Cased EMC Core Selection Matrix

- High Inductance and high Impedance in a wide frequency range
- Advance EMI supperation over a wide frequency range
- Low saturation flux density drop at high temperatures
- High saturation of current and lower power loss
- High operational temperature up to 130°C

MH&W offers advanced and superb EMC-cores based on nanocrystalline material. Our Nanotech® 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. MH&W provides 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 ODxIDxH	16x10x6 18.2x7.8x8.4	20x12x8 22.3X10.3x10	25x20x10 27.8x17.5x12.6	25x16x10 28.2x13.2x12.6	30x20x10 32.7x17.8x12.6	40x32x15 43.1x28.8x17.4	40x25x15 44.5x21.4x19	45x30x20 48.5x25.5x24	50x40x20 53.4x36.6x23.5
µr~ca.1k	M-1601 Isat = 32A	M-1201 Isat = 40A	M-1251(c+) Isat = 56A	M-659(c+) Isat = 50A	M-660(c+) Isat = 62A	M-661 Isat = 90A	M-1401 Isat = 80A	M-1451 Isat = 92A	M-1501 Isat = 112A
µr~ca.2k	M-956 Isat = 16A	M-1202 Isat = 20A	M-1252(c+) Isat = 28A	M-669(c+) Isat = 25A	M-670(c+) Isat = 31A	M-671 Isat = 45A	M-1402 Isat = 40A	M-796** Isat = 46A	M-1502 Isat = 56A
µr~ca.4k	M-957 Isat = 8A	M-1204 Isat = 10A	M-1254(c+) Isat = 14A	M-679(c+) Isat = 12A	M-680(c+) Isat = 16A	M-681 Isat = 22A	M-934 Isat = 16A	M-762 Isat = 23A	M-1504/ M-149(O) Isat = 28A
µr~ca.8k	M-709 Isat = 4A	M-1208 Isat = 5A	M-1258(c+) Isat = 7A	M-449(c+) Isat = 6A	M-965/ M-450(c+) Isat = 8A	M-451 Isat = 11A	M-831** Isat = 10A	M-1458 Isat = 12A	M-951/ M-1508(O) Isat = 14A
µr~ca.30k	M-104/ M-125(c++) Isat = 1A	M-556 Isat = 1A	M-061(c+) Isat = 2A	M-062(c+) Isat = 1.5A	M-923 Isat = 2A	M-994 Isat = 3A	M-382 Isat = 3A	M-987 Isat = 3A	M-967/ M-049(O) Isat = 5A
µr~ca.90k	M-940/ M-017(c+)/ M-939(c++) Isat = 0.4A	M-059 Isat = 0.5A	M-853(c+) Isat = 0.6A	M-974(c+) M-845 Isat = 0.6A	M-102 M-016(c+) Isat = 0.7A	M-981 Isat = 1A	M-920 Isat = 0.9A	M-765 Isat = 1A	M-1592 Isat = 1.2A

C+: Plastic Case with separate holder /C++: Plastic case with base / O: Oval shaped versions /***: preliminary /**: almost same size see datasheet

Only for information, no guaranteed values. For all information no liability assumed. *Isat: "Quasi Saturation Current" @ B=1.0T/μ_{nom}/N = 1

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Definition of Saturation Current Isat of Nanotech®:
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.
Isat is calculated @ B = 1.0 T / μ_{nom} / N = 1.

Nom. Dim ODxIDxH	50x40x25 53.6x35.9x29.5	63x50x30 68x43x36	80x60x30 85x57x35.5	100x80x30 105x75x35	130x100x30 135x94x34	160x130x30 165x123x34	200x175x30 236.5x201x30(O) 208x166x37	300x250x30 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-667/ 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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