

# EMC Filters for AC Power Line

## For Single-phase, Mid-size Box Cased ZHG-11S Series

Conformity to RoHS Directive

### FEATURES

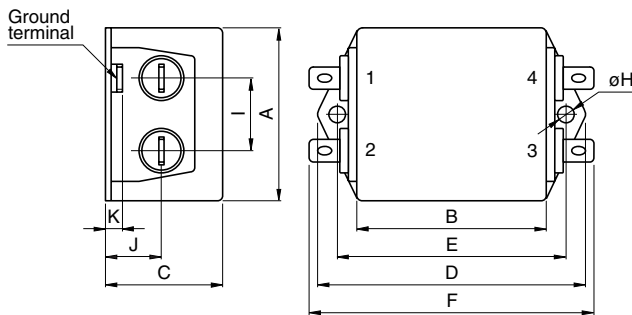
- The ZHG-11S series are EMC filters designed to prevent malfunctions in microcomputers. They employ advanced amorphous magnetic materials in the common mode choke coil to achieve superior performance characteristics.
- They provide substantial attenuation of high-voltage pulses in power supply lines, exhibiting more than 20dB attenuation for a 2kV, 1 $\mu$ s 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.
- Connection terminals employing Faston® #250 facilitate implementation and maintenance.
- It is a product conforming to RoHS directive.

### APPLICATIONS

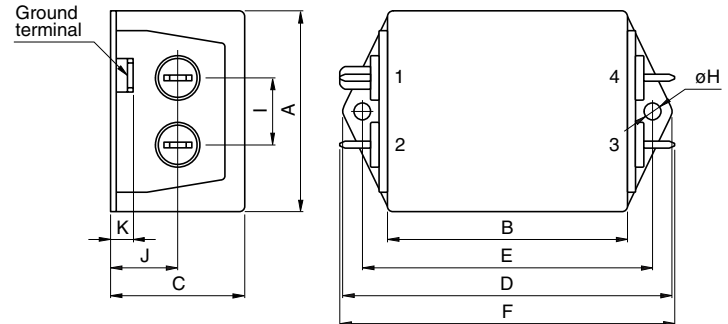
Computers and peripheral terminals, general control devices, office automation equipment, and other industrial devices.

### SHAPES AND DIMENSIONS

#### ZHG2203-11S



#### ZHG2206-11S, ZHG2210-11S



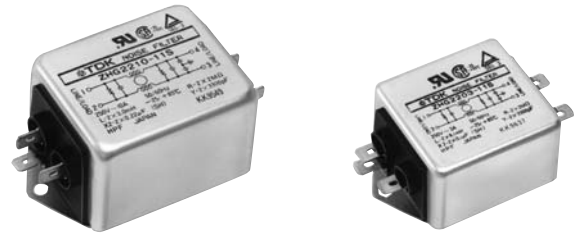
Dimensions in mm

Part No.	A	B	C	D	E	F	$\phi$ H	I	J	K
ZHG2203-11S	45.5	49	29.5	70	60.4	75	4.8	16	14	6.4
ZHG2206-11S	50.8	62	40	85	75	87	4.8	18	18.5	6.4
ZHG2210-11S	50.8	62	40	85	75	87	4.8	18	18.5	6.4

- Case: metal, terminal: Faston® #250 (t: 0.8mm)

### SAFETY STANDARDS

Part No.	Standard and standard No.		
	U.S.A.	Canada	Europe
	UL	CSA	NEMKO
	UL1283	CSA C22.2 No.8	EN60939
ZHG2203-11S	E62388	LR76849C	P08209036
ZHG2206-11S	E62388	LR76849C	P08209036
ZHG2210-11S	E62388	LR76849C	P08209036



- Faston® is a registered trademark of Tyco Electronics AMP Corp. Incorporated.

- 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.

- All specifications are subject to change without notice.

## ELECTRICAL CHARACTERISTICS

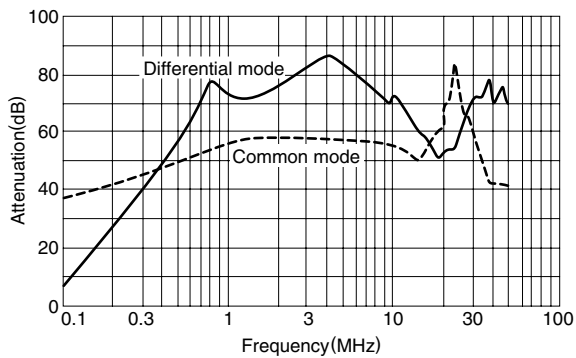
Part No.	ZHG2203-11S	ZHG2206-11S	ZHG2210-11S
Rated voltage Eac(V)	250	250	250
Rated current(A)	3	6	10
Test voltage Eac(V)[Between terminal and case]	1500	1500	1500
Insulation resistance(MΩ) [DC, 500V, 1min/between terminal and case]	100min.	100min.	100min.
Leakage current(mA)[250V • 60Hz]	0.75max.	0.75max.	0.75max.
DC resistance(mΩ)	250max.	100max.	50max.
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 40dB 0.4 to 10 Common mode at 30dB 0.2 to 20	Differential mode at 40dB 0.5 to 10 Common mode at 30dB 0.3 to 20	Differential mode at 40dB 0.5 to 10 Common mode at 30dB 0.5 to 10
Pulse attenuation characteristics	Differential mode at 20dB 1	Differential mode at 20dB 1	Differential mode at 20dB 1
Input pulse voltage(kV)*	Common mode at 20dB 2	Common mode at 20dB 2	Common mode at 20dB 2
Weight(g)	150	270	300

