

Cased EMC Core Selection Matrix



High Inductance and high Impedance in a wide frequency range

Advance EMI suppression 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. Magnetec cores have 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. Cased cores are encapsulated in a plastic housing with a max temperature about 130°C.

Nom. Dim ODxDxH	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
$\mu_r \sim ca. 1k$	<u>M-1601</u> Isat = 32A	<u>M-1201</u> Isat = 40A	<u>M-1251(c+)</u> Isat = 56A	<u>M-659(c+)</u> Isat = 50A	<u>M-660(c+)</u> Isat = 62A	<u>M-661</u> Isat = 90A	<u>M-1401</u> Isat = 80A	<u>M-1451</u> Isat = 92A	<u>M-1501</u> Isat = 112A
$\mu_r \sim ca. 2k$	<u>M-956</u> Isat = 16A	<u>M-1202</u> Isat = 20A	<u>M-1252(c+)</u> Isat = 28A	<u>M-669(c+)</u> Isat = 25A	<u>M-670(c+)</u> Isat = 31A	<u>M-671</u> Isat = 45A	<u>M-1402</u> Isat = 40A	<u>M-796**</u> Isat = 46A	<u>M-1502</u> Isat = 56A
$\mu_r \sim ca. 4k$	<u>M-957</u> Isat = 8A	<u>M-1204</u> Isat = 10A	<u>M-1254(c+)</u> Isat = 14A	<u>M-679(c+)</u> Isat = 12A	<u>M-680(c+)</u> Isat = 16A	<u>M-681</u> Isat = 22A	<u>M-934</u> Isat = 16A	<u>M-762</u> Isat = 23A	<u>M-1504/</u> <u>M-149(O)</u> Isat = 28A
$\mu_r \sim ca. 8k$	<u>M-709</u> Isat = 4A	<u>M-1208</u> Isat = 5A	<u>M-1258(c+)</u> Isat = 7A	<u>M-449(c+)</u> Isat = 6A	<u>M-965/</u> <u>M-450(c+)</u> Isat = 8A	<u>M-451</u> Isat = 11A	<u>M-831**</u> Isat = 10A	<u>M-1458</u> Isat = 12A	<u>M-1508(O)</u> Isat = 14A
$\mu_r \sim ca. 30k$	<u>M-104/</u> <u>M-125(c++)</u> Isat = 1A	<u>M-556</u> Isat = 1A	<u>M-061(c+)</u> Isat = 2A	<u>M-062(c+)</u> Isat = 1.5A	<u>M-923</u> Isat = 2A	<u>M-994</u> Isat = 3A	<u>M-382</u> Isat = 3A	<u>M-987</u> Isat = 3A	<u>M-967/</u> <u>M-049(O)</u> Isat = 5A
$\mu_r \sim ca. 90k$	<u>M-940/</u> <u>M-017(c+)/</u> <u>M-939(c++)</u> Isat = 0.4A	<u>M-059</u> Isat = 0.5A	<u>M-853(c+)</u> Isat = 0.6A	<u>M-974(c+)</u> <u>M-845</u> Isat = 0.6A	<u>M-102</u> <u>M-016(c+)</u> Isat = 0.7A	<u>M-981</u> Isat = 1A	<u>M-920</u> Isat = 0.9A	<u>M-765</u> Isat = 1A	<u>M-1592</u> 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:
 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 @ $B = 1.0 \text{ T} / \mu_{nom} / N = 1$.

Nom. Dim	50x40x25	63x50x30	80x60x30	100x80x30	130x100x30	160x130x30	200x175x30 236.5x201x30(O) 208x166x37	300x250x30
ODxDxH	53.6x35.9x29.5	68x43x36	85x57x35.5	105x75x35	135x94x34	165x123x34		305x246.5x35
$\mu_r \sim \text{ca. } 1\text{k}$	<u>M-1551(c+)</u> Isat = 112A	<u>M-662</u> Isat = 140A	<u>M-663</u> Isat = 180A	<u>M-1801</u> Isat = 220A	<u>M-665</u> Isat = 290A	<u>M-666</u> Isat = 362A	<u>M-667</u> Isat = 470A	<u>M-863</u> Isat = 688A
$\mu_r \sim \text{ca. } 2\text{k}$	<u>M-1552(c+)</u> Isat = 56A	<u>M-672</u> Isat = 70A	<u>M-673</u> Isat = 90A	<u>M-674**/</u> <u>M-1282(O)</u> Isat = 111A	<u>M-675</u> Isat = 144A	<u>M-676</u> Isat = 181A	<u>M-667/</u> <u>M-790(O)</u> Isat = 234A	<u>M-873(O)</u> Isat = 344A
$\mu_r \sim \text{ca. } 4\text{k}$	<u>M-1554(c+)</u> Isat = 28A	<u>M-682/</u> <u>M-1682(O)</u> Isat = 35A	<u>M-683</u> Isat = 45A	<u>M-684**/</u> <u>M-1284(O)</u> Isat = 56A	<u>M-685</u> Isat = 72A	<u>M-686/</u> <u>M-986(O)</u> Isat = 90A	<u>M-687/</u> <u>M-791(O)</u> Isat = 117A	<u>M-883(O)</u> Isat = 172A
$\mu_r \sim \text{ca. } 8\text{k}$	<u>M-1558(c+)</u> Isat = 14A	<u>M-452</u> Isat = 18A	<u>M-453</u> Isat = 22A	<u>M-954</u> Isat = 28A	<u>M-455</u> Isat = 36A	<u>M-456/</u> <u>M-792(O)</u> Isat = 45A	<u>M-457/</u> <u>M-751(O)</u> Isat = 58A	<u>M-582***/</u> <u>M-703(O)</u> Isat = 86A
$\mu_r \sim \text{ca. } 30\text{k}$	<u>M-475(c+)</u> Isat = 4A	<u>M-112/</u> <u>M-649(O)</u> Isat = 5A	<u>M-113/</u> <u>M-283(O)</u> Isat = 6A	<u>M-114/</u> <u>M-284(O)</u> Isat = 7A	<u>M-115</u> Isat = 10A	<u>M-116/</u> <u>M-302(O)</u> Isat = 12A	<u>M-117/</u> <u>M-111(O)</u> Isat = 16A	<u>M-205/</u> <u>M-248(O)</u> Isat = 23A
$\mu_r \sim \text{ca. } 60\text{k}$	<u>M-484(c+)</u> Isat = 2A	<u>M-612</u> Isat = 2.5A	<u>M-613</u> Isat = 3A	<u>M-614/</u> <u>M-897(O)</u> Isat = 4A	<u>M-615</u> Isat = 5A	<u>M-616</u> Isat = 6A	<u>M-617</u> Isat = 8A	<u>M-618</u> Isat = 11A

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