

# Round Cable EMI Suppression Cores

Listed by frequency range and in ascending order of "B" dimension.

Fair-Rite offers a broad selection of ferrite EMI suppression cable cores in several materials with guaranteed minimum impedance specifications.

. All cable cores have been burnished to remove the sharp edges.

. The column "H" (Oe) gives for each cable core the calculated dc bias field in oersted for 1 turn and 1 ampere direct current. The actual dc H field in the application, is this value of "H" times the actual NI (ampere-turns) product. For the effect of the dc bias on the impedance of the core material, see the material graphs on pages 145-146, Figures 18-23.

. Suppression cable cores are controlled for impedances only. The impedances listed are typical values. Minimum impedance values are specified for the + marked frequencies. The minimum guaranteed impedance is the listed impedance less 20%.

. Single turn impedance tests for 31, 43 and 46 material cores are performed on the 4193A Vector Impedance Meter. The 61 material parts are tested on the 4191A RF Impedance Analyzer. **Cores are tested with the shortest practical wire length.**

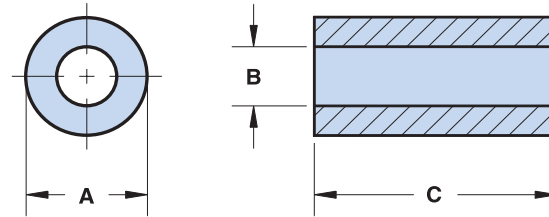
. Performance curves of all listed cable suppression cores are compiled on the Fair-Rite Products CD-ROM.

. For smaller suppression parts, refer to the section "EMI Suppression Beads" on pages 29-33.

. For any cable suppression core not listed here, feel free to contact our customer service group for availability and pricing.

. Our "Expanded Cable and Connector EMI Suppression Kit" (part number 0199000005) contains a selection of these suppression cores. See page 67.

. Explanation of Part Numbers: Digits 1&2 = product class, 3&4 material grade and last digit 2 = burnished.



## Lower & Broadband Frequencies 1-300 MHz (31 material)

Dimensions (Bold numbers are in millimeters, light numbers are nominal in inches.)

Part Number	A	B	C*	Wt (g)	H (Oe)	Typical Impedance ( $\Omega$ )					
						1 MHz	5 MHz	10 MHz <sup>+</sup>	25 MHz <sup>+</sup>	100 MHz <sup>+</sup>	250 MHz
2631250202	6.35±0.15 .250	2.95±0.45 .125	25.4±0.75 1.000	2.9	.52	27	70	90	138	230	240
2631023002	9.5±0.25 .375	4.75±0.3 .193	19.05±0.7 .750	4.7	.52	19	49	62	95	160	185
2631480102	12.3±0.4 .485	4.95±0.25 .200	12.7±0.4 .500	6.0	.52	18	45	58	88	140	167
2631480002	12.3±0.4 .485	4.95±0.25 .200	25.4±0.75 1.000	12	.52	34	88	115	175	295	267
2631540202	14.3±0.45 .562	6.35±0.25 .250	13.8 - 0.7 .530	8.3	.43	17	44	58	88	140	160
2631540002	14.3±0.45 .562	6.35±0.25 .250	28.6±0.75 1.125	17.7	.43	35	91	119	181	300	280
2631625002	16.25 - 0.75 .625	7.9±0.25 .312	14.3±0.35 .562	10.3	.36	16	40	53	75	130	150
2631625102	16.25 - 0.75 .625	7.9±0.25 .312	28.6±0.75 1.125	20.5	.36	30	79	103	156	260	268
2631665802	17.45±0.4 .687	9.5±0.25 .375	12.7±0.5 .500	10.3	.32	13	31	38	60	115	137
2631665702	17.45±0.4 .687	9.5±0.25 .375	28.6±0.75 1.125	23.1	.32	27	69	89	138	225	265

\* This dimension may be modified to suit specific applications.

<sup>+</sup> Test frequency

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## Lower & Broadband Frequencies 1-300 MHz (31 material)

Dimensions (Bold numbers are in millimeters, light numbers are nominal in inches.)

