ME03

EMI 抑制材料
EMI SUPPRESSION FERRITE

ME03 为 MnZn 体系的 EMI 抑制铁氧体材料，初始磁导率（μi）约 350，饱和磁通密度（Bs）约 400 mT（25 ℃）/ 350 mT（100 ℃），居里温度高于 260 ℃。此材料以较低的磁导率，换取较高的饱和磁通密度、居里温度与 30 MHz 以上的宽频损耗特性——标准化阻抗 ZN（标称值）于 30 / 100 / 300 MHz 分别约 25 / 55 / 115 Ω/mm，于该频段呈电阻主导，可将高频共模噪声转为热耗散而非储存于磁路中。与同频段的 NiZn 抑制材料相比，ME03 的饱和磁通密度明显较高，在导线带有直流或工作电流时阻抗衰减较小；居里温度高于 260 ℃，亦有利于高温环境下的特性稳定。典型应用为 EMI 磁珠、EMI 磁环与共模扼流圈，用于高速数据传输接口、电源输入端与车用线束的传导噪声抑制。电阻率约 10^4 Ω·m，属中高电阻率，绕线时仍建议使用绝缘导线或表面涂覆磁芯。本材料属 MnZn 体系，于上述抑制应用中可直接替代 NiZn，故亦收录于《镍锌铁氧体目录书》。

ME03 is a MnZn-system EMI-suppression ferrite with μi approx. 350, Bs approx. 400 mT at 25 °C (350 mT at 100 °C) and a Curie temperature above 260 °C. It trades permeability for a high saturation flux density, a high Curie temperature and a broadband loss characteristic above 30 MHz: normalized impedance ZN (typical) is approx. 25 / 55 / 115 Ω/mm at 30 / 100 / 300 MHz, where the impedance is resistive-dominated and converts high-frequency common-mode noise into heat instead of storing it in the magnetic circuit. Against NiZn suppression grades covering the same band, the markedly higher Bs keeps the impedance from collapsing when the conductor also carries DC or operating current, and the >260 °C Curie point sustains the characteristics at elevated temperature. Typical uses are EMI beads, EMI rings and common-mode chokes for high-speed data interfaces, power inlets and automotive harnesses. With a resistivity of about 10^4 Ω·m, insulated wire or a coated core is still recommended for winding. ME03 belongs to the MnZn family and substitutes directly for NiZn in these suppression applications; it is therefore also listed in the NiZn Ferrite Catalog.

EMI Bead | EMI Ring | Common-Mode Choke | Automotive Harness Suppression | High-Speed Interface Filter

电磁特性 MAGNETIC CHARACTERISTICS

特性 Characteristic	条件 Condition	25 ℃	100 ℃	单位 Unit
初始磁导率 Initial Permeability μi	f=10 kHz, B<0.25 mT	350 ±25%		
饱和磁通密度 Saturation Flux Density Bs	1200 A/m, 1 kHz	400	350	mT
残留磁通密度 Remanence Br	1200 A/m, 1 kHz	350	300	mT
矫顽力 Coercivity Hc	1200 A/m, 1 kHz	100	50	A/m
居里温度 Curie Temperature Tc	f=10 kHz, B<0.25 mT	≥260		℃
密度 Density D	Archimedes method （阿基米德法）	4.80		g/cm^3
电阻率 Electrical Resistivity ρ	DC Current (直流电流)	104		Ωm
标准化阻抗 Normalized Impedance ZN	30 MHz	≥25		Ω/mm
标准化阻抗 Normalized Impedance ZN	100 MHz	≥55		Ω/mm
标准化阻抗 Normalized Impedance ZN	300 MHz	≥115		Ω/mm

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特性曲线
CHARACTERISTIC CURVES









