

# 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: $130^\circ\text{C}^*$ core mat.: $155^\circ\text{C}$ $180^\circ\text{C}$ (lim. time)
Typical permeability $\mu_l$	$\sim 20,000 - 100,000$ (10 kHz)

\* Plastic cases suitable for upper continuous application temperatures of  $155^\circ\text{C}$  are available on request.

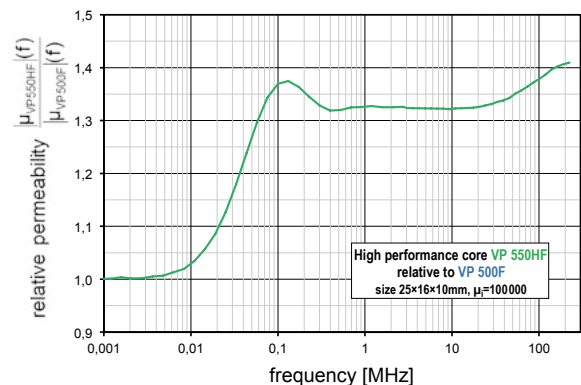
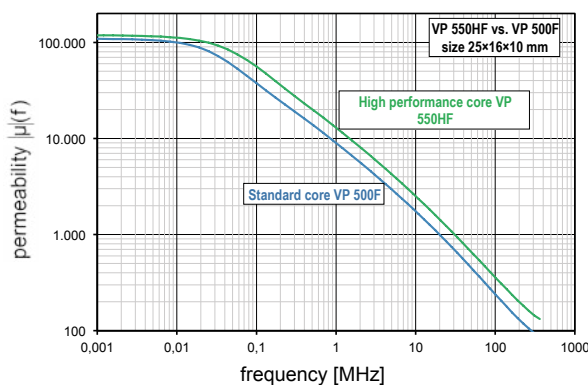
### NEW VITROPERM 550 HF CORES

Part number	$A_L$ [ $\mu\text{H}$ ] @ 100 kHz		$I_{cm}$ [A] @ 10 (100) kHz	
	VP 500 F	VP 550 HF	VP 500 F	VP 550 HF
<b>T60004-</b>				
L2025-V344 25x16x10mm <sup>3</sup>	15.5	24	0.3 (0.65)	0.3 (0.6)
L2040-V345 40x25x15mm <sup>3</sup>	23.1	36.1	0.5 (1.0)	0.5 (0.9)
L2102-V346 102x76x25mm <sup>3</sup>	23.3	36.1	1.5 (3.3)	1.5 (2.8)

An overview of all VITROPERM 550 HF cores can be found on [our website](#).



### TYPICAL CHARACTERISTICS: VITROPERM 550 HF – VITROPERM 500 F



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