

NEW: NANOPERM® MR cores with $\mu > 8000$ –
Superb replacement for power ferrite cores



MAGNETEC offers nanocrystalline tape wound cores from **NANOPERM®** which substitutes 1:1 power ferrites from a core size of 56mm. The new soft magnetic cores of the **MR series** are mechanically compatible with the current design of power ferrites and offer significant benefits regarding inductance, saturation level, core losses and impedance over frequency. Thus no costly redesigns in existing applications are needed and for new designs similar design rules as for the ferrite design could be applied.

Types	Nominal dimensions do x di x h [mm]	Finished dimensions Do x Di x H [mm]	lfe [cm]	afe [cm ²]	ALnom @ 10kHz [μH]	Is* IxN [Apeak]
MR-056	54,1 x 33,5 x 17	57,5 x 30,9 x 19,2	13,5	1,37	15,3	6,5
MR-063	61,9 x 38,6 x 23	65,3 x 36 x 26,2	15,5	2,08	20,2	7,5
MR-080	79 x 41 x 13	83 x 38,4 x 15,9	18,2	1,94	16,0	8,5
MR-102	101,4 x 66,3 x 13	104,8 x 63,7 x 16,3	26,0	1,71	9,9	12,0
MR-140	140,4 x 106 x 23	143,8 x 103,1 x 26,8	38,4	3,13	12,3	18,0
MR-202	203,4 x 151,6 x 23	206,8 x 149,2 x 26,8	55,37	4,68	12,7	26,0

* @B=1,0T; $\mu_{max} = \mu_{nom} \times 1,4$; N=1

Compared to conventional power ferrite cores, our same sized **NANOPERM® MR** cores offers following benefits:

- higher inductance and higher impedance in a wide frequency range
- higher saturation current
- reduced power losses
- advanced EMI suppression over a wide frequency range
- no saturation flux density drop down at high temperatures
- Curie temperature at app. 600°C
- higher frequency bandwidth up to 100 MHz