Part Number	A	B	C*	Wt (g)	H (Oe)	Typical Impedance ( $\Omega$ )					
						1 MHz	5 MHz	10 MHz <sup>+</sup>	25 MHz <sup>+</sup>	100 MHz <sup>+</sup>	250 MHz
2631626302	18.7±0.5 .735	10.15±0.25 .400	14.65 - 0.75 .562	13.3	.29	14	35	44	69	115	140
2631626402	18.7±0.5 .735	10.15±0.25 .400	28.6±0.75 1.125	26.6	.29	27	69	89	138	225	235
2631102002	25.9±0.75 1.020	12.8±0.25 .505	28.6±0.8 1.125	55	.22	31	79	103	156	260	280
2631101902	28.5±0.6 1.122	13.8±0.3 .543	28.6±0.8 1.125	68	.21	32	82	106	163	270	300
2631801202	29.0±0.75 1.142	19.0±0.5 .748	13.85±0.4 .545	25	.17	10	24	31	49	88	130
2631103002	31.1±0.85 1.225	19.05±0.6 .750	50.8±1.0 2.000	116	.17	37	98	120	205	340	315
2631626202	50.8±1.3 2.000	25.4±0.8 1.000	38.1±0.75 1.500	278	.11	40	103	140	215	365	290
2631803802	61.0±1.3 2.400	35.55±0.85 1.400	12.7±0.5 .500	118	.09	12	28	40	63	119	215

## Broadband Frequencies 25-300 MHz (43 material)

Part Number	A	B	C*	Wt (g)	H (Oe)	Typical Impedance ( $\Omega$ )			
						10 MHz	25 MHz <sup>+</sup>	100 MHz <sup>+</sup>	250 MHz
2643480102	12.3±0.4 .485	4.95±0.25 .200	12.7±0.4 .500	6.0	.52	52	84	121	145
2643480002	12.3±0.4 .485	4.95±0.25 .200	25.4±0.75 1.000	12	.52	102	165	236	233
2643540702	14.3±0.45 .562	6.35±0.25 .250	5.3 - 0.45 .200	3.1	.43	20	30	50	68
2643540102	14.3±0.45 .562	6.35±0.25 .250	10.15±0.4 .400	6.3	.43	39	61	89	104
2643540202	14.3±0.45 .562	6.35±0.25 .250	13.8 - 0.7 .530	8.3	.43	51	78	118	140
2643540002	14.3±0.45 .562	6.35±0.25 .250	28.6±0.75 1.125	17.7	.43	105	171	250	255
2643540302	14.3±0.45 .562	7.1±0.25 .280	15.25±0.4 .600	8.9	.41	50	75	118	137
2643800302	12.7±0.25 .500	7.15±0.2 .282	4.9 - 0.25 .188	2.0	.43	15	26	42	59
2643540402	14.3±0.45 .562	7.25±0.2 .286	28.6±0.75 1.125	16	.40	88	143	215	230
2643801102	12.7±0.25 .500	7.9±0.2 .312	6.35±0.2 .250	2.4	.40	16	26	41	59
2643801902	12.7±0.25 .500	7.9±0.2 .312	12.7±0.4 .500	4.7	.40	29	44	73	91

\* This dimension may be modified to suit specific applications.

<sup>+</sup> Test frequency

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# Round Cable EMI Suppression Cores

Listed by frequency range and in ascending order of "B" dimension.

## Broadband Frequencies 25-300 MHz (43 material)

Dimensions (Bold numbers are in millimeters, light numbers are nominal in inches.)

