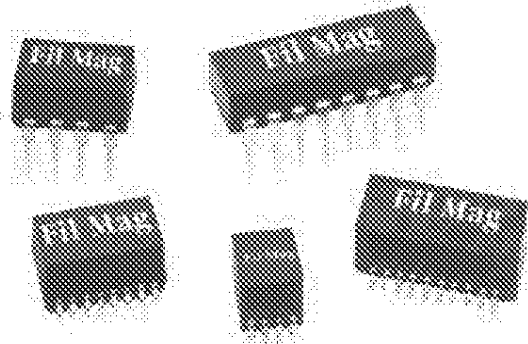


# Data Line Filters for EMI Noise Suppression



## Data Line Filters



### Key Features

- All Fil-Mag® components are manufactured in ISO 9001 certified facilities to meet the highest international standards
- Unwanted EMI noise in input/output ports of digital electronic equipment is suppressed in the common mode. Differential mode signal is passed virtually unaffected
- Frequency range of 1-100 MHz
- High current and voltage isolation
- Applications include Ethernet and Token Ring LANs, Telecommunications, ISDN, T1/CEPT, Computer I/O Interfaces, Electronic Test Equipment Connections and Workstations
- All designs are available in both surface mount and standard DIP packages

### Surface Mount

- Proven in all surface mount soldering processes
- Small form factor, 50-mil SMD lead spacing
- Available in tubes; tape and reel optional

### Through-Hole

- Low-profile DIP package
- Auto insertable

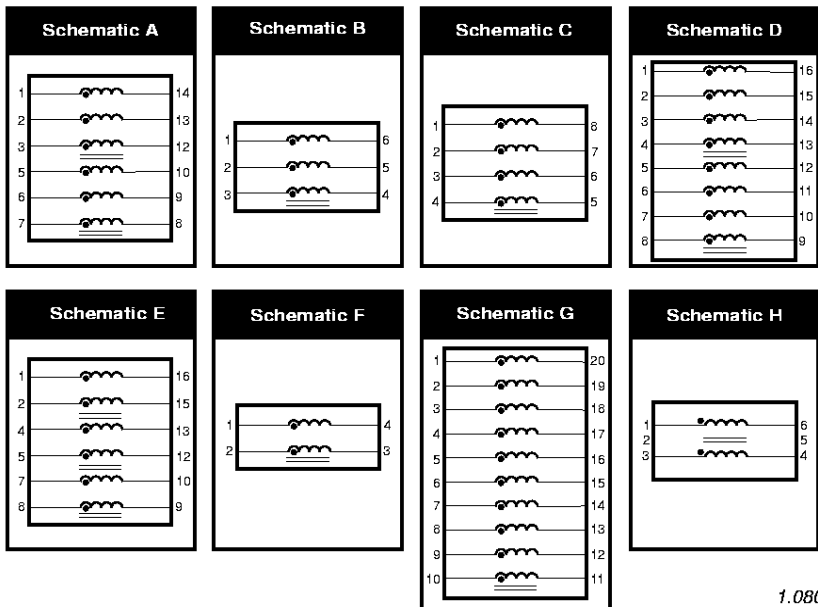
### Electrical Specifications at 25°C

Part No	Data Lines	Separate Coils	Wgs Per Coil	L <sub>p</sub> μH ±20%	L <sub>L</sub> μH max	C <sub>c</sub> pF max	DCR Ohms max	DWV Vrms	SRF MHz (ref)	Impedance Curve	Schem
23Z81	6	2	3	85	0.25	9.5	0.20	500	12	A	A
23Z81SM	6	2	3	85	0.25	9.5	0.20	500	12	A	A
23Z87	3	1	3	85	0.25	9.5	0.20	500	12	A	B
23Z87SM	3	1	3	85	0.25	9.5	0.20	500	12	A	B
23Z104	4	1	4	85	0.25	9.5	0.20	500	12	A	C
23Z104SM	4	1	4	85	0.25	9.5	0.20	500	12	A	C
23Z105	8	2	4	85	0.25	12.0	0.20	500	12	A	D
23Z105SM	8	2	4	85	0.25	12.0	0.20	500	12	A	D
23Z106	6	3	2	85	0.25	10.0	0.20	500	12	A	E
23Z106SM	6	3	2	85	0.25	10.0	0.20	500	12	A	E
23Z107	2	1	2	85	0.25	12.0	0.20	500	12	A	F
23Z109SM	10	1	10	7.5 μH min (100KHz, IV)	0.25	25.0	0.20	500	25 min	B	G
23Z428SM	2	1	2	40 min	0.25	15.0	0.50	500	25 min	C	H

#### Rated:

Operating Temperature: 0 to 70°C  
 Insulation Resistance: 10,000 MOhm min  
 Power Rating: 250 mW

Inductance, leakage inductance and coupling capacitance tested at 100 KHz, approx. 20 mVrms  
 Turns Ratio: 1:1 ±5%



