tec-speed 9.2 & 9.3H

UL Approval: E214381 Version: 29/10/2025

VT-468 (LK2) & VT-468 (Q) Laminate

General Information

- Halogen free & High Tg
- Very Low Dk & Extremely Low Loss
- Excellent Thermal Reliability

Application

- High-speed Network Equipment
- AI GPU
- 224 Gbps Backplanes

Availability

- Core Thickness: 0.002" (0.05mm) to 0.007" (0.178mm), available in sheet or panel form
- Copper Foil: Hoz to 2oz
- Prepregs are available in roll or panel form
- LK2-Glass Styles: 1035, 1078

Storage Condition

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

Note: The prepreg exceeding shelf life should be retested.

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Properties Sheet

Properties		Test Method	Units	Specification	Typical Value	
					VT-468(LK2)	VT-468(Q)
Thermal Properties						
Tg	DMA	IPC-TM-650 2.4.24.4	°C	170 minimum	205	205
Td		ASTM D3850	°C	340 minimum	440	440
T288		IPC-TM-650 2.4.24.1	Minute	15 minimum	>120	>120
Thermal Stress @ 288°C		IPC-TM-650 2.4.13.1	Second	Pass 10s	>600	>600
Z-axis CTE	Before Tg	IPC-TM-650 2.4.24	ppm/°C	60 maximum	40	40
	After Tg	IPC-TM-650 2.4.24	ppm/°C	300 maximum	140	140
	Total Expansion (50~260°C)	IPC-TM-650 2.4.24	%	3.5 maximum	1.5	1.5
Electrical Properties						
Dk	@ 10GHz (RC 66%)	Cavity Resonator	–	5.2 maximum	3.1	2.5
Df	@ 10GHz (RC 66%)	Cavity Resonator	–	–	0.0009	0.0005
Volume Resistivity	After Moisture Resistance	IPC-TM-650 2.5.17.1	MΩ-cm	1.0E+4 minimum	6.00E+8	5.00E+8
	E-24/125	IPC-TM-650 2.5.17.1	MΩ-cm	1.0E+3 minimum	6.00E+6	5.00E+6
Surface Resistivity	After Moisture Resistance	IPC-TM-650 2.5.17.1	MΩ	1.0E+4 minimum	6.00E+7	5.00E+7
	E-24/125	IPC-TM-650 2.5.17.1	MΩ	1.0E+3 minimum	6.00E+6	5.00E+6
Electrical Strength		IPC-TM-650 2.5.6.2	Volt/mil (KV/mm)	762 (30) minimum	1372 (54)	1400 (55)
Dielectric Breakdown		IPC-TM-650 2.5.6	KV	40 minimum	60	60
Comparative Tracking Index (CTI)		ASTM D3638	Rating (Volt)	–	Grade 3 (175~250)	Grade 3 (175~250)
Arc Resistance		IPC-TM-650 2.5.1	Second	60 minimum	195	195
Mechanical Properties						
Peel Strength (Hoz HVLP3)	As received	IPC-TM-650 2.4.8	lb/in (N/mm)	–	4.0 (0.7)	4.0 (0.7)
	After thermal stress	IPC-TM-650 2.4.8	lb/in (N/mm)	–	4.0 (0.7)	4.0 (0.7)
Flexural Strength	Warp	IPC-TM-650 2.4.4	Kpsi (MPa)	60 (415) minimum	80 (560)	72 (500)
	Fill	IPC-TM-650 2.4.4	Kpsi (MPa)	50 (345) minimum	65 (450)	61 (420)
Physical Properties						
Moisture Absorption		IPC-TM-650 2.6.2.1	%	0.80 maximum	0.04	0.04
Flammability		UL-94	Rating	V-0 minimum	V-0	V-0

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

Disclaimer: The information and data contained in this technical literature is based on data and knowledge correct at the time of publishing/printing and is believed to be accurate and is offered in good faith for the benefit of the user. The user should make his own tests to verify the suitability of this product for any application before its use. All data are typical values only and subject to change without notice.