

Conventional FR-4/Normal Tg

特性 (Feature)

- 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)

- 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	132	
	CTE/ Z-Axis Expansion Z-轴热膨胀系数	2.4.24	Alpha 1	ppm/°C	—	58	
			Alpha 2		—	286	
	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	69	
	Dielectric Constant 介电常数	2.5.5.2	Etched (RC50%)	@ 1 MHz	—	≤5.4	4.6
				@ 1 GHz			4.5
	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	—	150/600		
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	1.7	
			Float 288 °C/ 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	560	
Cross Direction					≥345	440	
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)

