

Conventional FR-4/Normal Tg

特性 (Feature)

- 兼容紫外光阻挡及光学自动检查功能
UV Blocking 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 °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	——	60
			Alpha 2			——	300
			50 - 260 °C			——	4.3
	T-260	2.4.24.1	TMA		min	——	> 10
	TD(5% weight loss)	2.4.24.6	TGA		°C	——	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 °C		N/mm	≥0.70	1.70
			Float 288 °C/ 10 Sec			≥1.05	1.75
			After Process Solution			≥0.80	1.30
	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

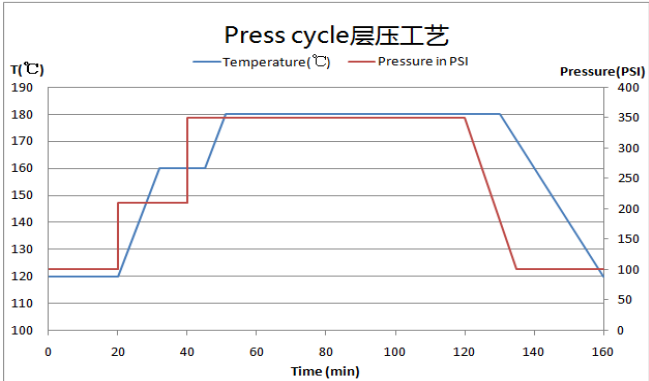
KB-6060 半固化片清单 (Prepreg List)

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	63±2	3.9	0.018	3.1±0.4
		65±2	3.9	0.019	3.3±0.4
		68±2	3.8	0.019	3.7±0.5
	3313	50±2	4.1	0.018	3.6±0.4
		52±2	4.0	0.018	3.8±0.4
	2116	50±2	4.3	0.017	4.7±0.4
		53±2	4.2	0.019	5.0±0.4
		55±2	4.2	0.019	5.3±0.5
		57±2	4.2	0.019	5.6±0.5
	1506	45±3	4.4	0.016	6.4±0.4
		48±3	4.4	0.016	6.9±0.5
		50±3	4.4	0.016	7.3±0.5
	7628	43±3	4.5	0.015	7.8±0.5
		45±3	4.5	0.016	8.2±0.5
		47±3	4.4	0.016	8.6±0.6

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 °C/ min (80 °C-140 °C)
热压升温速率: 1.5-2.5 °C/ min (80 °C-140 °C)
- Curing time:>45min(>175 °C)
固化时间: >45min(>175 °C)
- Curing pressure: 350±50 PSI
(Vacuum Hydraulic Press)
固化压力: 350±50 PSI
(真空热油压机)

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