

FINEMET® EMC COMPONENTS

FM-A SERIES THREE-PHASE COMMON MODE CHOKES

FM-A series three-phase common mode chokes (CMC) are made from nanocrystalline soft magnetic materials, FINEMET®. Its advanced characteristics allow high performance in electric noise suppression and size reduction. As a result of new manufacturing process and new structure based on experience of FM coils, we made significant cost reduction.

FEATURE

- 1** Higher attenuation characteristics than that of CMC with Mn-Zn ferrite over a wide frequency range.
- 2** Stable electromagnetic characteristics over a wide frequency range because of small impedance temperature change ($\pm 20\%$) at -40 degree C to 130 degree C.
- 3** Standard models are available and have been designed for major applications (Table 1).

Table 1. Model No. and Major Application

Model No.	Applied EMC Policy	Major Application
FM-A081T202 FM-A252T801 FM-A101T142 FM-A203T242 FM-A151T831 FM-A253T152 FM-A152T232 FM-A254T312 FM-A202T132 FM-A304T212	CISPR Pub.11 CLASS A General-purpose type	Packaged air conditioner General-purpose inverters Inverters Information processing system Networking Instruments
FM-A051T502 FM-A153T452 FM-A082T852 FM-A204T442 FM-A102T602	CISPR Pub.11 CLASS A High attenuation type	Inverters Visual equipments Information processing system Instruments

- 4** The coils with base plate allow high vibration-resistance and easy installation.

STANDARD SPECIFICATIONS

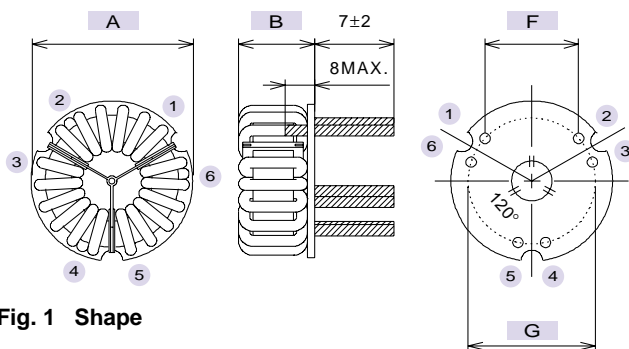


Fig. 1 Shape

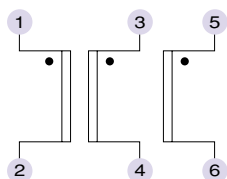


Fig. 2 Circuit diagram

Table 2. Standard specifications

Items	Specifications
Rated voltage	AC250V
Insulation withstand voltage	AC2kV for 1min.
Insulation resistance	Over 100MΩ at DC500V for 1 min.
Insulation grade	B class (130 degree C)
Temperature rise ΔT	Less than 45 degree C
Operating temperature range	40 degree C to +130 degree C (including J ΔT)

- The above specifications are in accordance with the Electrical Appliance and Material Control Law, UL, CSA and IEC standard. No Ozone Layer's Depletion Chemical (ODC) is used either in those products or in the manufacturing process.

Table 3. Model No. and specifications

Model No.	Rated current (A)	Z (kΩ) 100kHz Min	L (mH) 100kHz Ref.	DC resistance (mΩ) Max.	Wire diameter (mm)	Finished dimensions (mm)				Weight (g) Typ.	Impedance
						A Max.	B Max.	F Ref.	G Ref.		
FM-A051T502	5	5.0	5.9	36	0.9	35	28	15	30	37	Ref. Fig.3
FM-A081T202	8	2.0	2.4	17	1.1	35	28	15	30	36	
FM-A101T142	10	1.4	1.8	11	1.3	36	28	15	30	40	
FM-A151T831	15	0.8	0.9	5	1.5	37	28	15	30	40	
FM-A082T852	8	8.5	10.1	26	1.3	46	33	20	40	86	Ref. Fig.4
FM-A102T602	10	6.0	7.1	17	1.5	46	33	20	40	91	
FM-A152T232	15	2.3	2.7	8	1.7	46	33	20	40	83	
FM-A202T132	20	1.3	1.6	5	2.0	46	33	20	40	84	
FM-A252T801	25	0.8	1.0	3	2.3	46	33	20	40	86	
FM-A153T452	15	4.5	5.3	11	1.8	57	37	25	50	123	Ref. Fig.5
FM-A203T242	20	2.4	2.9	6	2.1	57	37	25	50	124	
FM-A253T152	25	1.5	1.8	4	2.4	57	37	25	50	125	
FM-A204T442	20	4.4	5.3	9	2.2	64	46	28	56	198	Ref. Fig.6
FM-A254T312	25	3.1	3.7	6	2.4	64	46	28	56	194	
FM-A304T212	30	2.1	2.4	5	2.6	64	46	28	56	183	

