

Flat Cable EMI Suppression Cores

Fair-Rite offers a line of flat cable EMI suppression cores to attenuate radiated EMI emissions from ribbon cables. These cores can accommodate a range of cable sizes and conductors.

See page 115 for cases and clips to assist in the assembly of the split cable core halves.

For Flat Cable Snap-its, see page 116.

- Impedance values for parts shown in Figures 1, 2, and 3 are for a core set. Parts shown in Figures 1, 2, and 3 are sold as pieces.
- Cores are controlled for impedance limits only. They are tested for impedance with a single turn, using a Hewlett Packard HP 4193A Vector Impedance Meter.
- For impedance vs. frequency curves for these parts, see Figures 6-35.
- For any flat cable EMI suppression core requirement not listed in the catalog, please contact our customer service group for availability and pricing.
- The Expanded Cable and Connector EMI Suppressor Kit (part number 0199000005) contains a selection of these suppression cores. See page 92.

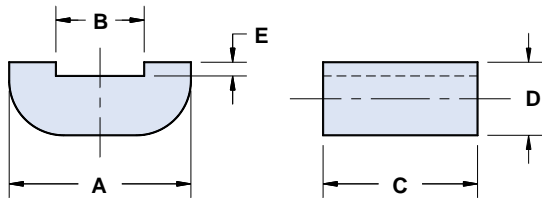


Figure 1

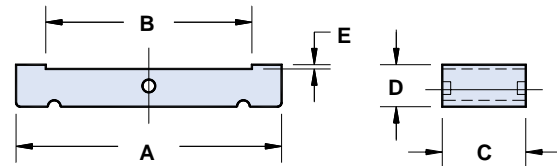


Figure 2

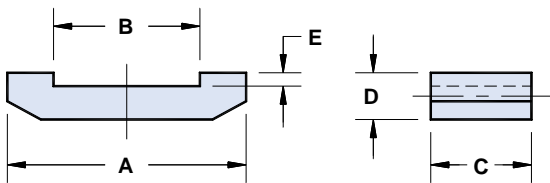


Figure 3

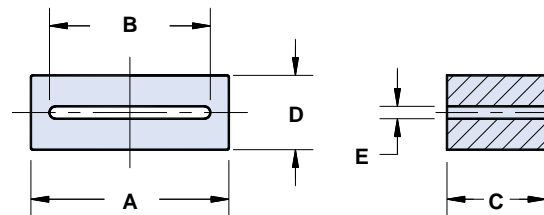


Figure 4

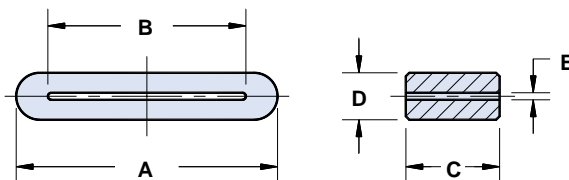


Figure 5

Flat Cable EMI Suppression Cores

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

Part Number**	Fig.	Max. Cable Width	A	B	C*	D	E	Wt (g)	Typical Impedance(Ω) ¹			Clip P/N	Case P/N	Z, R _s , X _L vs. Frequency Curve
									10 MHz	25 MHz	100 MHz			
2643171351	1	6.4mm .250	11.4±0.25 .450	6.6±0.15 .260	7.6±0.25 .300	3.3 - 0.25 .125	0.15±0.15 .009	1.4	—	50	80	—	—	Figure 6
2643172751	2	10mm .385	14.5±0.2 .571	10.0±0.13 .394	10.0±0.13 .394	2.5±0.15 .098	0.5±0.25 .025	1.5	—	31	59	—	—	Figure 7
2643173851	2^	12mm .490	16.5±0.25 .650	12.5±0.2 .492	10.25±0.25 .404	2.0±0.15 .079	0.5±0.25 .025	1.3	—	33	60	—	—	Figure 8
2643170251	3	12mm .490	22.75±0.65 .895	12.7±0.5 .500	12.7±0.5 .500	3.3 - 0.25 .125	1.15±0.25 .050	3.5	—	39	71	—	—	Figure 9
