

tec-speed 20.0 - VT-870 / VT-870PP

UL Approval: E214381 Version: B1.0

Laminate/Prepreg

General Information

- > High Tg Ceramic Filled Hydrocarbon Laminate & Prepreg
- > Dk (3.48) and Df (0.0037)
- > Excellent Thermal Reliability
- > Excellent peel strength

Application

- > Cellular Base Station Antenna and Power Amplifiers
- > Automotive Radar
- > LNB (Low Noise Block) for Broadcast Satellites
- > RF Identification Tags (RFID)

Availability

Item	Availability
Copper Foil	Hoz, 1oz, 2oz
Dielectric	0.0033", 0.0066", 0.010", 0.0133", 0.0166", 0.020", 0.030", 0.060"
Standard Size	37"*49", 41"*49", 43"*49", and Panels could be cut from above sizes.

VT-870 is available for both HTE and HVLP copper foil. The HVLP copper foil is for PIM sensitive application.

Storage Condition & Shelf Life

Properties		Prepreg	Laminate
Storage Condition	Temperature	≤5 °C	Room
	Relative humidity	/	/
Shelf Life		6 months	24 months

CORPORATE HEADQUARTERS

Ventec Electronics Co. Ltd.
308 TaiShan Rd,
New District Suzhou,
Jiangsu, P.R. China 215129
T: +86 512-68091810
Email: sales@ventec.com.cn

EMEA REGIONAL HEADQUARTERS

Ventec Europe
Unit 1 Trojan Business Centre,
Tachbrook Park Estate,
Leamington-Spa, CV34 6RH, UK
T: +44 1926-889822
Email: sales@ventec-europe.com

AMERICAS REGIONAL HEADQUARTERS

Ventec USA
21 Water Street, Amesbury,
Massachusetts, MA 01913,
United States of America
T: +1 978-5219700
Email: saleseast@ventec-usa.com

www.ventec laminates.com

tec-speed 20.0 - VT-870 / VT-870PP

UL Approval: E214381 Version: B1.0

Laminate/Prepreg

Properties Sheet

Properties	Test Method	Units	Specification	Typical Value	
Thermal Properties					
Tg	IPC-TM-650 2.4.24	°C	170 minimum	280	
Td	ASTM D3850	°C	340 minimum	392	
T288	IPC-TM-650 2.4.24.1	Minute	15 minimum	>120	
Thermal Stress @ 288°C	IPC-TM-650 2.4.13.1	Second	10 minimum	>600	
Z axis CTE	50~250°C IPC-TM-650 2.4.24	ppm/°C	-	31	
X axis CTE	50~250°C IPC-TM-650 2.4.24	ppm/°C	-	10	
Y axis CTE	50~250°C IPC-TM-650 2.4.24	ppm/°C	-	11	
Electrical Properties					
Dielectric Constant @ 10GHz	IPC-TM-650 2.5.5.5 Clamped stripline	-	-	3.48 ±0.05	
Thermal coefficient of Dk @10GHz (-55~120°C)	Cavity Resonator	ppm/°C	-	+50	
Design DK	Differential Phase Length Method	-	-	3.66	
Dissipation Factor @ 2.5GHz	Cavity Resonator	-	-	0.0031	
Dissipation Factor @ 10GHz	Cavity Resonator	-	-	0.0037	
Volume Resistivity	IPC-TM650 2.5.17.1	MΩ-cm	-	1.3E+10	
Surface Resistivity	IPC-TM650 2.5.17.1	MΩ	-	5.9E+9	
Electrical Strength	IPC-TM650 2.5.6.2	kV/mm (V/mil)	-	31.5 (788)	
Mechanical Properties					
Peel Strength (1oz HTE)	As received	IPC-TM-650 2.4.8	lb/in (N/mm)	4.57 (0.8)	6.0 (1.05)
	After thermal stress	IPC-TM-650 2.4.8	lb/in (N/mm)	4.57 (0.8)	6.0 (1.05)
Tensile Strength	X axis	ASTM D638	Mpa (kpsi)	-	205 (29.8)
	Y axis			-	135 (19.6)
Density	ASTM D792	gm/cm ³	-	1.87	
Physical Properties					
Flammability	UL-94	Rating	-	V0	
Lead Free Process Compatible	-	-	-	Yes	
Thermal Conductivity	Z axis ASTM-D5470	W/mK	-	0.69	

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

Prepreg (VT-870PP)

Glass Style	Pressed Thickness
1080	0.004" (100µm)

VT-870PP is compatible in multi-layer constructions with VT-870 laminate.

