

KB-6150 / 6160 (ANSI: FR-4)

Unclad Laminates / 环氧玻纤布无铜板

Features 特点

- 无覆铜 FR-4 纤维布板 (光板)
FR-4 without copper foil cladding
- 良好的厚度均匀性
Excellent thickness uniformity
- 兼容紫外光阻挡及光学自动检查功能 (有要求时)
UV Blocking and AOI compatible (while having requirements)
- 耐热性能和机械性能与普通 FR-4 相同
Heat resistance and mechanical properties are similar to normal FR-4
- 符合 IPC-4101C 的规范要求
IPC-4101C specification is applicable

应用领域

Applications

- 补强板、电位器、电阻片等
- Reinforcement laminate , Potentiometer , Resistance etc

General Properties 一般特性

| Test Item 测试项目 | Unit 单位 | Test Method (IPC-TM-650) 测试方法 | Test Condition 处理条件 | Specification (IPC-4101C) 规格值 | Typical Value 典型值 |
|----------------------------------|-------------------|-------------------------------------|------------------------|-------------------------------------|----------------------|
| Bow / Twist 弯弓度/翘曲度 | % | 2.4.22.1 | A | ≤ 1.0 | 0.12 / 0.15 |
| Flexural Strength 抗弯强度 | N/mm ² | 2.4.4 | Warp | ≥415 | 565 |
| | | | Fill | ≥345 | 415 |
| Flammability 燃烧性 | Rating | UL94 | UL94 | UL94 V-0 | V-0 |
| Glass Transition (Tg) 玻璃化转变温度 | °C | 2.4.25 | E-2/105 DSC | ≥130 | 134 |
| Surface Resistivity 表面电阻 | MΩ | 2.5.17.1 | C-96/35/90 | ≥1.0×10 ⁴ | 1.0×10 ⁶ |
| Volume Resistivity 体积电阻 | MΩ-cm | 2.5.17.1 | C-96/35/90 | ≥1.0×10 ⁶ | 1.0×10 ⁸ |
| Dielectric Constant 介电常数 | — | 2.5.5.2 | Etched/@1 MHZ | ≤5.4 | 4.58 |
| Loss Tangent 介质损耗 | — | 2.5.5.2 | Etched/@1 MHZ | ≤0.035 | 0.022 |
| Arc Resistance 耐电弧性 | Sec | 2.5.1 | D-48/50+D-0.5/23 | ≥60 | 125 |
| Moisture Absorption 吸水率 | % | 2.6.2.1 | D-24/23 | ≤0.35(min0.51) | 0.21 |
| | | | | ≤0.80(max0.51) | 0.23 |

Remarks: Typical values for reference only 注: 典型值只作参考 Specimen Thickness: 1.6 mm 样品厚度: 1.6 mm

A = Keep the specimen originally without any process 保持原样, 不作处理

C = Temperature and humidity conditioning 在恒温恒湿的空气中处理

D = Immersing in distilled water with temperature control 浸在恒温的水中处理

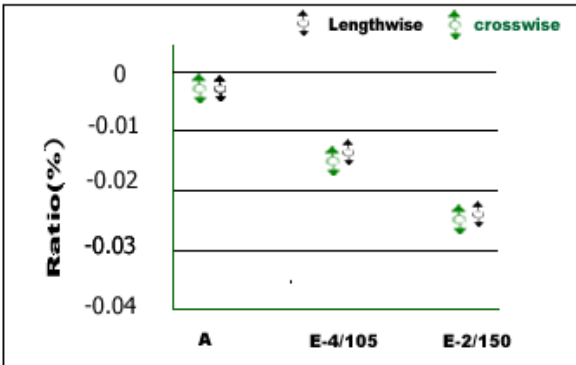
E = Temperature conditioning 在恒温的空气中处理

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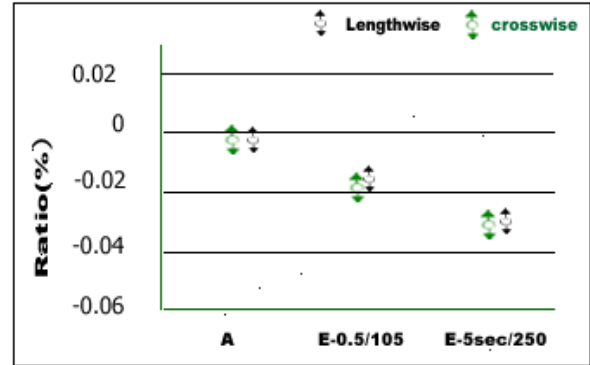
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Speciality Chart 板材特性图

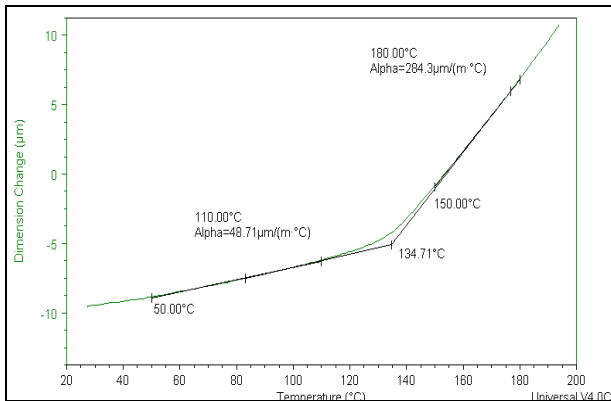
Dimensional stability 尺寸稳定性



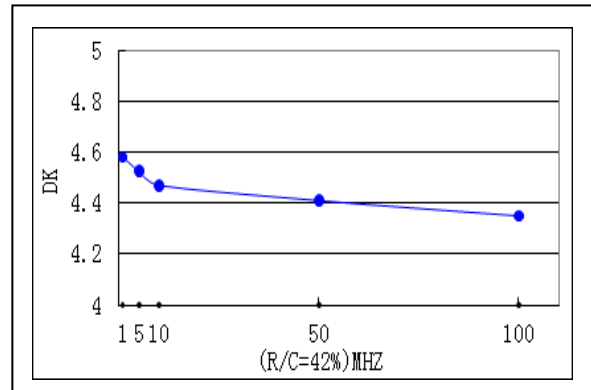
Dimensional stability-PCB process (size:360*310mm)



Thermal expansion of Z-direction (test by TMA)



Dielectric constant 介电常数



Purchasing Information 采购信息

| Base Color 基材颜色 | Thickness 厚度 | Regular Size (mm) 常规尺寸 |
|--|-----------------|--|
| Nature 自然色 Blue 蓝色 Black 黑色 Yellow 黄色 | 0.1mm ~ 3.2mm | 915*1220mm (36" * 48") 1020*1220mm (40" * 48") 1067*1220mm (42" * 48") |

- Note: 1) Other sheet size and thickness could be available upon request. 可根据客户要求提供其它尺寸和厚度;
2) Speciality chart for reference only. 以上图表仅供参考;
3) Version updates without notice. 版本更新恕不另行通知。