KB-6164/KB-6064

UL: E123995

无铅TG140玻纤布覆铜板/低成本无铅解决方案

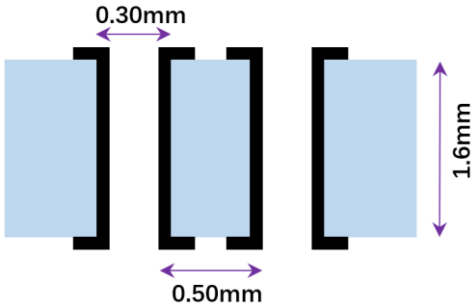
◎特性(Feature)

- 无铅兼容FR-4.0板材
  Lead-free compatible
- 优良的耐热性
  Excellent thermal reliability
- 低的Z轴热膨胀系数
  Low Z-CTE
- 良好的耐CAF性能
  Anti-CAF capability
- 较低吸水率
  Low water absorption

◎应用(Application)

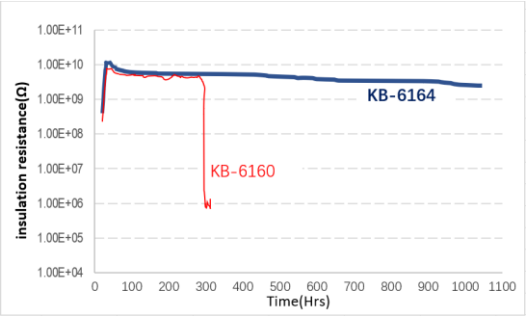
- 电脑及笔记本电脑
  Computer and NB
- 仪器仪表
  instruments
- 消费电子
  Consumer electronics
- 汽车电子
  Automotive electronics

◎CAF resistance



评估条件：

Thickness:1.6mm, 7628*8ply
Drill hole size : 0.3mm
Wall to wall: 0.5mm
85℃/85%RH DC100V
Pretreatment: 3x 260℃ Reflow



◎板材性能(Laminate properties)

Test Item 测试项目	Unit 单位	Typical Value 典型值	Test Method (IPC-TM650)
Thermal Stress热应力	Sec	≥240	2.4.13.1
Glass Transition (Tg) 玻璃化转变温度	℃	141	2.4.25
CTE/ Z-Axis Expansion Z-轴热膨胀系数	ppm/℃	45	2.4.24
		250	
	%	3.6	
T-288	min	25	2.4.24.1
TD	℃	346	2.4.24.6
Flammability燃烧性	Rating	V-0	UL94
Surface Resistivity 表面电阻	MΩ	3.0×10^{7}	2.5.17.1
Volume Resistivity 体积电阻	MΩ-cm	3.0×10^{10}	2.5.17.1
Dielectric Breakdown 介质击穿	kV	60	2.5.6
Dielectric Strength 介质强度	kV/mm	45	2.5.6.2
Dielectric Constant 介电常数@1GHz	—	4.6	2.5.5.2
Loss Tangent 介质损耗@1GHz	—	0.017	2.5.5.2
Arc Resistance 耐电弧性	Sec	125	2.5.1
Peel Strength (1 oz.) 铜箔剥离强度	N/mm	1.5	2.4.8
Flexural Strength 抗弯强度	N/mm^2	550	2.4.4
		485	
Moisture Absorption 吸水率	%	0.10	2.6.2.1

Remark: 1) All the typical value is based on the 1.6mm(8*7628) specimen.
2) Specification sheet: IPC-4101/101, is for your reference only.

◎KB-6164板材清单(Laminate list)

Thickness 厚度(mil)	Layup 叠构	Thickness 厚度(mil)	Layup 叠构	Size尺寸	Copper foil Type 铜箔类型
2.5	1067×1	10	2165×2	37”×49”	
3.0	1080×1，1086×1	12	1506×2	41”×49”	Reverse treated copper foil
4.0	2116×1，3313×1	16	7628×2	43”×49”	RTF铜箔：1/3OZ—3OZ
5.0	2165×1，1080×2	24	7628×3	74”×49”	
6.0	1506×1，1080×2	32	7628×4	82”×49”	HTE copper foil
7.0	7628×1	47	7628×6	86”×49”	HTE铜箔：1/3OZ—3OZ
8.0	7628×1	59	7628×8		

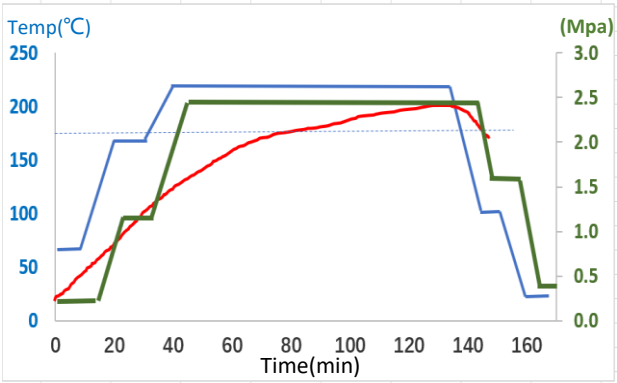
◎KB-6064半固化片清单(Prepreg list)

UL Designation UL型号	PP style 类型	R/C(%) 树脂含量	GT(s) 胶化时间	Dk(1GHZ) 介电常数	Df(1GHZ) 介质损耗	V/C (%) 挥发物	Thickness(mil) 压合厚度
KB-6064	1080	62±2	110±20	4.3±0.2	0.016	≤0.75	2.8±0.30
		65±1	110±20	4.2±0.2	0.017	≤0.75	3.1±0.30
		68±1	110±20	4.2±0.2	0.017	≤0.75	3.5±0.30
	2116	52±1	105±20	4.5±0.2	0.016	≤0.75	4.7±0.30
		55±1	105±20	4.5±0.2	0.016	≤0.75	5.1±0.30
		58±1	105±20	4.4±0.2	0.016	≤0.75	5.6±0.30
	1506	46±2	100±20	4.6±0.2	0.015	≤0.75	6.4±0.40
		50±2	100±20	4.5±0.2	0.016	≤0.75	7.0±0.40
	7628	42±2	100±20	4.7±0.2	0.015	≤0.75	7.4±0.50
		45±2	100±20	4.6±0.2	0.015	≤0.75	7.9±0.50
		48±2	100±20	4.6±0.2	0.016	≤0.75	8.5±0.50

◎KB-6064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: 1.5-2.0℃/min (80℃-140℃)
  热压升温速率: 1.5-2.0℃/min (80℃-140℃)
- Curing time:>50min(>180℃)
  固化时间: >50min(>180℃)
- Curing pressure:2.5±0.5Mpa
  (vacuum hydraulic press)
  固化压力:2.5±0.5Mpa (真空液压压机)