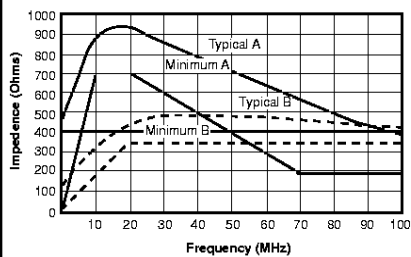
# Data Line Filters for EMI Noise Suppression

# Fil-Mag®

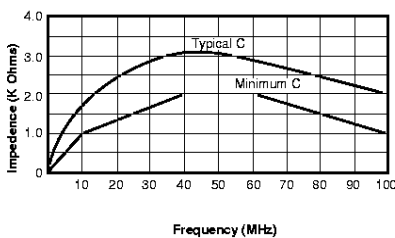
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## Data Line Filters

Impedance Chart (Curve A/B)



23Z428SM Impedance Chart (Curve C)

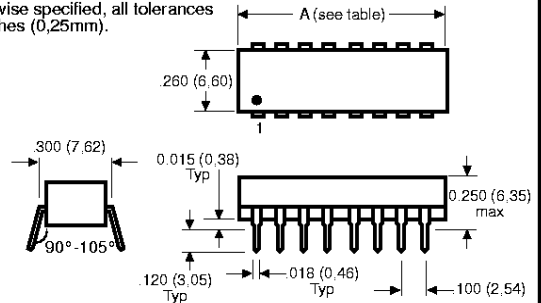


**Notes:**

- A. Each lead is within 0.010" (0,25) radius of its true position at maximum material dimension
- B. Mold flash or protrusion are not included in body dimensions but shall not exceed 0.006" (0,15)

### Standard DIP Mechanical Specifications

Unless otherwise specified, all tolerances are  $\pm 0.10$  inches (0,25mm).

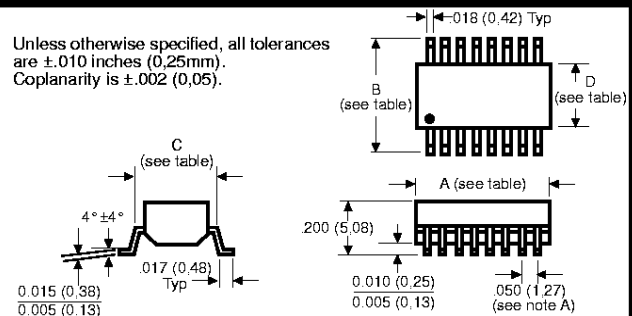


### Through-Hole Dimensions

Part Number	Pins	Dimension "A" Inch (mm) max
23Z81	14	.800 (20,32)
23Z87	6	.300 (7,62)
23Z104	8	.500 (12,70)
23Z105	16	.800 (20,32)
23Z106	16	.900 (22,86)
23Z107	4	.240 (6,10)

### Surface Mount Mechanical Specifications

Unless otherwise specified, all tolerances are  $\pm 0.10$  inches (0,25mm). Coplanarity is  $\pm 0.02$  (0,05).



### SMD Dimensions

Tolerance $\pm 0.10$ (0,25)					
Part No	Pins	Dim. "A"	Dim. "B"	Dim. "C"	Dim. "D"
23Z81SM	14	0.450 (11,43)	0.360 (9,14)	0.300 (7,62)	0.265 (6,73)
23Z87SM	6	0.230 (5,84)	0.360 (9,14)	0.300 (7,62)	0.265 (6,73)
23Z428SM	6	0.230 (5,84)	0.360 (9,14)	0.300 (7,62)	0.265 (6,73)
23Z104SM	8	0.230 (5,84)	0.360 (9,14)	0.300 (7,62)	0.265 (6,73)
23Z105SM	16	0.450 (11,43)	0.360 (9,14)	0.300 (7,62)	0.265 (6,73)
23Z106SM	16	0.450 (11,43)	0.360 (9,14)	0.300 (7,62)	0.265 (6,73)
23Z109SM	20	0.600 (15,24)	0.425 (10,80)	0.340 (8,64)	0.300 (7,62)

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In the construction of the components described, the full intent of the specification will be met. Fil-Mag®, Inc. however, reserves the right to make, from time to time, such departures from the detail specifications as may be required to permit improvements in the design of its products.

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# Fil-Mag®

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**For More Information:**

**Corporate**  
12220 World Trade Drive  
San Diego, CA 92128  
Tel: 619 674 8100  
FAX: 619 674 8262  
<http://www.pulseeng.com>

**Europe**  
Dunmore Road  
Tuam  
County Galway  
Ireland  
Tel: 353 93 24107  
FAX: 353 93 24459

**Asia**  
Block 3027, Ubi Road  
#03-120  
Singapore 408720  
Tel: 65 741 5277  
FAX: 65 741 3013