货验收。This specification of twist and bow is just suitable for CCL.