

### KB-6165 (ANSI: FR-4)

### 覆铜箔环氧玻纤布层压板

#### 特点

- Tg 150°C (DSC 测试), 低 Z-轴 CTE 值
- 热裂解温度高
- 优良的耐热性, 能满足无铅制程要求
- 符合 IPC-4101B/124 的规范要求
- 非双氰胺固化体系, 不含填料
- 良好的耐金属离子迁移性

#### Features

- 150°C (By DSC), low Z-axis expansion
- High Temperature of Decomposition (Td)
- Excellent heat resistance and appropriate for Lead Free Assembly.
- IPC-4101B/124 specification is applicable .
- Dicy –free and no filler
- ANTI-CAF

#### 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	
Peel Strength (1 oz.) 铜箔剥离强度	N/mm	2.4.8	125°C	≥0.70	1.35	
			Float 288°C/ 10 Sec	≥1.05	1.42	
Flammability 燃烧性	Rating	UL94	E-24/23	UL94 V-0	V-0	
Thermal Stress 热应力	Sec	2.4.13.1	Float288°C/unetched	≥10	60	
Glass Transition (Tg) 玻璃转化温度	°C	2.4.25	E-2/105 DSC	≥150	153	
Surface Resistivity 表面电阻	MΩ	2.5.17.1	C-96/35/90	≥1.0×10 <sup>4</sup>	1.0×10 <sup>7</sup>	
Volume Resistivity 体积电阻	MΩ-cm	2.5.17.1	C-96/35/90	≥1.0×10 <sup>6</sup>	1.0×10 <sup>9</sup>	
Moisture Absorption 吸水性	%	2.6.2.1	D-24/23	≤0.35(min0.51)	0.16	
				≤	0.30	
Dielectric Breakdown 介质击穿	KV	2.5.6	D-48/50+D0.5/23	≥40	72	
Dielectric Strength 介质强度	KV/mm	2.5.6.2	D-48/50+D0.5/23	≥29	46	
Flexural Strength 抗弯强度	N/mm <sup>2</sup>	2.4.4	Warp	≥415	560	
			Fill	≥345	430	
Dielectric Constant 介电常数	—	2.5.5.2	Etched/@1 MHZ	≤5.4	4.65	
Loss Tangent 介质损耗	—	2.5.5.2	Etched/@1 MHZ	≤0.035	0.018	
Arc Resistance 耐电弧性	Sec	2.5.1	D-48/50+D0.5/23	≥60	125	
CT E	Z-Axis Expansion	ppm/°C % (50-260°C)	2.4.24	E-2/105 TMA	≤60/300	55/287
					≤3.5	3.1
TD	°C	2.4.24.6	TGA	≥325	335	
CAF	H	-	85%,85°C,50V DC	≥1000	1000	
T-260	min	2.4.24.1	TMA	≥30	50	
T-288	min	2.4.24.1	TMA	≥5	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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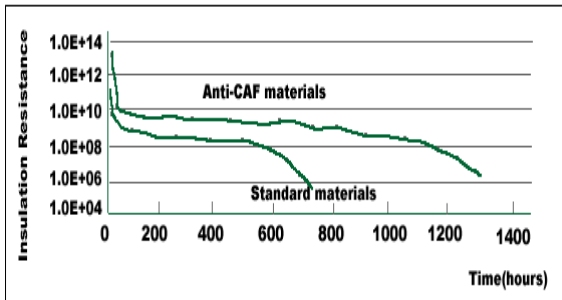
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Other data for references 其它数据(仅供参考)

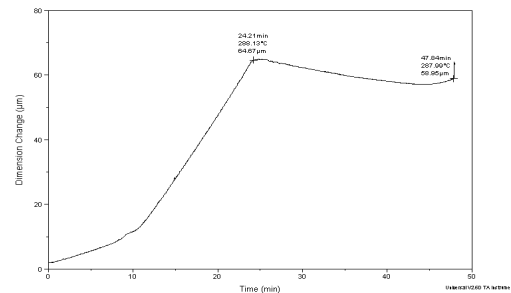
Item		Unit	Typical Value	Item		Unit	Typical Value
Young's modulus	Warp	Million	3.5	Poisson's ratio	Warp	--	0.14
	Fill	psi	3.2		Fill	--	0.13
Tailors modulus	Warp	Million	3.3	Tensile strength	Warp	N/mm <sup>2</sup>	385
	Fill	psi	2.9		Fill		265

### Speciality Chart 板材特性图

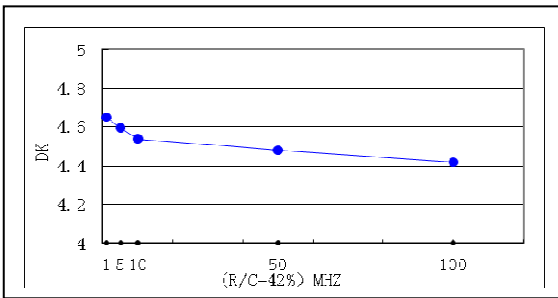
CAF 耐离子迁移



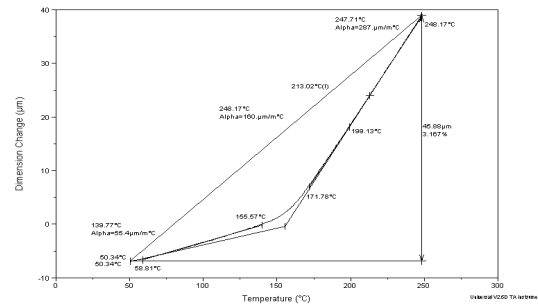
Delamination 分层时间(T-288 test by TMA)



Dielectric constant 介电常数



CTE Z轴热膨胀系数 (test by TMA)



### Applications 应用领域

- Computer, communication equipment, instrument, OA equipment, etc.  
计算机及外围设备、通讯设备、仪器仪表、办公自动设备等

### Purchasing Information 采购信息

Base Color 基板颜色	Thicknesses 厚度	Copper Cladding 铜箔厚度	Regular Sizes 常规尺寸
黄色 Yellow	0.05mm ~ 3.2mm	18µm /35µm 70µm /105µm	940*1245mm (37" * 49") 1042*1245mm (41" * 49") 1093*1245mm (43" * 49")

Note: Other sheet sizes and thicknesses could be available upon request.  
可根据客户要求提供其它尺寸和厚度。