KB **Technical Information**
产品技术资料

Laminate: KB-6160
Prepreg: KB-6060

UL: E123995

Conventional FR-4/Normal Tg

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
- 优异的尺寸稳定性
  Excellent dimensional stability
- 优良的耐热性能和机械性能
  Excellent heat resistance and mechanical properties
- 符合IPC-4101E/21的规范要求
  IPC-4101E/21 specification is applicable

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/21)	Typical Value 典型值
Thermal 热性能	Thermal Stress 热应力	2.4.13.1	Float 288 ℃/ Unetched	Sec	≥10	≥180
	Glass Transition (Tg) 玻璃化转变温度	2.4.25	E-2/105 DSC	℃	≥130	135
	CTE/ Z-Axis Expansion Z-轴热膨胀系数	2.4.24	Alpha 1	ppm/℃	——	60
			Alpha 2		——	300
			50 - 260 ℃	%	——	4.3
	T-260	2.4.24.1	TMA	min	——	> 10
	TD(5% weight loss)	2.4.24.6	TGA	℃	——	305
	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	1.0×10^6
	Volume Resistivity 体积电阻	2.5.17.1	C-96/35/90	MΩ-cm	≥10^6	1.0×10^8
	Dielectric Breakdown 击穿电压	2.5.6	D-48/ 50+D-0.5/ 23	kV	≥40	≥45
	Dielectric Constant 介电常数	2.5.5.2	Etched (RC50%) @ 1 MHz	—	≤5.4	4.35
			@ 1 GHz			4.25
	Loss Tangent 介质损耗	2.5.5.2	Etched (RC50%) @ 1 MHz	—	≤0.035	0.017
			@ 1 GHz			0.018
	CTI 相对漏电起痕指数	IEC60112	A	V	——	≥175
	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 ℃	N/mm	≥0.70	1.7
			Float 288 ℃/ 10 Sec		≥1.05	1.75
			After Process Solution		≥0.80	1.3
	Flexural Strength 抗弯强度	2.4.4	Length Direction	N/mm^2	≥415	565
			Cross Direction		≥345	446
	Moisture Absorption 吸水率	2.6.2.1	D-24/23	%	≤0.5	0.19

Remarks:
- Typical Values for reference only.
- Standard Values according to IPC-4101E/ 21
- Typical Value of Specimen thickness is 1.6mm (8*7628)

注:
- 典型值只供参考
- 规格值参照 IPC-4101E/ 21
- 样品 的厚度为 1.6mm (8*7628)

KB-6160 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″ ×49″ , 41″ ×49″ , 43″ ×49″ 74″ ×49″ , 82″ ×49″ , 86″ ×49″	Reverse treated copper foil RTF铜箔：1/3OZ—3OZ HTE copper foil HTE铜箔：1/3OZ—3OZ

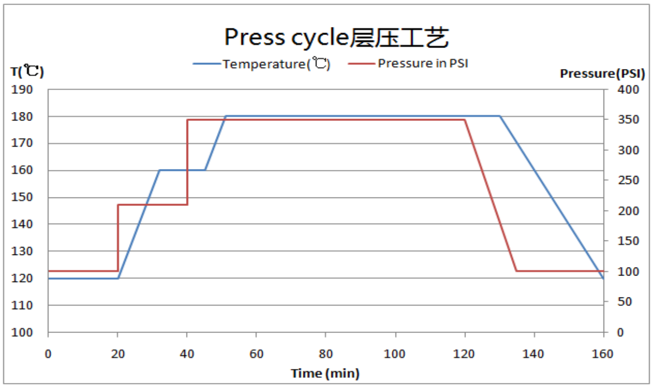
KB-6060 半固化片清单 (Prepreg List)

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-6060	1080	61±2	3.8	0.018	2.8±0.3
		63±2	3.8	0.019	3.0±0.4
		65±2	3.7	0.019	3.2±0.4
	3313	53±2	4.0	0.018	3.7±0.5
		55±2	3.9	0.018	3.9±0.5
	2116	50±2	4.2	0.017	4.6±0.5
		53±2	4.1	0.019	5.0±0.5
		55±2	4.1	0.019	5.3±0.5
	1506	43±3	4.5	0.016	6.0±0.5
		45±3	4.4	0.016	6.4±0.5
	7628	44±3	4.5	0.015	7.9±0.8
		46±3	4.5	0.016	8.2±0.6
		49±3	4.4	0.016	8.9±0.6
	7630	49±3	4.5	0.016	9.5±0.8
		50±3	4.5	0.016	9.8±0.8

KB-6060 半固化片储存 (Prepreg Storage)

储存条件(Condition)	有效期(Shelf Life)
Max. 50%RH & Max. 23℃ 湿度< 50% 及 温度<23℃	90 days
Max. 5℃(Normal in room temperature for at least 4h before using) 温度<5℃ (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: 1.5-2.5 ℃/ min (80 ℃-140 ℃)
  热压升温速率: 1.5-2.5 ℃/ min (80 ℃-140 ℃)
- Curing time:>45min(>175 ℃)
  固化时间: >45min(>175 ℃)
- Curing pressure: 350±50 PSI
  (Vacuum Hydraulic Press)
  固化压力: 350±50 PSI
  (真空液压压机)

Remarks:
This Technical Information only lists the typical values of particular specification. If the customer needs other specifications, please contact your sales representative for more information.

注:
本产品技术资料只列出指定规格的典型值，如客户需要其他规格的资料，请与您的销售代表联系