Part Number	A	B	C*	Wt (g)	H (Oe)	Typical Impedance ( $\Omega$ )			
						10 MHz	25 MHz <sup>+</sup>	100 MHz <sup>+</sup>	250 MHz
2643625002	<b>16.25 - 0.75</b> .625	<b>7.9±0.25</b> .312	<b>14.3±0.35</b> .562	10.3	.36	45	70	113	135
2643625102	<b>16.25 - 0.75</b> .625	<b>7.9±0.25</b> .312	<b>28.6±0.75</b> 1.125	20.5	.36	90	130	213	305
2643625202	<b>15.9±0.4</b> .625	<b>7.9±0.3</b> .312	<b>50.8±1.0</b> 2.000	36	.36	158	235	384	373
2643665902	<b>17.45±0.4</b> .687	<b>9.5±0.25</b> .375	<b>6.35±0.25</b> .250	5.1	.32	19	26	44	62
2643665802	<b>17.45±0.4</b> .687	<b>9.5±0.25</b> .375	<b>12.7±0.5</b> .500	10.3	.32	35	55	88	108
2643665702	<b>17.45±0.4</b> .687	<b>9.5±0.25</b> .375	<b>28.6±0.75</b> 1.125	23.1	.32	78	125	200	255
2643626302	<b>18.7±0.5</b> .735	<b>10.15±0.25</b> .400	<b>14.65 - 0.75</b> .562	13.3	.29	41	63	96	123
2643626402	<b>18.7±0.5</b> .735	<b>10.15±0.25</b> .400	<b>28.6±0.75</b> 1.125	26.6	.29	79	128	196	220
2643626502	<b>18.7±0.6</b> .735	<b>10.15±0.4</b> .400	<b>50.8±1.0</b> 2.000	47	.29	138	225	348	405
2643801502	<b>25.4±0.65</b> 1.000	<b>12.7±0.35</b> .500	<b>6.35±0.25</b> .250	11.6	.23	22	34	53	87
2643102402	<b>25.9±0.75</b> 1.020	<b>12.8±0.25</b> .505	<b>21.3±0.5</b> .840	41	.22	68	110	183	230
2643102002	<b>25.9±0.75</b> 1.020	<b>12.8±0.25</b> .505	<b>28.6±0.8</b> 1.125	55	.22	91	145	235	275
2643800602	<b>20.95±0.4</b> .825	<b>13.2±0.3</b> .520	<b>6.35±0.2</b> .250	6.3	.24	16	24	44	67
2643800502	<b>20.95±0.4</b> .825	<b>13.2±0.3</b> .520	<b>11.9±0.4</b> .468	11.9	.24	27	45	82	115
2643801802	<b>22.1±0.4</b> .870	<b>13.7±0.3</b> .540	<b>6.35±0.2</b> .250	7.2	.23	15	25	45	70
2643101902	<b>28.5±0.6</b> 1.122	<b>13.8±0.3</b> .543	<b>28.6±0.8</b> 1.125	67	.21	93	145	230	290
2643801402	<b>25.4±0.6</b> 1.000	<b>15.5±0.5</b> .610	<b>8.1±0.3</b> .320	12.4	.20	20	35	55	95
2643806402	<b>25.4±0.6</b> 1.000	<b>15.5±0.5</b> .610	<b>12.7±0.4</b> .500	19.4	.20	30	53	90	130
2643251002	<b>39.1±0.75</b> 1.540	<b>16.75±0.5</b> .660	<b>22.2±0.8</b> .875	104	.16	85	135	230	325
2643801002	<b>29.0±0.75</b> 1.142	<b>19.0±0.5</b> .748	<b>7.5±0.25</b> .295	13.6	.17	17	28	47	80
2643801202	<b>29.0±0.75</b> 1.142	<b>19.0±0.5</b> .748	<b>13.85±0.4</b> .545	25.1	.17	28	51	92	142
2643103102	<b>29.0±0.75</b> 1.142	<b>19.0±0.5</b> .748	<b>38.1±0.75</b> 1.500	69	.17	87	130	200	250

\* This dimension may be modified to suit specific applications.

<sup>+</sup> Test frequency

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# Round Cable EMI Suppression Cores

Listed by frequency range and in ascending order of "B" dimension.

## Broadband Frequencies 25-300 MHz (43 material)

Dimensions (Bold numbers are in millimeters, light numbers are nominal in inches.)

Part Number	A	B	C*	Wt (g)	H (Oe)	Typical Impedance ( $\Omega$ )			
						10 MHz	25 MHz <sup>+</sup>	100 MHz <sup>+</sup>	250 MHz
2643804502	<b>31.1±0.75</b> 1.225	<b>19.05±0.5</b> .750	<b>16.3 - 0.75</b> .627	36	.17	37	60	100	153
2643103002	<b>31.1±0.85</b> 1.225	<b>19.05±0.6</b> .750	<b>50.8 ± 1.0</b> 2.000	116	.17	105	195	330	310
2643802702	<b>35.55±0.75</b> 1.400	<b>22.85±0.5</b> .900	<b>12.7±0.5</b> .500	36	.14	28	48	80	135
2643626102	<b>50.8±1.0</b> 2.000	<b>25.4±0.5</b> 1.000	<b>25.4±0.75</b> 1.000	190	.11	80	128	224	310
2643625902	<b>50.8±1.0</b> 2.000	<b>25.4±0.5</b> 1.000	<b>28.7±0.75</b> 1.130	215	.11	90	145	254	373
2643626202	<b>50.8±1.3</b> 2.000	<b>25.4±0.8</b> 1.000	<b>38.1±0.75</b> 1.500	285	.11	118	193	336	280
2643626002	<b>50.8±1.3</b> 2.000	<b>25.4±0.8</b> 1.000	<b>50.8±1.0</b> 2.000	380	.11	157	240	360	257
2643803802	<b>61.0±1.3</b> 2.400	<b>35.55±0.85</b> 1.400	<b>12.7±0.5</b> .500	118	.09	33	58	108	218

