



VT-47

Datasheet 技术资料表

VT-47 Laminate / Prepreg

VT-47 基板 / 半固化片 (UL family with VT-481)

● General Information

- High Tg FR-4 (Tg 180°C)
- Phenolic Cured System, Lead Free Compatible
- Excellent Thermal Reliability
- CAF Resistance
- UV Blocking
- Low Z-CTE

概述

- 高 Tg FR-4 (Tg180°C)
- 酚醛固化体系、适用无铅制程
- 优异的耐热性
- 耐 CAF
- UV 遮蔽
- 低 Z 轴膨胀系数

● Application

Computer, Communication equipment,
Instrumentation, Precise apparatus &
instrument, Server, Router, Automotive,
Medical, etc

应用

笔记本电脑、通讯设备、测量仪表、
精密仪器仪表、服务器、路由器、
汽车电子、医疗器械等

● Availability 产品型号

- Core Thickness: .002"(0.05mm) to .200" (5mm), available in sheet or panel form
- Copper Foil: 1/4oz to 12oz
- Prepregs are available in roll or panel form
- E-Glass styles: 7628, 1506, 1500, 2113, 2313, 3313, 2116, 1080, 1086, 1078, 106 &1067, etc

Note: For cores ≤ .005", it is recommended to use the reverse treated copper due to the low profile. The peel strength for RT foil is ≈1-2lbs/in (0.35Kg/m) less than Standard foil.

对于.005"以下的芯板，建议使用低棱线的反转铜箔，但其剥离强度比标准铜箔之剥离强度低
1lbs/in~2lbs/in (0.35Kg/m)。

● Storage Condition & Shelf Life 存储条件&保存期限

		Laminate	Prepreg	
Storage Condition	Temperature	Room	< 23°C (73°F)	< 5°C (41°F)
	Relative Humidity	/	< 55%RH	/
Shelf Life		24 Months(airproof)	3 Months	6 Months

Note: The pre-preg exceeding shelf life should be retested.

过期材料在使用前需要复测以确认特性。



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- **Properties Sheet 特性表:** IPC-4101C Slash Sheet(s)/126(most compliant), / 21, /24, /26, /97, /98, /99, /101

Properties	Test Method	Units	Specification	Typical Value
Thermal Properties				
Glass Transition Temp. (Tg)				
DSC	IPC-TM-650 2.4.25	°C	170 minimum	180
TMA	IPC-TM-650 2.4.24	°C	-	-
Td @5% weight loss	ASTM D3850	°C	340 minimum	355
Time to Delamination---T260	IPC-TM-650 2.4.24.1	Minute	30 minimum	>60
Time to Delamination---T288	IPC-TM-650 2.4.24.1	Minute	15 minimum	>30
Z-axis CTE				
Before Tg	IPC-TM-650 2.4.24	ppm/°C	60 maximum	45
After Tg	IPC-TM-650 2.4.24	ppm/°C	300 maximum	190
Total Expansion (50~260°C)	IPC-TM-650 2.4.24	%	3.0 maximum	2.3
Thermal Stress @ 288°C	IPC-TM-650 2.4.13.1	Second	Pass 10s	>600
Electrical Properties				
Dielectric Constant @ 1GHz	IPC-TM-650 2.5.5.9	-	5.2 maximum	4.57
Dissipation Factor @ 1GHz	IPC-TM-650 2.5.5.9	-	0.035 maximum	0.016
Volume Resistivity				
After Moisture Resistance	IPC-TM-650 2.5.17.1	MΩ-cm	10 ⁴ minimum	5*10 ⁸
E-24/125	IPC-TM-650 2.5.17.1	MΩ-cm	10 ³ minimum	5*10 ⁶
Surface Resistivity				
After Moisture Resistance	IPC-TM-650 2.5.17.1	MΩ	10 ⁴ minimum	5*10 ⁷
E24/125	IPC-TM-650 2.5.17.1	MΩ	10 ³ minimum	5*10 ⁶
Electrical Strength	IPC-TM-650 2.5.6.2	Volt/mil (KV/mm)	762 (30) minimum	1200~1400 (54)
Dielectric Breakdown	IPC-TM-650 2.5.6	KV	40 minimum	60
Comparative Tracking Index (CTI)	ASTM D3638	Rating (Volt)	-	Grade 3 (175~250)
Arc Resistance	IPC-TM-650 2.5.1	Second	60 minimum	124
Mechanical Properties				
Peel Strength (1oz)				
As received	IPC-TM-650 2.4.8	lb/in (N/mm)	-	7.5~10 (1.3~1.75)
After thermal stress	IPC-TM-650 2.4.8	lb/in (N/mm)	6 (1.05) minimum	7.5~10 (1.3~1.75)
Flexural Strength				
Warp	IPC-TM-650 2.4.4	Kpsi (MPa)	60 (415) minimum	72 (500)
Fill	IPC-TM-650 2.4.4	Kpsi (MPa)	50 (345) minimum	61 (420)
Physical Properties				
Moisture Absorption	IPC-TM-650 2.6.2.1	%	0.80 maximum	0.12
Thermal Conductivity	ISO22007-2	W/M-K	-	0.5
Flammability	UL-94	Rating	V0 minimum	V0

Note: All test data provided are typical values and are not intended to be specification values.

所有提供的测试数据均为典型值，非特定规范。