EMC Filters for AC Power Line
For Single-phase, Mid-size Box Cased ZAG-11S Series

Conformity to RoHS Directive

FEATURES

- The ZAG-11S series are EMC filters designed to prevent malfunctions in microcomputers. They employ advanced amorphous magnetic materials in the common mode choke coil to achieve superior performance characteristics.
- They provide substantial attenuation of high-voltage pulses in power supply lines, exhibiting more than 20dB attenuation for a 2kV, 1µs pulse.
- Leakage current is maintained at less than 0.75mA.
- These filters are highly reliable and provide stable attenuation performance even in harsh environments, where the filters may be subjected to humidity, vibration, and shock.
- Efficient manufacturing makes these filters highly cost-effective.
- It is a product conforming to RoHS directive.

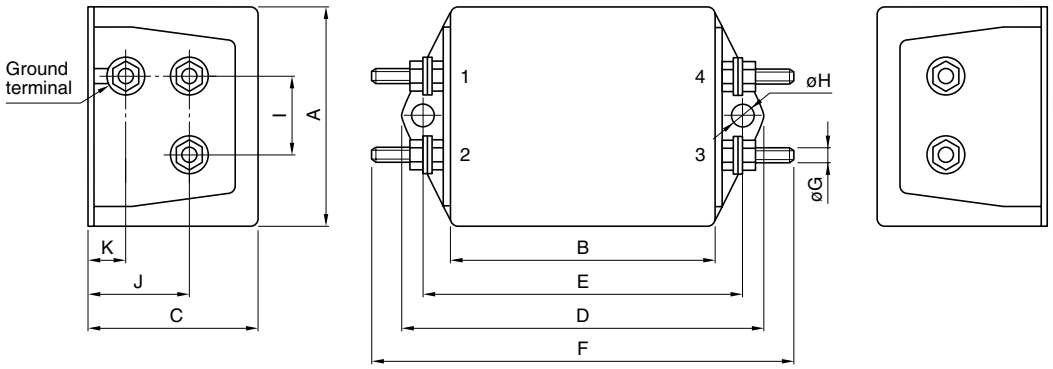
APPLICATIONS

Computers and other terminal devices, office automation equipment, general control devices, and other industrial devices.

SAFETY STANDARDS

Part No.	Standard and standard No.		
	U.S.A.	Canada	Europe
	UL	CSA	NEMKO
	UL1283	CSA C22.2 No.8	EN60939
ZAG2206-11S	E62388	LR76849C	P08209036
ZAG2210-11S	E62388	LR76849C	P08209036
ZAG2220-11S	E62388	LR76849C	P08209036
ZAG2230-11S	E62388	LR76849C	P08209036

SHAPES AND DIMENSIONS



Dimensions in mm

Part No.	A	B	C	D	E	F	øG	øH	I	J	K
ZAG2206-11S	50.8	62	40	85	75	95	M4	4.8	18	25	7.5
ZAG2210-11S	50.8	62	40	85	75	95	M4	4.8	18	25	7.5
ZAG2220-11S	50.8	62	40	85	75	95	M4	4.8	18	25	7.5
ZAG2230-11S	56	90	50	111	103.2	138	M5	4.8	21	31.7	8.2

