

Conventional FR-4/Normal Tg/CTI>600

特性 (Feature)

- 兼容紫外光阻挡及光学自动检查功能
UVB and AOI (automatic optical inspection) compatible
- 优良的耐热性能和机械性能
Excellent heat resistance and mechanical properties
- 符合IPC-4101E/97的规范要求
IPC-4101E/97 specification is applicable
- CTI≥600

应用 (Application)

- 计算机及外围设备
Computer and peripheral
- 通讯设备
Communication equipment
- 仪器仪表
Instrument
- 办公自动设备等
OA equipment, etc.

板材性能 (Laminate Properties)

| Test Item 测试项目 | | Test Method (IPC-TM- 650) 测试方法 | Test Condition 处理条件 | Unit 单位 | Specification 规格值 (IPC-4101E/97) | Typical Value 典型值 | |
|----------------------------|-----------------------------------|--------------------------------------|------------------------|-------------------|-------------------------------------|----------------------|-------|
| Thermal 热性能 | Thermal Stress 热应力 | 2.4.13.1 | Float 288 °C/ Unetched | Sec | ≥10 | ≥180 | |
| | Glass Transition (Tg) 玻璃化转变温度 | 2.4.25 | E-2/105 DSC | °C | ≥130 | 135 | |
| | CTE/ Z-Axis Expansion Z-轴热膨胀系数 | 2.4.24 | Alpha 1 | ppm/°C | — | 45 | |
| | | | Alpha 2 | | — | 240 | |
| | T-260 | 2.4.24.1 | TMA | min | — | > 20 | |
| | TD(5% weight loss) | 2.4.24.6 | TGA | °C | — | 314 | |
| Flammability 燃烧性 | UL94 | E-24/ 23 | Rating | V-0 | V-0 | | |
| Electrical 电性能 | Surface Resistivity 表面电阻 | 2.5.17.1 | C-96/35/90 | MΩ | ≥10 ⁴ | 1.0×10 ⁷ | |
| | Volume Resistivity 体积电阻 | 2.5.17.1 | C-96/35/90 | MΩ-cm | ≥10 ⁶ | 1.0×10 ⁹ | |
| | Dielectric Breakdown 击穿电压 | 2.5.6 | D-48/ 50+D-0.5/ 23 | kV | ≥40 | 69 | |
| | Dielectric Constant 介电常数 | 2.5.5.2 | Etched (RC50%) | @ 1 MHz | — | ≤5.4 | 4.7 |
| | | | | @ 1 GHz | | | 4.6 |
| | Loss Tangent 介质损耗 | 2.5.5.2 | Etched (RC50%) | @ 1 MHz | — | ≤0.035 | 0.014 |
| | | | | @ 1 GHz | | | 0.015 |
| CTI 相对漏电起痕指数 | IEC60112 | A | V | — | ≥600 | | |
| Arc Resistance 耐电弧性 | 2.5.1 | D-48/ 50+D-0.5/ 23 | Sec | ≥60 | 125 | | |
| Mechanical 机械性能 | Peel Strength (1 oz.) 铜箔剥离强度 | 2.4.8 | 125 °C | N/mm | ≥0.70 | 1.6 | |
| | | | Float 288 °C/ 10 Sec | | ≥1.05 | 1.7 | |
| | | | After Process Solution | | ≥0.80 | 1.25 | |
| | Flexural Strength 抗弯强度 | 2.4.4 | Length Direction | N/mm ² | ≥415 | 565 | |
| | | | Cross Direction | | ≥345 | 416 | |
| Moisture Absorption 吸水率 | 2.6.2.1 | D-24/23 | % | ≤0.5 | 0.19 | | |

KB-6160C 板材清单 (Laminate List)

| Thickness 厚度 (mm) | Size 尺寸 (Inch) | Copper foil Type 铜箔类型 |
|----------------------|--|--|
| 0.05-3.20 | 37" x49" , 41" x49" , 43" x49" 74" x49" , 82" x49" , 86" x49" | Reverse treated copper foil RTF铜箔 : 1/3OZ—3OZ HTE copper foil HTE铜箔 : 1/3OZ—3OZ |

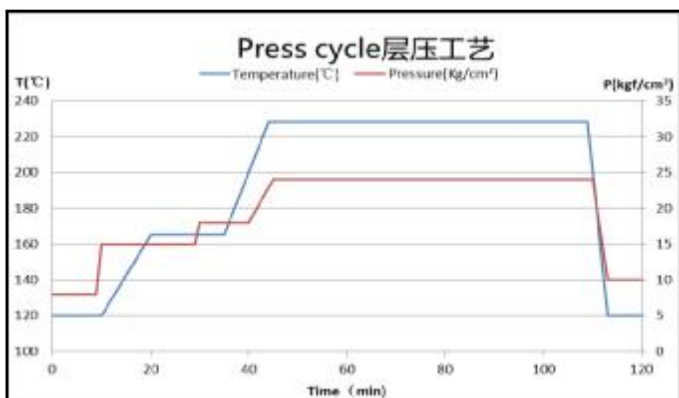
KB-6060C 半固化片清单 (Prepreg List)

| UL Designation UL型号 | PP style 类型 | R/C(%) 树脂含量 | Dk±0.2(1GHz) 介电常数 | Df±10%(1GHz) 介质损耗 | Thickness(mil) 压合厚度 |
|------------------------|----------------|----------------|----------------------|----------------------|------------------------|
| KB-6060C | 1080 | 62±2 | 4.3 | 0.016 | 2.8±0.30 |
| | | 65±2 | 4.2 | 0.017 | 3.1±0.40 |
| | | 68±2 | 4.2 | 0.017 | 3.4±0.40 |
| | 3313 | 55±2 | 4.5 | 0.017 | 3.8±0.30 |
| | | 58±2 | 4.4 | 0.017 | 4.2±0.40 |
| | 2116 | 52±2 | 4.5 | 0.016 | 4.6±0.40 |
| | | 55±2 | 4.5 | 0.016 | 5.0±0.40 |
| | | 58±2 | 4.4 | 0.016 | 5.4±0.50 |
| | 1506 | 46±2 | 4.6 | 0.015 | 6.2±0.40 |
| | | 50±2 | 4.5 | 0.016 | 6.8±0.50 |
| | 7628 | 43±2 | 4.7 | 0.015 | 7.3±0.40 |
| | | 45±2 | 4.6 | 0.015 | 7.7±0.50 |
| | | 48±2 | 4.6 | 0.015 | 8.3±0.50 |

KB-6060C 半固化片储存 (Prepreg Storage)

| 储存条件(Condition) | 有效期(Shelf Life) |
|--|-----------------|
| Max. 50%RH & Max. 23°C 湿度 < 50% 及 温度 < 23°C | 90 days |
| Max. 5°C(Normal in room temperature for at least 4h before using) 温度 < 5°C (拆包装前需在室温下回温至少4小时) | 180 days |

压合参数(Recommended Process)



- Heat-up rate: 1.0-2.5 °C/ min (80 °C-140 °C)
热压升温速率: 1.0-2.5 °C/ min (80 °C-140 °C)
- Curing time: >45min (>175 °C)
固化时间: >45min (>175 °C)
- Curing pressure: 25±5 kgf/ cm²
(Vacuum Hydraulic Press)
固化压力: 25±5 kgf/ cm²
(真空液压机)