

Manganese Zinc (MnZn) Ferrites

This general type of ferrite can be manufactured in several different vastly different grades by altering its composition and processing. Initial relative permeability (at 25 degrees Centigrade) can range from several hundred to twenty thousand. Saturation (at 25C) ranges from 3.5 to 5 kilogauss. The curie temperature can range from 100 to 300 degrees Centigrade. Material grades have been developed for particular groups of applications such as power, broadband, E.M.I./R.F.I. filtering, ripple filtering, tuning, and others. The useful frequency range for most of these materials is 1 megahertz and less (with suitable flux density de-rating), but some types approach 9 megahertz. Manganese Zinc ferrites have very low porosity.

Component of MnZn core

The present MnZn core relates to a typical oxide magnetic material having soft magnetism, and more particularly to MnZn material and soft ferrite material suitable for low-loss materials for use in magnetic regulators, switching power supplies, various inductance elements, impedance elements for EMI countermeasures, electromagnetic wave absorbers, and so forth. An MnZn ferrite core is including base components of 44.0 to 49.8 mol % Fe₂O₃, 4.0 to 26.5 mol % ZnO, 0.8 mol % or less Mn₂O₃, and a remainder of MnO; MnZn power is containing 0.20 (0.20 excluded) to 1.00 mass % CaO as additive; and MnZn material is having a resistivity of 1.5×10^{10} OMEGA m or more and a surface resistance of 1.5×10^7 OMEGA or more.

Advantages of MnZn ferrite core

MnZn ferrite core have many advantages: High resistively, Wide range of operating frequencies-
- The suitable frequency range for this soft ferrite material runs from 1kHz to 1GHz. Low loss combined with high permeability, Time and temperature stability, Large material selection, Versatility of core shapes, Low cost, Light weight, Ferrites may be, and are, "tailor-made" within technological limits, to meet desired characteristics for electronic components. This is accomplished principally by varying the chemical composition of the materials and by making appropriate changes in processing procedures.

We manufacture high performance, high quality, high accuracy and small size MnZn ferrite core such as EER core, MnZn ETD core, RM core, UYF core, EP core, EPC core, UY core, EFD core, LP core, PQ core, URS core, UF core, T core, EI core and EE core in China. We try to improve our technology and quality, and ship out our MnZn material for all over the world as the expert manufacture of soft ferrite material. Please find our characteristics of MnZn power ferrite material by types and material data shown as below.

MnZn Power Ferrite Material Characteristics

Characteristics \ Material		Unit	F2B	F2BD	F2B1	F2A	F3	
Initial Permeability μ_i			2500 \pm 25%	2500 \pm 25%	2300 \pm 25%	2400 \pm 25%	3000 \pm 25%	
Amplitude Permeability μ_i			/	3200min	3000min	3000min	/	
Saturation magnetic flux density (H=1194A/M)	25 °C	mT	500	510	510	510	470	
	100 °C	mT	390	390	390	390	370	
Remanence Br	25 °C	mT	115	110	100	110	120	
	100 °C	mT	65	60	55	60	85	
Coercivity	25 °C	A/m	15	12	14	13	12	
	100 °C	A/m	12	10	9	6.5	7.0	
Pcv Power Loss	25KHz 200mT sine wave	25 °C	kW/m ³	164	/	/	/	168
		100 °C	kW/m ³	154	/	/	/	154
	100KHz 200mT sine wave	25 °C	kW/m ³	/	700	600	600	/
		100 °C	kW/m ³	/	600	410	300	/
		120 °C	kW/m ³	/	/	500	380	/
Electrical resistivity ρ		Ω -m	6.0	9	6.5	6.5	/	
Curie temperature Tc		°C	220	230	215	215	190	
Density d		kg/m ³	4.8 \times 10 ³	4.8 \times 10 ³	4.8 \times 10 ³	4.8 \times 10 ³	4.8 \times 10 ³	

Notes:*applied field 1600A/m;**atf =500kHz and B30mT .The values in each column are typical ones , no including special requirements of customers ,it should be emphasized in contract if having special requirement.

Characteristics \ Material		Unit	F2	F1.B	F2Z	F2	F5D		
Initial Permeability μ_i			2000 \pm 25%	1800 \pm 25%	2300 \pm 25%	2300 \pm 25%	5500 \pm 25%		
Amplitude Permeability μ_i			\geq 3000	\geq 3000	\geq 3000	\geq 3000	/		
Saturation magnetic flux density (H=1194A/M)	25 °C	mT	500	510	480	500	500		
	100 °C	mT	390	410	360	380	380		
Remanence Br	25 °C	mT	120	170	130	130	95		
	100 °C	mT	85	/	/	/	55		
Coercivity	25 °C	A/m	12	11	16	14	7.0		
	100 °C	A/m	7	/	/	/	5.8		
Pcv Power Loss	16KHz 150mT	25 °C	kW/m ³	52.8	/	/	/		
		100 °C	kW/m ³	43.2	20.2	16.8	14.4	/	
	64KHz 200mT	25 °C	kW/m ³	/	700	600	600	/	
		100 °C	kW/m ³	/	600	410	300	/	
		100KHz 200mT	120 °C	kW/m ³	/	/	500	380	/
Electrical resistivity ρ		Ω -m	6.0	9	6.5	6.5	/		
Curie temperature Tc		°C	220	200	200	200	210		
Density d		kg/m ³	4.8 \times 10 ³	4.8 \times 10 ³	4.8 \times 10 ³	4.8 \times 10 ³	4.8 \times 10 ³		

Notes:The values in each column are typical ones, no including special requirements of customers, it should be emphasized in contract if having special requirement.