- Custom design is available upon customer's request

IMPEDANCE CHARACTERISTICS

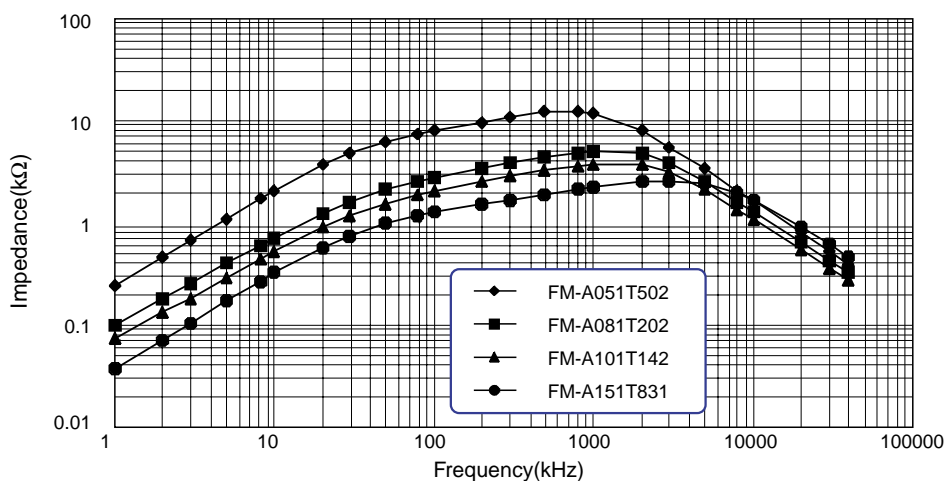


Fig.3 Impedance vs. frequency

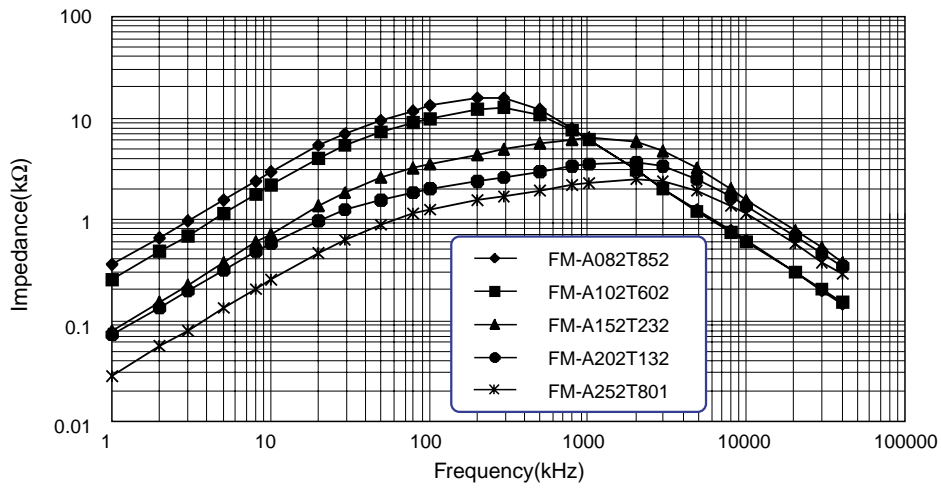


Fig.4 Impedance vs. frequency

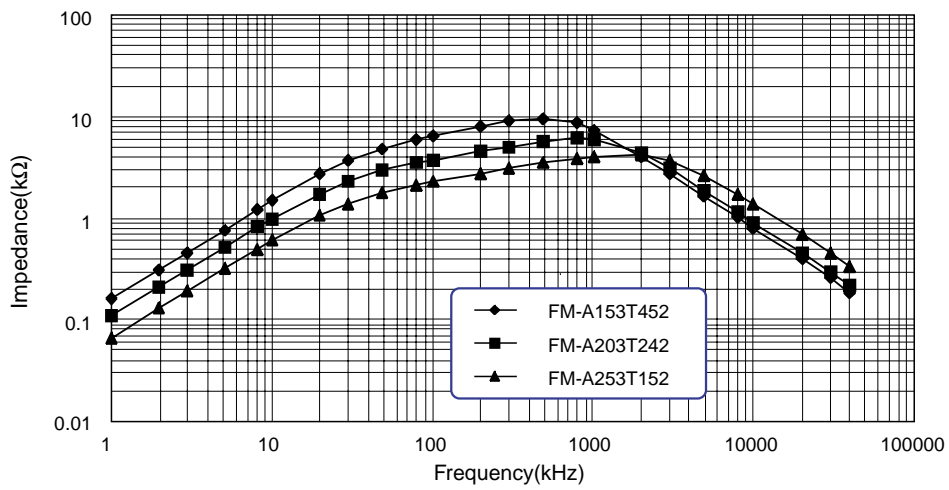


Fig.5 Impedance vs. frequency

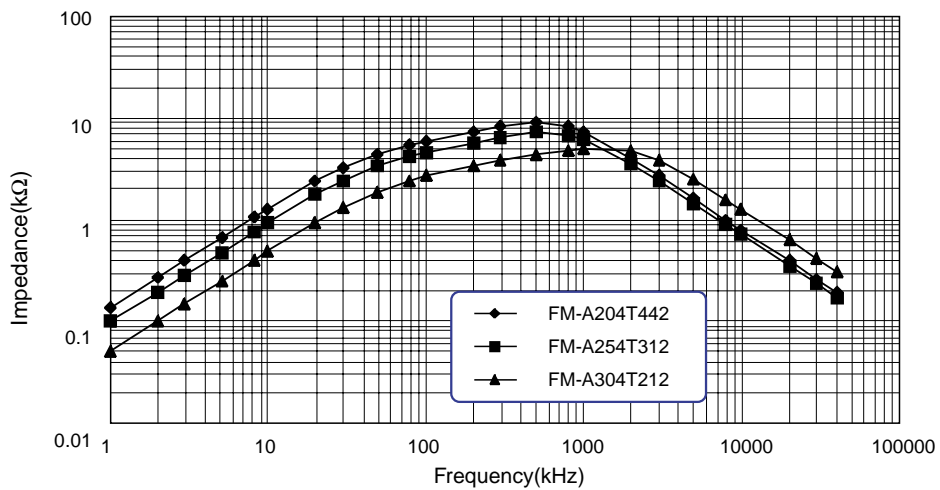


Fig.6 Impedance vs. frequency

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- In order to ensure proper and safe use, please check the details in the specifications. Technical information in this catalog is subject to change without notice.
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