

VITROPERM 550 HF

NEW NANOCRYSTALLINE CORES OFFERING VOLUME, WEIGHT & COST OPTIMIZED HF-DESIGNS



Tape wound cores made of our new VITROPERM® 550 HF offer improved attenuation at high frequencies (HF, $f > 100$ kHz) in comparison to our standard VITROPERM 500 F cores and typical EMI ferrites. These cores enable high RFI-noise suppression in innovative filter designs with smaller volume and/or higher performance for future applications.

TARGET APPLICATIONS

- Common mode chokes, power-, drive- and signal-transformers for SMPS (Switched Mode Power Supplies), wind/solar inverters and variable frequency drives

- Cores, common mode chokes and power transformers for powertrain and battery charging (wallboxes, on-board chargers, charging piles) for electric vehicles

Common mode chokes using VITROPERM 550 HF cores offer the following features:

- Up to 60 % size/weight reduction compared to VITROPERM 500 F (VP) solutions and even more compared to ferrites
- Broadband insertion loss characteristic as known from VP 500 F
In case of transformers, significantly reduced core losses above 50 kHz can be achieved.

MATERIAL DATA OF VITROPERM 550 HF (TYPICAL VALUES)

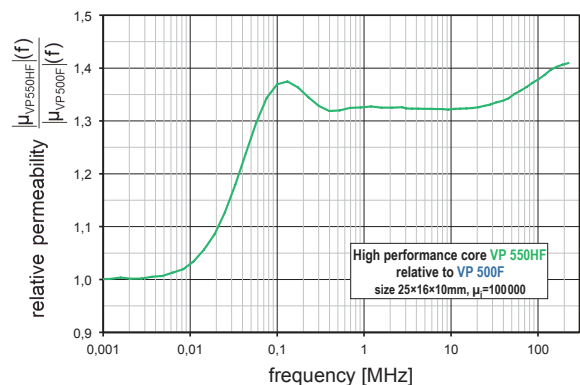
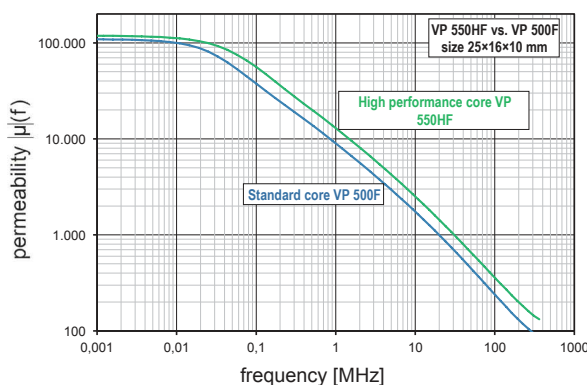
Saturation flux density	1.21 T (room temperature)
Coercivity (static)	< 2 A/m
Saturation magnetostriction	$\sim 1 \times 10^{-7}$
Specific electrical resistivity	$115 \mu\Omega\text{cm}$
Curie temperature	$> 600^\circ\text{C}$
Upper operational temperature	plastic case: 130°C^* core mat.: 155°C 180°C (lim. time)
Typical permeability μ_l	$\sim 20,000 - 100,000$ (10 kHz)

* Plastic cases suitable for upper continuous application temperatures of 155°C are available on request.

NEW VITROPERM 550 HF CORES

Part number	A_L [μH] @ 100 kHz		I_{cm} [A] @ 10 (100) kHz	
	VP 500 F	VP 550 HF	VP 500 F	VP 550 HF
T60004-				
L2025-V344 25x16x10 mm ³	15.5	24	0.3 (0.65)	0.3 (0.6)
L2040-V345 40x25x15 mm ³	23.1	36.1	0.5 (1.0)	0.5 (0.9)
L2102-V346 102x76x25 mm ³	23.3	36.1	1.5 (3.3)	1.5 (2.8)

TYPICAL CHARACTERISTICS: VITROPERM 550 HF – VITROPERM 500 F



VACUUMSCHMELZE CHINA MAGNETICS

Shanghai Sales Office
Room 06, 19F
Zhongrong Hengrui International Plaza
620 Zhangyang Road, Pudong District
Shanghai, PRC 200122
Phone +86 21 58 31 98 37
Fax +86 21 58 31 99 37
vac_china@vacuumschmelze.com

VACUUMSCHMELZE GMBH & CO. KG

Grüner Weg 37
D 63450 Hanau / Germany
Phone +49 6181 38 0
Fax +49 6181 38 2645
info@vacuumschmelze.com
www.vacuumschmelze.com

VAC MAGNETICS LLC

2935 Dolphin Drive
Suite 103
Elizabethtown, KY 42701
Phone +1 270 769 1333
Fax +1 270 769 3118
info-usa@vacmagnetics.com

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