

Solid Ferrite Cores For Round Cables

Steward's Cylindrical EMI suppression ferrites provide a cost effective means of reducing common and differential mode EMI. These cores are most frequently used to suppress common mode EMI on the internal and external cable assemblies of electronic equipment. By decreasing the levels of EMI radiated by internal cables,

ferrite cores can reduce the cost and amount of overall shielding required to confine EMI within a product's enclosure. They may also be successfully used on power cables that carry digital or analog signaling.

To achieve maximum EMI filtering performance in a given application, select a ferrite with an inner diameter most closely matching the outer diameter of the wire or wire bundle to be filtered. The in-circuit impedance may be substantially increased by passing 2 turns of the wire conductor through the ferrite core. A typical common mode application might have two conductors,(one carrying 5 volts DC, and other carrying ground), passed through a ferrite core. With equal and opposite currents flowing through the core, zero net bias is established through the component, and maximum impedance is thus realized from the ferrite.

Features:

- Wide range of sizes with inner diameters from .89mm (0.035") to 35.6mm (1.400")
- Precision formed smooth surfaces prevent damage to wire insulation
- Available in Steward broad band (28) and high frequency (25) materials
- Custom designs available

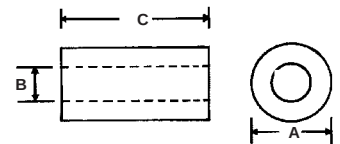
Applications:

- Internal and external computer data and power cables
- Products with limited PC board space available for surface mount components
- Printer cables
- Power supply cables
- Monitor cables

Test Specifications:

- HP4396A Network/Spectrum Analyzer
- HP43961A Impedance Test Kit
- HP16192A Test Fixture
- HP16200A DC Bias Adapter
- Philips PM2811 DC Power Supply
- Ambient Temperature 23.5°C
- Bandwidth 3 kHz
- Sweep Time 423 ms

PART NUMBERING SYSTEM					
<u>28</u>	<u>B</u>	<u>0080</u>	<u>0</u>	<u>0</u>	<u>0</u>
MATERIAL TYPE	PRODUCT CODE	PART SIZE CODE	SELECTED DIMENSION CODE (Usually Height)	ADDITIONAL DESCRIPTION	PACKAGING OR FINISH CODE



* Part 28B0080-000 can not be coated with epoxy or polyurethane

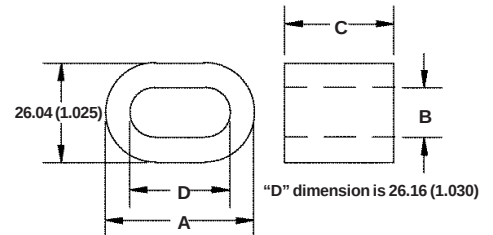
PART NUMBER	A mm (inches)	B mm (inches)	C mm (inches)	Typical Impedance (Ohms)	
				25 Material @ 300 MHz	28 Material @ 100 MHz
* _ _B0080-000	2.03 ± 0.05 (0.080 ± 0.002)	0.89 ± 0.05 (0.035 ± 0.002)	2.67 ± 0.13 (0.105 ± 0.005)		23
_ _B0250-000	6.35 ± 0.15 (0.250 ± 0.006)	3.18 ± 0.13 (0.125 ± 0.005)	12.70 ± 0.25 (0.500 ± 0.010)		91
_ _B0250-100	6.35 ± 0.15 (0.250 ± 0.006)	3.18 ± 0.13 (0.125 ± 0.005)	15.88 ± 0.30 (0.625 ± 0.012)		113
_ _B0268-000	6.78 ± 0.15 (0.267 ± 0.006)	4.00 ± 0.13 (0.157 ± 0.005)	14.22 ± 0.25 (0.560 ± 0.010)		96
_ _B0315-000	8.00 ± 0.15 (0.315 ± 0.006)	3.17 ± 0.13 (0.125 ± 0.005)	4.78 ± 0.13 (0.188 ± 0.005)		57
_ _B0315-100	8.00 ± 0.15 (0.315 ± 0.006)	3.17 ± 0.13 (0.125 ± 0.005)	10.06 ± 0.25 (0.396 ± 0.010)		96
_ _B0354-000	9.00 ± 0.25 (0.354 ± 0.010)	4.50 ± 0.15 (0.177 ± 0.005)	10.00 ± 0.70 (0.394 ± 0.028)		86
_ _B0375-000	9.53 ± 0.20 (0.375 ± 0.008)	5.08 ± 0.15 (0.200 ± 0.006)	10.41 ± 0.25 (0.410 ± 0.010)	91	83
_ _B0375-100	9.53 ± 0.20 (0.375 ± 0.008)	5.08 ± 0.15 (0.200 ± 0.006)	14.48 ± 0.25 (0.570 ± 0.010)	126	112