## Broadband Frequencies 25-300 MHz (Economical 46 material)

Part Number	A	B	C*	Wt (g)	H (Oe)	Typical Impedance ( $\Omega$ )			
						10 MHz	25 MHz	100 MHz <sup>+</sup>	250 MHz
2646480102	<b>12.3±0.4</b> .485	<b>4.95±0.25</b> .200	<b>12.7±0.4</b> .500	6.0	.52	42	62	110	145
2646480002	<b>12.3±0.4</b> .485	<b>4.95±0.25</b> .200	<b>25.4±0.75</b> 1.000	12	.52	83	125	212	233
2646540202	<b>14.3±0.45</b> .562	<b>6.35±0.25</b> .250	<b>13.8 - 0.7</b> .530	8.3	.43	45	66	106	127
2646540002	<b>14.3±0.45</b> .562	<b>6.35±0.25</b> .250	<b>28.6±0.75</b> 1.125	17.7	.43	89	134	225	253
2646625002	<b>16.25 - 0.75</b> .625	<b>7.9±0.25</b> .312	<b>14.3±0.35</b> .562	10.3	.36	44	63	102	135
2646625102	<b>16.25 - 0.75</b> .625	<b>7.9±0.25</b> .312	<b>28.6±0.75</b> 1.125	20.5	.36	78	115	192	235
2646625202	<b>15.9±0.4</b> .625	<b>7.9±0.3</b> .312	<b>50.8±1.0</b> 2.000	36	.36	138	204	345	270
2646665802	<b>17.45±0.4</b> .687	<b>9.5±0.25</b> .375	<b>12.7±0.5</b> .500	10.3	.32	32	49	79	110
2646665702	<b>17.45±0.4</b> .687	<b>9.5±0.25</b> .375	<b>28.6±0.75</b> 1.125	23.1	.32	72	106	180	225
2646102402	<b>25.9±0.75</b> 1.020	<b>12.8±0.25</b> .505	<b>21.3±0.5</b> .840	41	.22	67	100	165	218
2646102002	<b>25.9±0.75</b> 1.020	<b>12.8±0.25</b> .505	<b>28.6±0.8</b> 1.125	55	.22	74	118	212	268
2646101902	<b>28.5±0.6</b> 1.122	<b>13.8±0.3</b> .543	<b>28.6±0.8</b> 1.125	67	.21	80	121	207	285

\* This dimension may be modified to suit specific applications.

<sup>+</sup> Test frequency

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Dimensions (Bold numbers are in millimeters, light numbers are nominal in inches.)

Part Number	A	B	C*	Wt (g)	H (Oe)	Typical Impedance ( $\Omega$ )			
						10 MHz	25 MHz	100 MHz <sup>+</sup>	250 MHz
2646804502	<b>31.1±0.75</b> 1.225	<b>19.05±0.5</b> .750	<b>16.3 - 0.75</b> .627	36	.17	33	49	90	150
2646103002	<b>31.1±0.85</b> 1.225	<b>19.05±0.6</b> .750	<b>50.8 ± 1.0</b> 2.000	116	.17	95	155	297	310
2646626202	<b>50.8±1.3</b> 2.000	<b>25.4±0.8</b> 1.000	<b>38.1±0.75</b> 1.500	285	.11	102	165	302	280
2646803802	<b>61.0±1.3</b> 2.400	<b>35.55±0.85</b> 1.400	<b>12.7±0.5</b> .500	118	.09	30	44	100	200

## Higher Frequencies 200-1000 MHz (61 material)

Part Number	A	B	C*	Wt (g)	H (Oe)	Typical Impedance( $\Omega$ )			
						100 MHz	250MHz <sup>+</sup>	500 MHz <sup>+</sup>	1000 MHz
2661540202	<b>14.3±0.45</b> .562	<b>6.35±0.25</b> .250	<b>13.8 - 0.7</b> .530	8.3	.43	100	145	185	260
2661540002	<b>14.3±0.45</b> .562	<b>6.35±0.25</b> .250	<b>28.6±0.75</b> 1.125	17.7	.43	205	295	370	350
2661801902	<b>12.7±0.25</b> .500	<b>7.9±0.25</b> .312	<b>12.7± 0.4</b> .500	4.7	.40	45	70	105	175
2661665802	<b>17.45±0.4</b> .687	<b>9.5±0.25</b> .375	<b>12.7±0.5</b> .500	10.3	.32	85	125	160	205
2661665702	<b>17.45±0.4</b> .687	<b>9.5±0.25</b> .375	<b>28.6±0.75</b> 1.125	23.1	.32	190	280	360	450
2661626302	<b>19.0 - 0.65</b> .735	<b>10.15±0.25</b> .400	<b>14.65 - 0.75</b> .562	13.3	.29	90	135	180	235
2661626402	<b>19.0 - 0.65</b> .735	<b>10.15±0.25</b> .400	<b>28.6±0.75</b> 1.125	26.6	.29	185	250	370	460
2661102402	<b>25.9±0.75</b> 1.020	<b>12.8±0.25</b> .505	<b>21.3±0.5</b> .840	41	.22	125	200	310	550
2661102002	<b>25.9±0.75</b> 1.020	<b>12.8±0.25</b> .505	<b>28.6±0.8</b> 1.125	55	.22	190	300	380	400

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