



VT-42F

UL Approval: E214381

Version : Rev. 3

Datasheets

Semi-Flex Material

Laminate VT-42F / Prepreg VT-42F PP

General Information

- Dicy Cured System;
- Standard FR-4
- UV Blocking;
- Laser Fluorescing;

Application

VT-42F, Semi-Flex laminate, is designed for static flex install PCBs and suitable for normal PCB process base on FR-4 system.

Availability

VT-42F, Semi-Flex Laminates, are available in thickness of 0.002", .003" and 0.005", and with the copper foil from 1/4oz to 3oz.

VT-42F Prepreg with pressed thickness of 0.002", 0.003" and .005" are available.

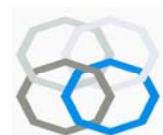
Glass Style	Resin Content (%)	Pressed Thickness (mm)
106	68%	0.050
1080	61%	0.075
2116	51%	0.125

Storage Condition & Shelf Life

		Laminate	Prepreg	
Storage Condition	Temperature	Room	Below 22°C(73°F)	Below 22°C(73°F)
	Relative Humidity	/	Below 55%RH	/
Shelf Life		12 Months(airproof)	3 Month	6 Month

Precautions:

*** Please be careful when treating the thin core laminates because these are easily bend.**



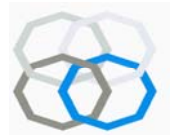
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Properties Sheets: IPC-4101B Specification Sheet(s)/21

Laminate Properties		Test Condition (IPC-TM-650 or As Noted)	Specification	Typical Value	Unit
Glass Transition Temp.(Tg)	DSC	2.4.25	Above 110	120-125	°C
Flexural Strength	Warp	2.4.4	>415	600	MPa
	Fill		>345	500	
Volume Resistance	After Moisture	2.5.17.1	≥10 ⁶	5×10 ⁸	MΩ-cm
	E-24/125		≥10 ³	5×10 ⁶	
Surface Resistance	After Moisture	2.5.17.1	≥10 ⁴	5×10 ⁷	MΩ
	E-24/125		≥10 ³	5×10 ⁶	
Electric Strength		2.5.6.2	≥30	54	KV/mm
Peel strength (1oz)	As Received	2.4.8	≥8	10-14	Lb / in
	After Thermal		≥8	9-12	Lb / in
Water Absorption	D-24 / 23	2.6.21	≤0.35	<0.15	%
	After PCT	1atm.,121°C, 1hour	—	<0.28	%
Z-axis C.T.E	Before Tg	2.4.24	—	50	ppm/°C
	After Tg		260		
Time to Delamination@260°C (T260)		2.4.24.1	—	25	Min
Thermal Stress	Solder Dip 288 °C	2.4.13.1	6	15	Cycle/10sec
Breakdown Voltage	D-48/50+D0.5/23	2.5.6	≥40	60	KV
Arc Resistance	D-48/50+D0.5/23	2.5.1	≥60	65	Sec
Permittivity(1MHZ)	C-24 / 23 / 50	2.5.3,2.5.9,2.5.5	—	4.7-4.9	—
Dissipation Factor(1MHZ)	C-24 / 23 / 50	2.5.3,2.5.9,2.5.5	—	0.016-0.020	—
Flame Retardant	As Received	UL 94	V-1	V-0	—
Comparative Tracking Index(CTI)		UL-7461 ASTM D3638	Grade3	200	Volt

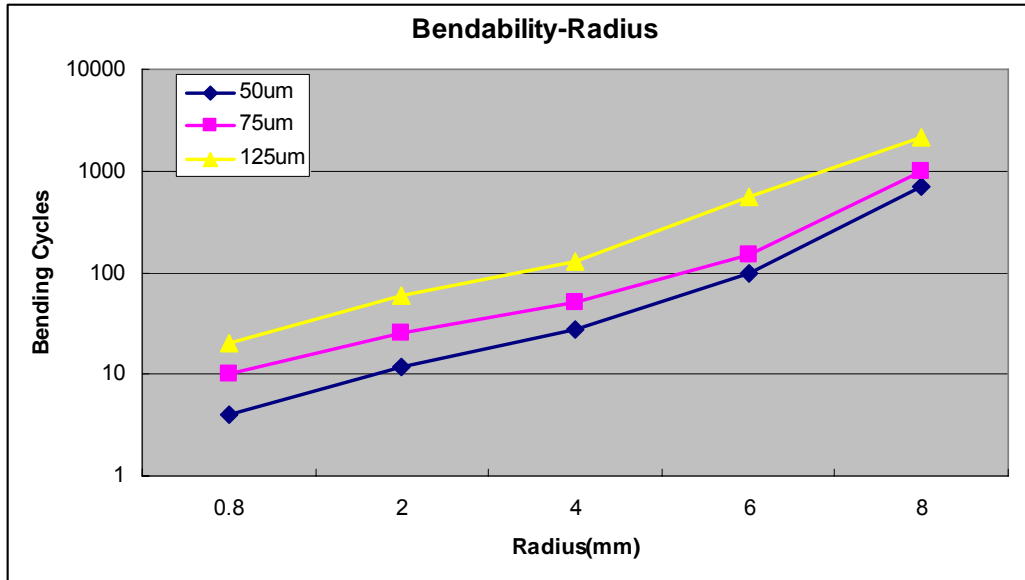
※All testdata provided are typical values and not intended to be specification values.



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Semi-Flex Material

Bendability



Standard Constructions for VT-42F Semi-flex Laminate (Multilayer):

VT-42F semi-flex laminates are available as sheets or panels with double or single sided copper cladding. Standard copper thickness are 18, 35 and 70um.

Nominal dielectric thickness (mm)	Construction
0.050	106*1
0.075	1080*1
0.125	2116*1

Process Guideline

Press Condition

1. Heating rate(Rise of Rate) of material: 1.5-3.0°C/min(5~10°F/min)[Material Temperature].
2. Curing Temperature & Time: >45min at more than 170°C(338°F)[Material Temperature]. °C
3. Full Pressure: ≥300psi
4. Vacuuming should be continued until over 140°C(284°F) [Material Temperature]

Desmearing & Drilling Process

Recommend Standard FR-4 Desmear and Drilling Process.