Please refer to Steward's separate Toroid Catalog for an extensive list of toroid sizes and materials.

PART NUMBER	A mm (inches)	B mm (inches)	C mm (inches)	Typical Impedance (Ohms)	
				25 Material @ 300 MHz	28 Material @ 100 MHz
--B0375-300	9.53 ± .020 (0.375 ± 0.008)	5.08 ± 0.15 (0.200 ± 0.006)	19.05 ± 0.51 (0.750 ± 0.020)	159	140
--B0375-400	9.53 ± 0.20 (.375 ± 0.008)	5.08 ± 0.15 (.200 ± 0.006)	4.83 ± 0.13 (.190 ± 0.005)		39
--B0390-000	9.91 ± 0.20 (.390 ± 0.008)	6.35 ± 0.15 (.250 ± 0.006)	13.46 ± 0.25 (.530 ± 0.010)		76
--B0485-000	12.32 ± 0.25 (.485 ± 0.010)	4.88 ± 0.13 (.192 ± 0.005)	25.4 ± 0.76 (1.00 ± 0.030)	345	243
--B0500-100	12.70 ± 0.25 (.500 ± 0.010)	7.92 ± 0.15 (.312 ± 0.006)	6.35 ± 0.18 (.250 ± 0.007)	64	38
--B0562-000	14.27 ± 0.25 (.562 ± 0.010)	6.35 ± 0.15 (.250 ± 0.006)	10.16 ± 0.25 (.400 ± 0.010)		93
--B0562-100	14.27 ± 0.25 (.562 ± 0.010)	6.35 ± 0.15 (.250 ± 0.010)	13.46 ± 0.25 (.530 ± 0.010)		123
--B0562-200	14.27 ± 0.25 (.562 ± 0.010)	6.35 ± 0.15 (.250 ± 0.006)	28.57 ± 0.76 (1.125 ± 0.76)	310	275
--B0562-300	14.27 ± 0.25 (.562 ± 0.010)	6.35 ± 0.15 (.250 ± 0.006)	28.32 ± 0.76 (1.115 ± 0.15)	330	275
--B0563-000	14.27 ± 0.25 (0.562 ± 0.010)	7.26 ± 0.15 (0.286 ± 0.006)	15.24 ± 0.30 (0.600 ± 0.012)		120
--B0563-200	14.27 ± 0.25 (0.562 ± 0.010)	7.26 ± 0.15 (0.268 ± 0.006)	28.57 ± 0.76 (1.125 ± 0.030)		228
--B0570-000	14.48 ± 0.25 (0.570 ± 0.10)	8.51 ± 0.152 (0.335 ± 0.006)	8051 ± 0.13 (0.217 ± 0.005)		38
--B0590-000	14.99 ± 0.25 (0.590 ± 0.10)	6.99 ± 0.15 (0.275 ± 0.006)	27.94 ± 0.76 (1.100 ± .030)		253
--B0590-200	14.99 ± 0.25 (0.590 ± 0.010)	6.99 ± 0.15 (0.275 ± 0.006)	28.57 ± 0.76 (1.125 ± .030)		259
--B0616-000	15.65 ± 0.30 (0.616 ± 0.012)	6.99 ± 0.15 (0.275 ± 0.006)	28.57 ± 0.76 (1.125 ± 0.030)		273
--B0625-000	15.88 ± 0.30 (0.625 ± 0.012)	7.87 ± 0.15 (0.310 ± 0.006)	14.27 ± 0.25 (0.562 ± 0.010)		121
--B0625-100	15.88 ± 0.30 (0.625 ± 0.012)	7.87 ± 0.15 (0.310 ± 0.006)	28.57 ± 0.76 (1.125 ± 0.030)	291	238
--B0631-000	16.00 ± 0.30 (0.630 ± 0.012)	9.09 ± 0.20 (0.358 ± 0.008)	11.99 ± 0.25 (0.472 ± 0.010)	112	88
--B0631-100	16.00 ± 0.30 (0.630 ± 0.012)	9.09 ± 0.20 (0.358 ± 0.008)	27.99 ± 0.20 (1.102 ± 0.030)	238	201
--B0669-000	16.99 ± 0.36 (0.669 ± 0.014)	7.01 ± 0.20 (0.276 ± 0.008)	24.99 ± 0.64 (0.984 ± 0.025)		262
--B0672-000	17.07 ± 0.36 (0.672 ± 0.014)	8.76 ± 0.20 (0.345 ± 0.008)	25.40 ± 0.76 (1.000 ± 0.030)		215
--B0686-000	17.42 ± 0.36 (0.686 ± 0.014)	9.52 ± 0.20 (0.375 ± 0.008)	6.35 ± 0.18 (0.250 ± 0.007)		49
--B0686-100	17.42 ± 0.36 (0.686 ± 0.014)	9.52 ± 0.20 (0.375 ± 0.008)	12.70 ± 0.25 (0.500 ± 0.010)		97
--B0686-200	17.42 ± 0.36 (0.686 ± 0.014)	9.52 ± 0.20 (0.375 ± 0.008)	28.57 ± 0.76 (1.125 ± 0.030)	262	200
--B0734-000	18.67 ± 0.36 (0.735 ± 0.014)	11.18 ± 0.20 (0.440 ± 0.008)	28.57 ± 0.76 (1.125 ± 0.030)		173