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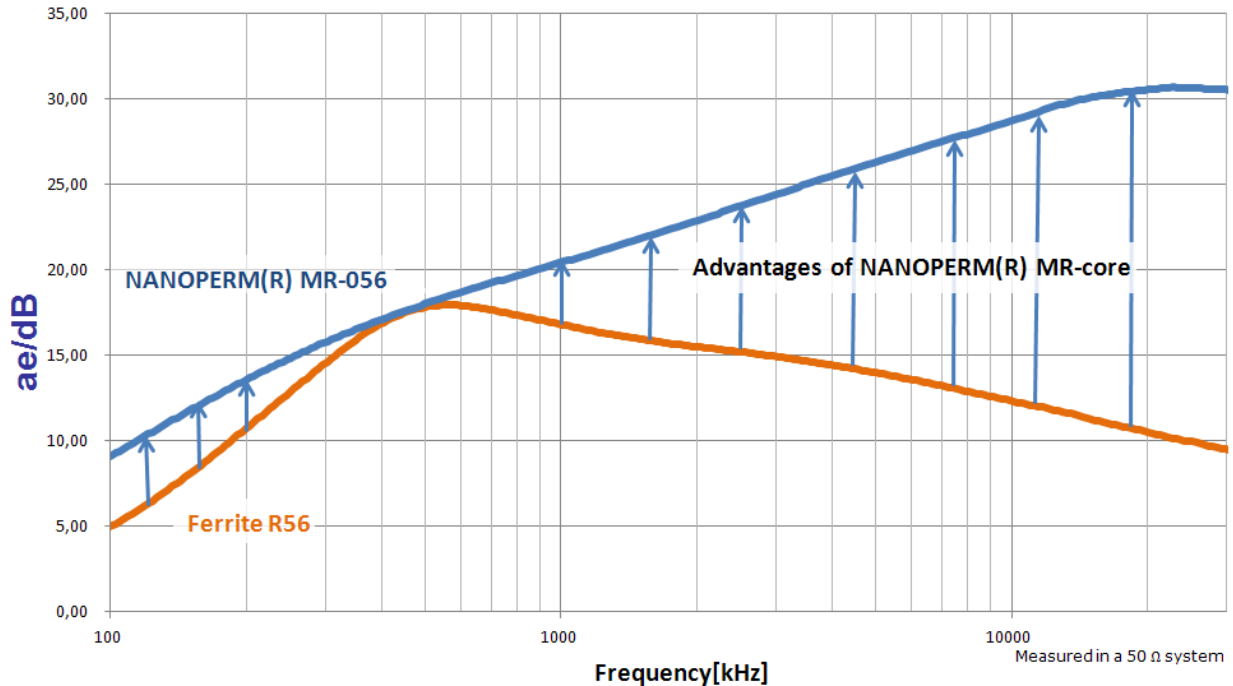
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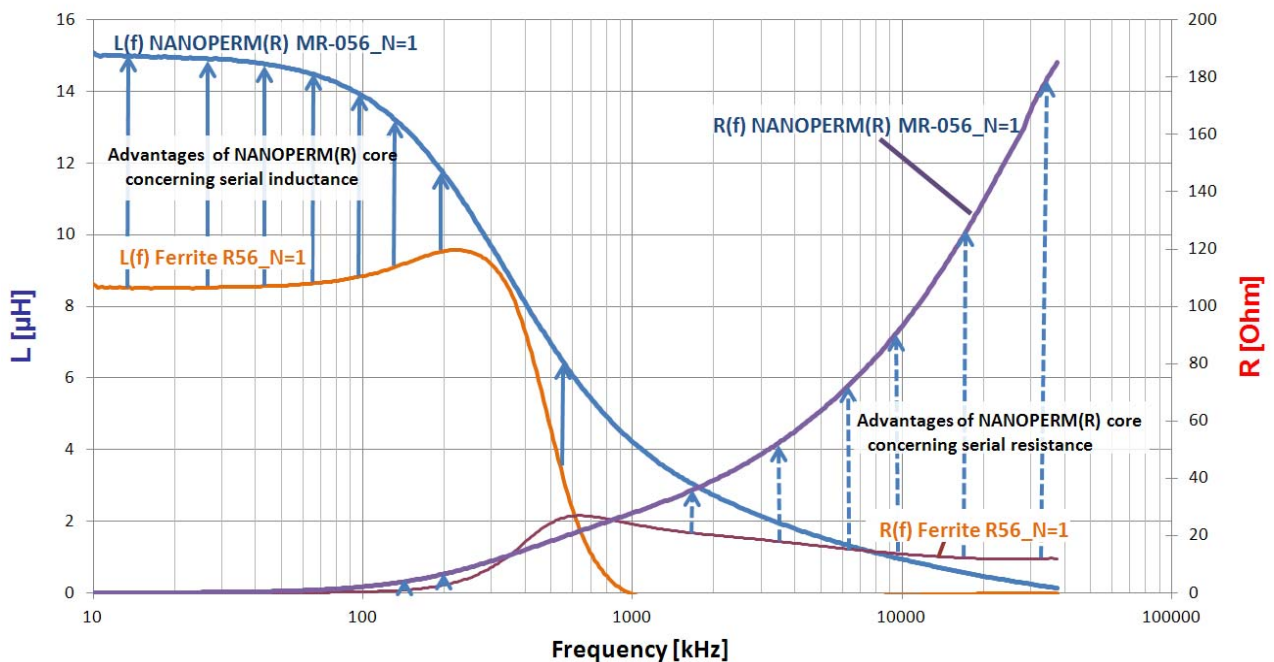
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Comparison Insertion loss a_e (Core size 58 x 31 x 19, N = 5, $d_{cu} = 2\text{mm}$)



Comparison Inductance L and Serial Resistance R (Core size 58 x 31 x 19)



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