Nanoperm®

Cased EMC Core selection matrix

Magnetec

- High inductance and high impedance in a wide frequency range
- Advanced EMI suppression over a wide frequency range
- Low saturation flux density drop at high temperatures
- High saturation current and lower power loss
- High operational temperature up to 130°C

MAGNETEC offers advanced and superb EMC-cores based on nanocrystalline NANOPERM® material. Our NANOPERM® material has excellent magnetic properties as its saturation inductance is ca. 1,2T, permeability is adjustable from 1k up to 90k@10kHz, curie temperature is about 600°C and the losses are only 110W/kg@100kHz, 0,3T sin. MAGNETEC have built up a wide standard range of cased cores and offers them with different permeabilities. Our cased cores are encapsulated in a plastic housing with a max temperature about 130°C.

Nom. dim	16x10x6	20x12x8	25x20x10	25x16x10	30x20x10	40x32x15	40x25x15	45x30x20	50x40x20
ODxIDxH	18,2x7,8x8,4	22,3x10,3x10	27,8x17,5x12,6	28,2x13,2x12,6	32,7x17,8x12,6	43,1x28,8x17,4	44,5x21,4x19	48,5x25,5x24	53,4x36,6x23,5
µr~ca.1k	M-1601	M-1201	M-1251(c+)	M-659(c+)	M-660(c+)	M-661	M-1401	M-1451	M-1501
	Isat= 32A	Isat=40A	Isat=56A	Isat=50A	Isat=62A	Isat=90A	Isat=80A	Isat=92A	Isat=112A
µr~ca.2k	M-956	M-1202	M-1252(c+)	M-669(c+)	M-670(c+)	M-671	M-1402	M-796**	M-1502
	Isat=16A	Isat=20A	Isat=28A	Isat=25A	Isat=31A	Isat=45A	Isat=40A	Isat=46A	Isat=56A
µr~ca. 4k	M-957	M-1204	M-1254(c+)	M-679(c+)	M-680(c+)	M-681	M-934	M-762	M-1504/ M-149(O)
	Isat=8A	Isat=10A	Isat=14A	Isat=12A	Isat=16A	Isat=22A	Isat=16A	Isat=23A	Isat=28A
µr~ca. 8k	M-709	M-1208	M-1258(c+)	M-449(c+)	M-965/ M-450(c+)	M-451	M-831**	M-1458	M-951/ M-1508(O)
	Isat=4A	Isat=5A	Isat=7A	Isat=6A	Isat=8A	Isat=11A	Isat=10A	Isat=12A	Isat=14A
µr~ca. 30k	M-104/ M-125(c++)	M-556	M-061(c+)	M-062(c+)	M-923	M-994	M-382	M-987	M-967/ M-049 (O)
	Isat=1A	Isat=1A	Isat=2A	Isat=1,5A	Isat=2A	Isat=3A	Isat=3A	Isat=3A	Isat=5A
µr~ca. 90k	M-940/ M-017(c+)/ M-939(c++)	M-059	M-853(c+)	M-974(c+) M-845	M-102 M-016(c+)	M-981	M-920	M-765	M-1592
	Isat=0,4A	Isat=0,5A	Isat=0,6A	Isat=0,6A	Isat=0,7A	Isat=1A	Isat=0,9A	Isat=1A	Isat=1,2A

C+: Plastic case with seperator holder /C++: Plastic case with base / O: oval shaped versions /***: preliminary /**: almost same size see datasheet

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Definition of Saturation Current I_{sat} of NANOPERM®:

Peak value of the exiting current when the initial inductance level is dropped to 10 per cent. Saturation behavior is very much depending on frequency, signal shape, leakage field, etc. so the mentioned current value is a calculated value for design help only and cannot be guaranteed.

I_{sat} is calculated @ B = 1,0 T / µnom / N = 1.

Nom. dim	50x40x25	63x50x30	80x63x30	100x80x30	130x100x30	160x130x30	200x175x30 236,5x201x30(O)	300x250x30
ODxIDxH	53,6x35,9x29,5	68x43x36	85x57x35,5	105x75x35	135x94x34	165x123x34	208x166x37	305x246,5x35
µr~ca.1k	M-1551(c+) Isat=112A	M-662 Isat=140A	M-663 Isat=180A	M-1801 Isat=220A	M-665 Isat=290A	M-666 Isat=362A	M-667 Isat=470A	M-863 Isat=688A
µr~ca.2k	M-1552(c+) Isat=56A	M-672 Isat=70A	M-673 Isat=90A	M-674**/ M-1282(O) Isat=111A	M-675 Isat=144A	M-676 Isat=181A	M-677/ M-790(O) Isat=234A	M-873 (O) Isat=344A
µr~ca. 4k	M-1554(c+) Isat=28A	M-682/ M-1682(O) Isat=35A	M-683 Isat=45A	M-684**/ M-1284(O) Isat=56A	M-685 Isat=72A	M-686/ M-986(O) Isat=90A	M-687/ M-791(O) Isat=117A	M-883(O) Isat=172A
µr~ca. 8k	M-1558(c+) Isat=14A	M-452 Isat=18A	M-453 Isat=22A	M-954 Isat=28A	M-455 Isat=36A	M-456/ M-792(O) Isat=45A	M-457/ M-751(O) Isat=58A	M-582***/ M-703(O) Isat=86A
µr~ca. 30k	M-475(c+) Isat=4A	M-112/ M-649(O) Isat=5A	M-113/ M-283(O) Isat=6A	M-114/ M-284(O) Isat=7A	M-115 Isat=10A	M-116/ M-302(O) Isat=12A	M-117/ M-111(O) Isat=16A	M-205/ M-248(O) Isat=23A
µr~ca. 60k	M-484(c+) Isat=2A	M-612 Isat=2,5A	M-613 Isat=3A	M-614 M-897(O) Isat=4A	M-615 Isat=5A	M-616 Isat=6A	M-617 Isat=8A	M-618 Isat=11A

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