PART NUMBER	A mm (inches)	B mm (inches)	C mm (inches)	Typical Impedance (Ohms)	
				25 Material @ 300 MHz	28 Material @ 100 MHz
--B0735-000	18.67 ± 0.36 (0.735 ± 0.014)	10.16 ± 0.20 (0.400 ± 0.008)	28.57 ± 0.76 (1.125 ± 0.030)	264	201
--B0735-300	18.67 ± 0.36 (0.735 ± 0.014)	10.16 ± 0.20 (0.400 ± 0.008)	14.27 ± 0.25 (0.562 ± 0.010)		109
--B0736-000	18.67 ± 0.36 (0.735 ± 0.014)	10.92 ± 0.20 (0.430 ± 0.008)	28.57 ± 0.76 (1.125 ± 0.030)	108	176
--B0736-200	18.67 ± 0.36 (0.735 ± 0.014)	11.18 ± 0.20 (0.440 ± 0.008)	17.02 ± 0.64 (0.670 ± 0.025)		111
--B0748-000	19.00 ± 0.38 (0.748 ± 0.015)	13.00 ± 0.25 (0.512 ± 0.010)	29.00 ± 0.76 (1.142 ± 0.030)		131
--B0787-000	19.99 ± 0.40 (0.787 ± 0.016)	13.00 ± 0.25 (0.512 ± 0.010)	18.01 ± 0.51 (0.709 ± 0.020)		99
--B0825-000	20.95 ± 0.40 (0.825 ± 0.016)	13.21 ± 0.25 (0.520 ± 0.010)	6.35 ± 0.18 (0.250 ± 0.007)		37
--B0870-000	22.10 ± 0.46 (0.870 ± 0.018)	13.72 ± 0.25 (0.540 ± 0.010)	6.35 ± 0.18 (0.250 ± 0.010)		35
--B0870-100	22.10 ± 0.46 (0.870 ± 0.018)	13.72 ± 0.25 (0.540 ± 0.010)	12.70 ± 0.25 (0.500 ± 0.010)	90	75
--B0999-000	25.40 ± 0.46 (1.000 ± 0.018)	15.49 ± 0.30 (0.610 ± 0.012)	12.70 ± 0.25 (0.500 ± 0.012)		80
--B0999-100	25.40 ± 0.46 (1.000 ± 0.018)	15.49 ± 0.30 (0.610 ± 0.012)	6.35 ± 0.18 (0.250 ± 0.007)	31	50
--B1000-000	25.40 ± 0.46 (1.000 ± 0.018)	12.70 ± 0.25 (0.500 ± 0.010)	12.70 ± 0.25 (0.500 ± 0.010)	121	105
--B1000-400	25.40 ± 0.46 (1.000 ± 0.018)	12.70 ± 0.25 (0.500 ± 0.010)	6.35 ± 0.18 (0.250 ± 0.007)	152	56
--B1020-100	25.91 ± 0.46 (1.020 ± 0.018)	12.83 ± 0.25 (0.505 ± 0.010)	28.57 ± 0.76 (1.125 ± 0.030)	320	240