• Case: metal, terminal: stud

- 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

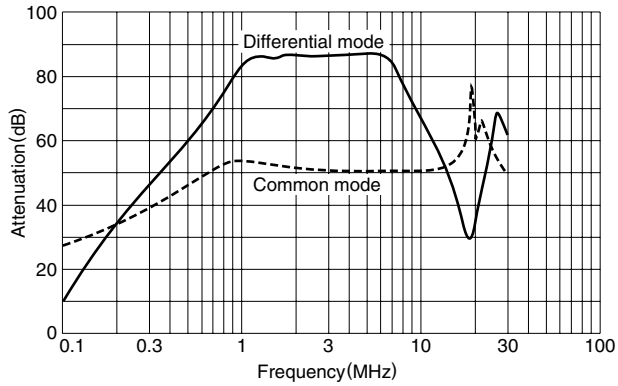
Part No.		ZAG2206-11S	ZAG2210-11S	ZAG2220-11S	ZAG2230-11S
Rated voltage Eac(V)		250	250	250	250
Rated current(A)		6	10	20	30
Test voltage Eac(V)[Between terminal and case]		1500	1500	1500	1500
Insulation resistance(MΩ)[DC. 500V, 1min/between terminal and case]		100min.	100min.	100min.	100min.
Leakage current(mA)[250V • 60Hz]		0.75max.	0.75max.	0.75max.	0.75max.
DC resistance(mΩ)		100max.	50max.	20max.	9max.
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	0.5 to 10[40dB]	0.5 to 10[40dB]	1 to 10[40dB]	0.5 to 30[30dB]
	Common-mode	0.3 to 20[30dB]	0.5 to 20[30dB]	1 to 10[28dB]	0.5[15dB], 1 to 30[20dB]
Pulse attenuation characteristics Input pulse voltage(kV)*	Differential mode at 20dB	1	1	1	1
	Common mode at 20dB	2	2	1.2	0.8
Weight(g)		270	300	320	480

