EMC Filters for AC Power Line
For Single-phase, Small-size Box Cased ZMG-11, ZMG-M Series

Conformity to RoHS Directive

FEATURES

- The ZMG series EMC filters exhibit outstanding attenuation characteristics with respect to both differential mode and common mode noise components in the MF and HF bands.
- Small, high performance, this series demonstrates superior attenuation effects for low frequency band noise components under 1MHz. It is therefore suitable for conform to FCC and VDE standards relating to switching power supply use devices.
- Current leakage is maintained at less than 0.5mA.
- Efficient manufacturing makes these filters highly cost-effective.
- ZMG-M series is compact on-board type.
- It is a product conforming to RoHS directive.

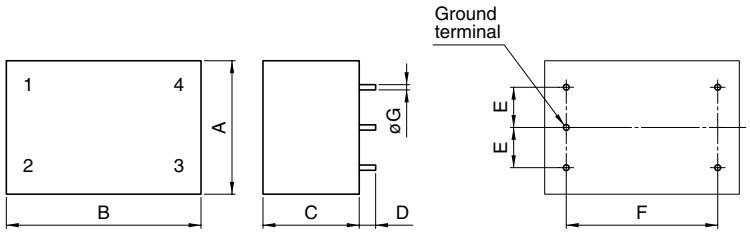
APPLICATIONS

Computer terminals, office automation equipment, digital applied devices (ECRs, electronic calculators, electronic scales, etc.), control devices, measurement devices, and any other devices that require a miniaturized filter.

SAFETY STANDARDS

Part No.	Standard and standard No.		
	U.S.A.	Canada	Europe
	UL(NRTL)	CSA	NEMKO
	UL1283	CSA C22.2 No.8	EN133200
ZMG22R5-11	2500008664	LR76849C	P99100053
ZMG2202-11	2500008664	LR76849C	P99100053
ZMG2203-11	2500008664	LR76849C	P99100053
ZMG2206-11	2500008664	LR76849C	P99100053
ZMG2201-M	2500008661	LR76849C	P99100054
ZMG2203-M	2500008661	LR76849C	P99100054
ZMG2206-M	2500008661	LR76849C	P99100054

SHAPES AND DIMENSIONS



Dimensions in mm

Series	A	B	C	D	E	F	øG
ZMG-11	31	44.5	22	4	10	35	1
ZMG-M	25	25	26	4	10	20	1

- Case: plastic, terminal: pin

- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

ELECTRICAL CHARACTERISTICS

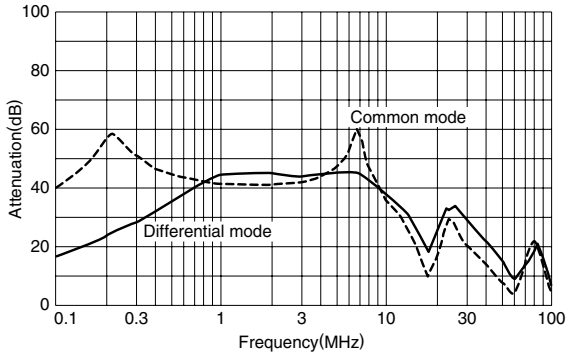
Part No.		ZMG22R5-11	ZMG2202-11	ZMG2203-11	ZMG2206-11
Rated voltage Eac(V)		250	250	250	250
Rated current(A)		0.5	2	3	6
Test voltage Eac(V)[Between terminal and ground terminal]		1500	1500	1500	1500
Insulation resistance(MΩ) [DC. 500V, 1min/between terminal and ground terminal]		100min.	100min.	100min.	100min.
Leakage current(mA)[250V • 60Hz]		0.5max.	0.5max.	0.5max.	0.5max.
DC resistance(mΩ)		450max.	350max.	230max.	60max.
Operating temperature range(°C)[Including self-temperature rise]		–25 to +85	–25 to +85	–25 to +85	–25 to +85
With derating over(°C)		55	55	55	55
Temperature rise(°C)		30max.	30max.	30max.	30max.
Attenuation frequency range (MHz)[+5 to +35°C]	Differential mode at 30dB	0.45 to 10	0.7 to 10	0.8 to 10	2 to 10
	Common mode at 30dB	0.1 to 10	0.2 to 10	0.3 to 10	1 to 10
Weight(g)		36	36	36	40

Part No.		ZMG2201-M	ZMG2203-M	ZMG2206-M
Rated voltage Eac(V)		250	250	250
Rated current(A)		1	3	6
Test voltage Eac(V)[Between terminal and ground terminal]		1500	1500	1500
Insulation resistance(MΩ) [DC. 500V, 1min/between terminal and ground terminal]		100min.	100min.	100min.
Leakage current(mA)[250V • 60Hz]		0.5max.	0.5max.	0.5max.
DC resistance(mΩ)		140max.	120max.	60max.
Operating temperature range(°C)[Including self-temperature rise]		–25 to +85	–25 to +85	–25 to +85
With derating over(°C)		55	55	55
Temperature rise(°C)		30max.	30max.	30max.
Attenuation frequency range (MHz)[+5 to +35°C]	Differential mode at 25dB	0.8 to 10	0.8 to 10	1.5 to 20
	Common mode at 25dB	0.4 to 10	0.6 to 10	3 to 10
Weight(g)		24	24	24

