

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-4101B 的规范要求
IPC-4101B specification is applicable

应用领域

- 补强板、电位器、电阻片等

Applications

- 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-4101B) 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	℃	2.4.25	E-2/105 DSC	≥ 130	134
Surface Resistivity 表面电阻	MΩ	2.5.17.1	C-96/35/90	$\geq 1.0 \times 10^4$	1.0×10^6
Volume Resistivity 体积电阻	MΩ-cm	2.5.17.1	C-96/35/90	$\geq 1.0 \times 10^6$	1.0×10^8
Dielectric Constant 介电常数	—	2.5.5.2	Etched/@1 MHZ	≤ 5.4	4.6
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	$\leq 0.35(\text{min}0.51)$	0.21
				$\leq 0.80(\text{max}0.51)$	0.23

Remarks: 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

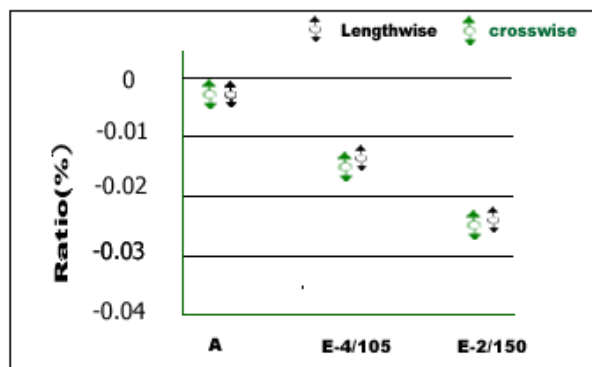
E = Temperature conditioning 在恒温的空气中处理

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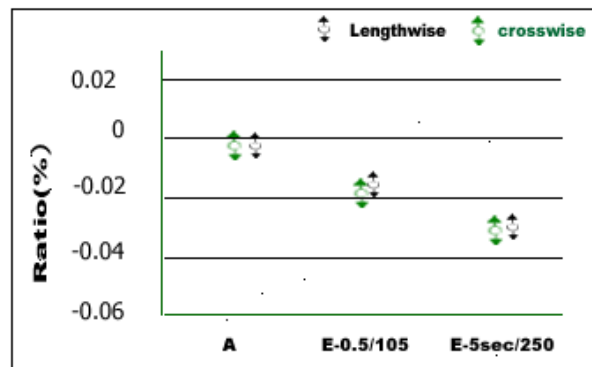
Unclad Laminates / 环氧玻纤布无铜板

Speciality Chart 板材特性图

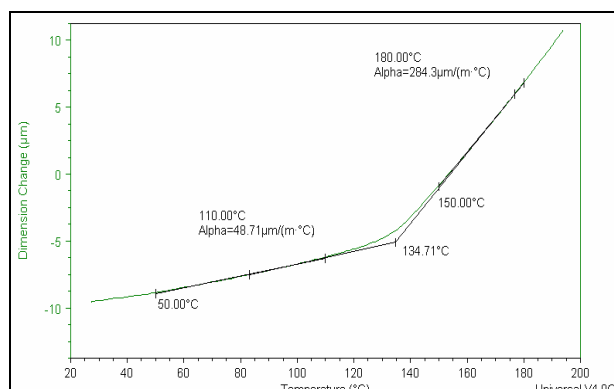
Dimensional stability 尺寸稳定性



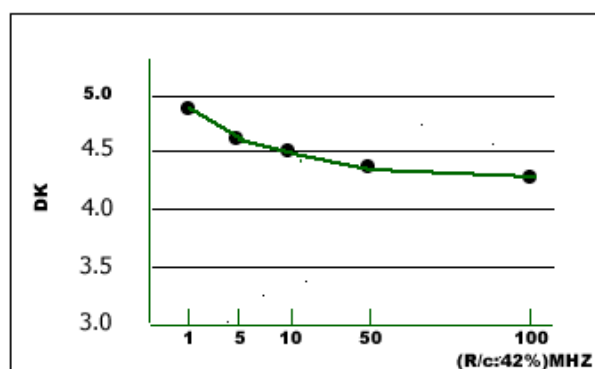
Dimensional stability-PCB process (size:360*310mm)



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	0.1mm ~ 3.2mm	915*1220mm (36" * 48")
Blue 蓝色		1020*1220mm (40" * 48")
Black 黑色		1067*1220mm (42" * 48")
Yellow 黄色		

Note: 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.