--B1122-100	28.50 ± 0.46 (1.122 ± 0.018)	13.77 ± 0.25 (0.542 ± 0.010)	28.57 ± 0.76 (1.125 ± 0.030)		247
--B1142-000	29.01 ± 0.51 (1.142 ± 0.020)	19.00 ± 0.38 (0.748 ± 0.015)	7.49 ± 0.25 (0.295 ± 0.010)	48	42
--B1142-100	29.01 ± 0.51 (1.142 ± 0.020)	19.00 ± 0.38 (0.748 ± 0.015)	13.84 ± 0.25 (0.545 ± 0.010)		78
--B1225-000	31.12 ± 0.61 (1.225 ± 0.024)	19.05 ± 0.41 (0.750 ± 0.016)	15.93 ± 0.30 (0.627 ± 0.012)		99
--B1225-100	31.12 ± 0.61 (1.225 ± 0.024)	19.05 ± 0.41 (0.750 ± 0.016)	7.92 ± 0.25 (0.312 ± 0.010)		49
--B1250-000	31.75 ± 0.61 (1.250 ± 0.024)	19.05 ± 0.41 (0.750 ± 0.016)	22.22 ± 0.51 (0.875 ± 0.020)		144
--B1417-200	36.00 ± 0.71 (1.417 ± 0.028)	22.99 ± 0.46 (0.905 ± 0.018)	12.70 ± 0.25 (0.500 ± 0.010)		72
* --B1531-000	38.86 ± 0.76 (1.530 ± 0.030)	12.95 ± 0.25 (1.030 ± 0.010)	28.58 ± 0.76 (1.125 ± 0.030)		148
--B2400-000	60.96 ± 1.14 (2.400 ± 0.045)	35.65 ± 0.64 (1.400 ± 0.025)	12.70 ± 0.38 (0.500 ± 0.015)		87

* --B1531-000: See the part diagram below for dimensions not referenced in chart



See Steward Website at www.steward.com for performance curves.

NOTE: Part 28B0080-000 can not be coated with epoxy or polyurethane

Cylindrical Cable Ferrites may be purchased with coating. To specify coating, replace the last character in the Part Number with the appropriate letter as follows:

Coating Type	Coating Thickness	Minimum Dielectric Strength
G (Green)	1-2 mils	500VAC
H (Blue)	2-4 mils	1000VAC

All impedance values are NET; they are based on the ferrite cores only.