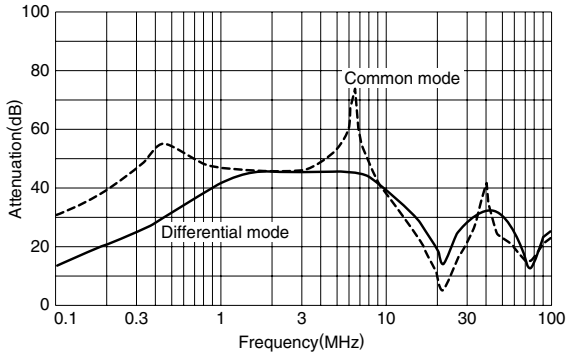
TYPICAL ELECTRICAL CHARACTERISTICS

ATTENUATION vs. FREQUENCY CHARACTERISTICS

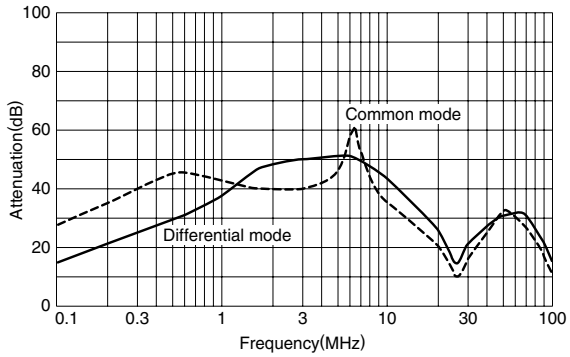
ZMG22R5-11



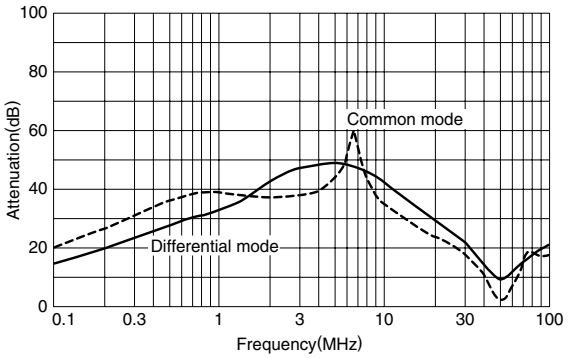
ZMG2202-11



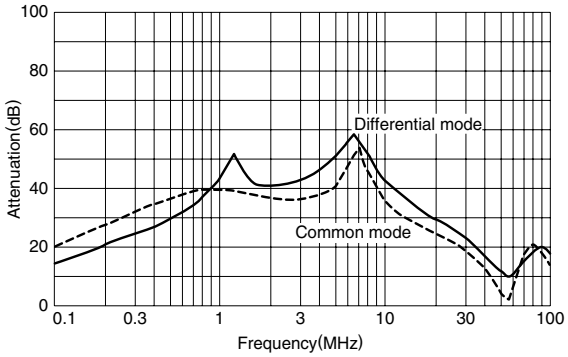
ZMG2203-11



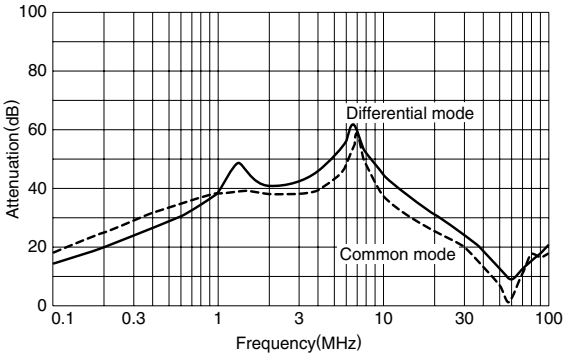
ZMG2206-11



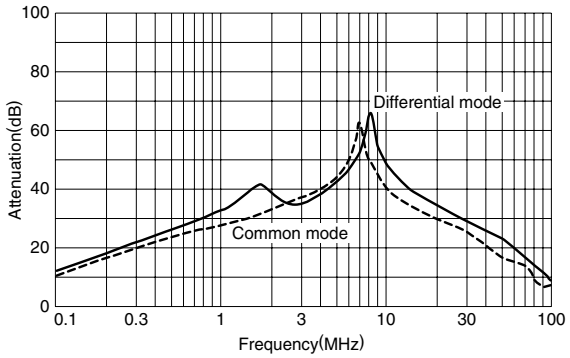
ZMG2201-M



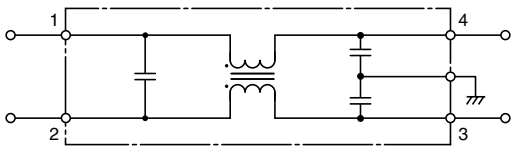
ZMG2203-M



ZMG2206-M



CIRCUIT DIAGRAM



RECOMMENDED SOLDERING CONDITIONS

- Dip time : Within 5 seconds at 240±10°C
- Soldering iron : Within 5seconds at 400°C max.