* Input pulse width : 1μs

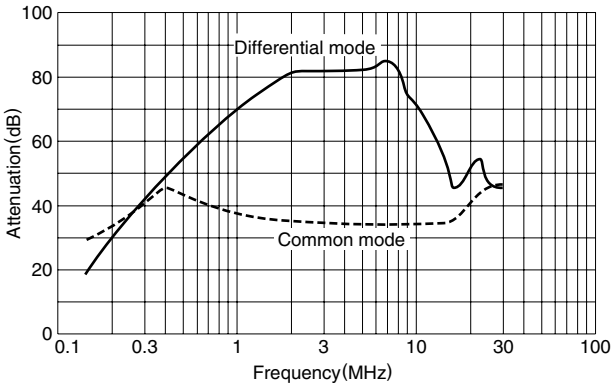
TYPICAL ELECTRICAL CHARACTERISTICS

ATTENUATION vs. FREQUENCY CHARACTERISTICS

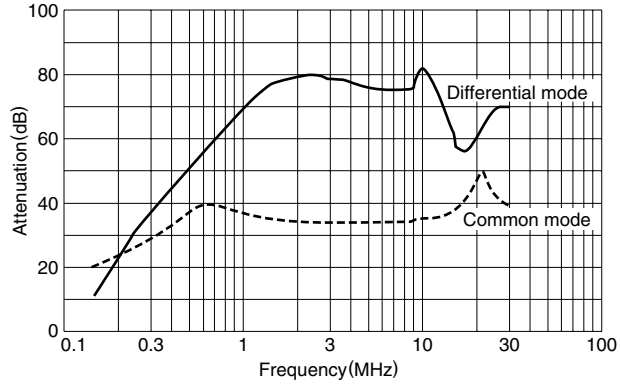
ZAG2206-11S



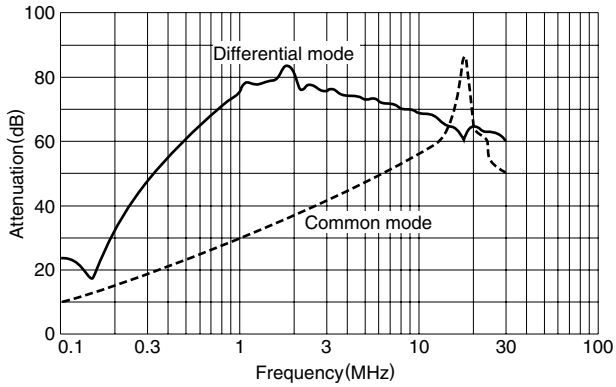
ZAG2210-11S



ZAG2220-11S

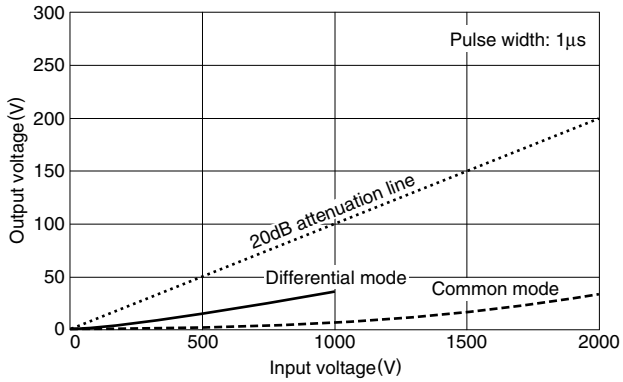


ZAG2230-11S

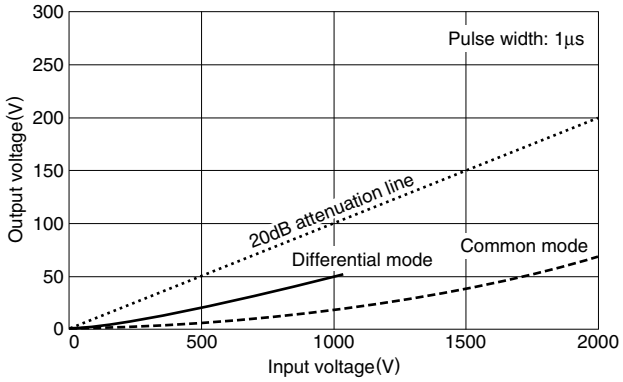


PULSE ATTENUATION CHARACTERISTICS

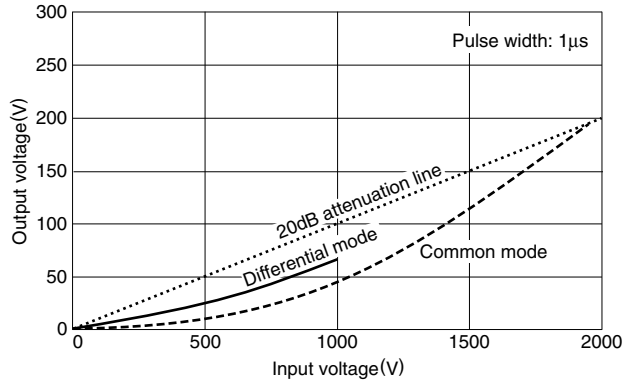
ZAG2206-11S



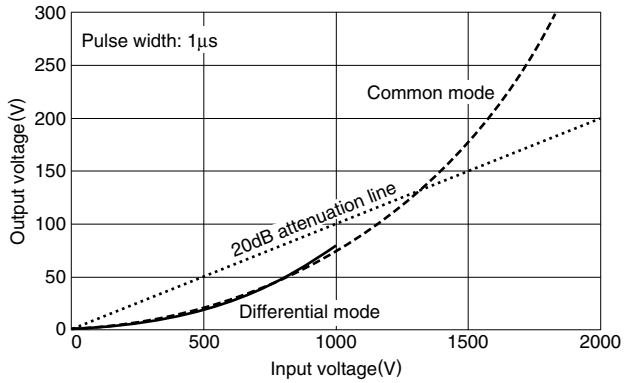
ZAG2210-11S



ZAG2220-11S

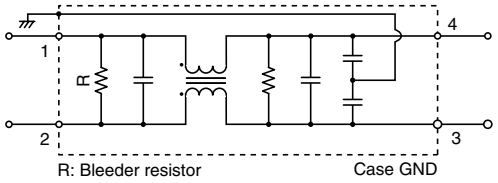


ZAG2230-11S



CIRCUIT DIAGRAMS

ZAG2206-11S, 2210-11S, 2220-11S



ZAG2230-11S