CORPORATE HEADQUARTERS

Ventec Electronics Co. Ltd.

308 TaiShan Rd,
New District Suzhou,
Jiangsu, P.R. China 215129

T: +86 512-68091810

Email: sales@ventec.com.cn

EMEA REGIONAL HEADQUARTERS

Ventec Europe

Unit 1 Trojan Business Centre,
Tachbrook Park Estate,
Leamington-Spa, CV34 6RH, UK

T: +44 1926-889822

Email: sales@ventec-europe.com

AMERICAS REGIONAL HEADQUARTERS

Ventec USA

21 Water Street, Amesbury,
Massachusetts, MA 01913,
United States of America

T: +1 978-5219700

Email: saleseast@ventec-usa.com

www.ventec laminates.com

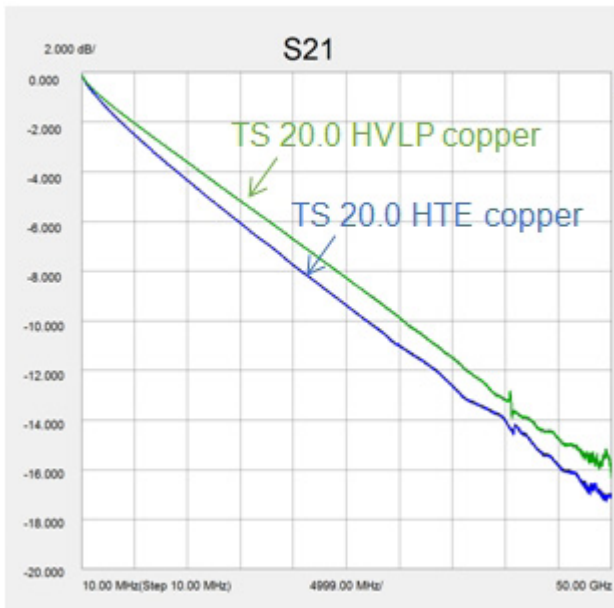
tec-speed 20.0 - VT-870 / VT-870PP

UL Approval: E214381 Version: B1.0

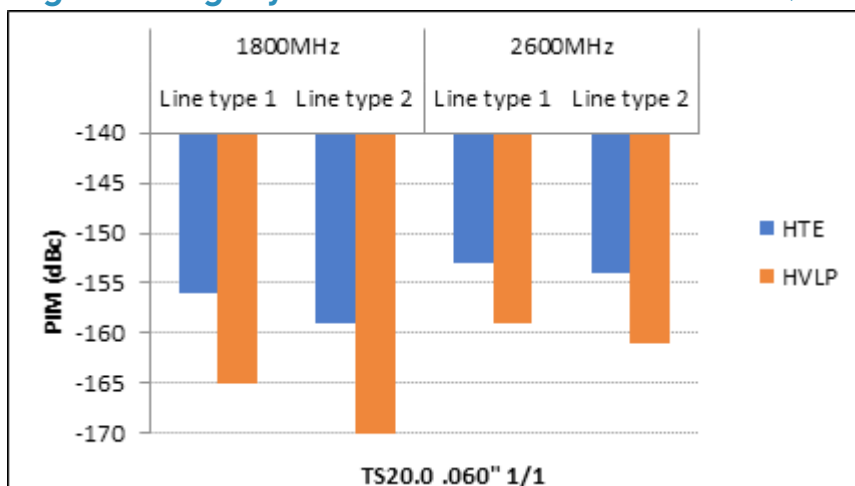
Laminate/Prepreg

Signal Integrity – Insertion Loss

12.4 mil trace width



Signal Integrity – Passive Intermodulation (PIM)



CORPORATE HEADQUARTERS

Ventec Electronics Co. Ltd.
308 TaiShan Rd,
New District Suzhou,
Jiangsu, P.R. China 215129
T: +86 512-68091810
Email: sales@ventec.com.cn

EMEA REGIONAL HEADQUARTERS

Ventec Europe
Unit 1 Trojan Business Centre,
Tachbrook Park Estate,
Leamington-Spa, CV34 6RH, UK
T: +44 1926-889822
Email: sales@ventec-europe.com

AMERICAS REGIONAL HEADQUARTERS

Ventec USA
21 Water Street, Amesbury,
Massachusetts, MA 01913,
United States of America
T: +1 978-5219700
Email: saleseast@ventec-usa.com