\* Input pulse width: 1μs

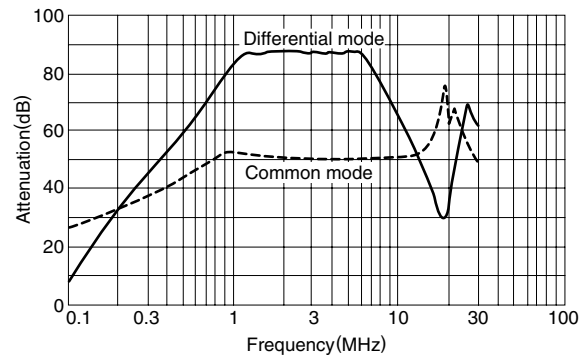
## TYPICAL ELECTRICAL CHARACTERISTICS

### ATTENUATION vs. FREQUENCY CHARACTERISTICS

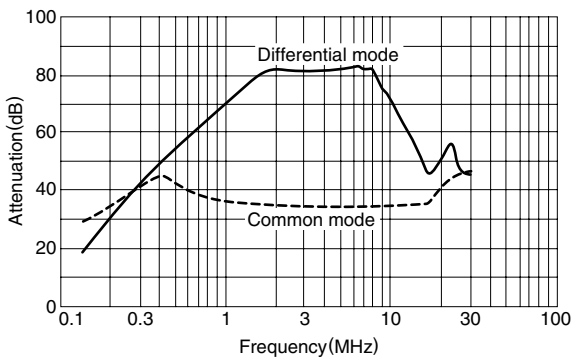
#### ZHG2203-11S



#### ZHG2206-11S

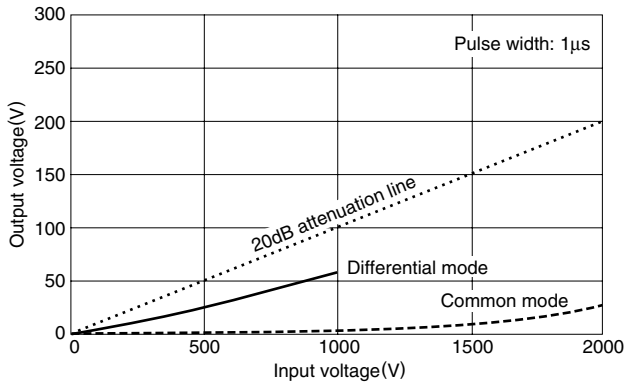


#### ZHG2210-11S

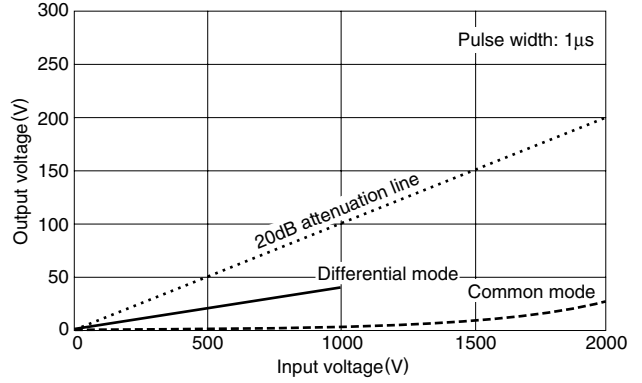


### PULSE ATTENUATION CHARACTERISTICS

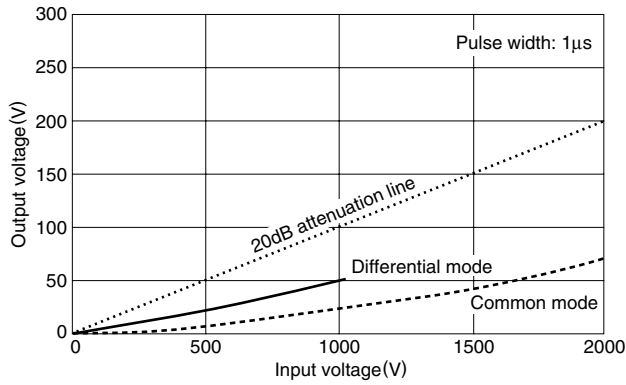
#### ZHG2203-11S



#### ZHG2206-11S



#### ZHG2210-11S



### CIRCUIT DIAGRAM