2643169552	4	14mm .550	19.95±0.4 .785	14.2±0.25 .560	10.15±0.5 .400	6.35±0.25 .250	0.9±0.15 .035	5.7	—	35	75	—	—	Figure 10
2643168751	4	17mm .680	25.4±0.75 1.000	17.8±0.5 .700	12.7±0.4 .500	10.15±0.25 .400	2.55±0.25 .100	13	—	44	85	—	—	Figure 11
2643173351	5	20mm .770	24.5±0.4 .965	20.0±0.4 .787	12.0±0.3 .472	5.0±0.25 .197	0.75±0.25 .030	6.6	—	31	55	—	—	Figure 12
2643168651	3	26mm 1.030	38.85±0.75 1.530	26.15±0.75 1.030	28.6±0.7 1.125	13.0±0.3 .512	6.35±0.25 .255	45	—	100	185	—	—	Figure 13
2643164551	4	26mm 1.030	38.1±1.0 1.500	26.65±0.75 1.050	12.3±0.4 .485	12.05±0.4 .475	1.9±0.4 .075	25	—	48	98	—	—	Figure 14
2643171051	2	26mm 1.030	38.1±1.0 1.500	26.65±0.75 1.050	12.7±0.4 .500	6.35±0.25 .250	0.85±0.2 .033	14	—	50	105	0199001401 0199016051	—	Figure 15
2643166851	2	26mm 1.030	38.1±1.0 1.500	26.65±0.75 1.050	25.4±0.75 1.000	6.35±0.25 .250	0.85±0.2 .033	27	—	100	210	0199001401	—	Figure 16
2631163851	4	26mm 1.030	38.1±1.0 1.500	26.65±0.75 1.050	25.4±0.75 1.000	12.05±0.4 .475	1.9±0.4 .075	51	63	106	205	—	—	Figure 17
2643163851	4	26mm 1.030	38.1±1.0 1.500	26.65±0.75 1.050	25.4±0.75 1.000	12.05±0.4 .475	1.9±0.4 .075	51	—	95	195	—	—	Figure 18
2643172551	5	27mm 1.060	33.5±0.65 1.319	27.0±0.5 1.063	8.0±0.4 .315	6.5±0.25 .256	1.25±0.7 .063	6.8	—	18	42	—	—	Figure 19
2643169351	4	27mm 1.060	33.65±0.75 1.325	27.5±0.5 1.083	13.2±0.5 .520	6.7±0.4 .265	1.35±0.25 .053	12	—	31	65	—	—	Figure 20
2643167051	2^	28mm 1.080	40.9±0.75 1.600	28.2±0.75 1.100	12.7±0.25 .500	15.0±0.25 .590	8.5±0.15 .335	23	—	46	88	—	—	Figure 21
2643166451	2	28mm 1.080	38.35±1.0 1.510	27.95±1.0 1.100	28.6±0.7 1.125	9.0±0.3 .355	3.3±0.25 .130	35	—	90	170	0199010301	—	Figure 22
2643168051	2^	32mm 1.280	52.9±1.0 2.083	33.0±0.7 1.299	31.25±1.0 1.230	12.5±0.4 .492	3.5±0.4 .138	84	—	133	243	—	—	Figure 23
2643167551	2^	32mm 1.280	52.9±1.0 2.083	33.0±0.7 1.299	63.5±1.8 2.500	12.5±0.4 .492	3.5±0.4 .138	170	—	260	460	—	—	Figure 24
2643170951	2	34mm 1.330	45.1±0.75 1.775	34.4±0.7 1.355	12.7±0.4 .500	6.35±0.25 .250	0.85±0.2 .033	16	—	43	100	0199001401 0199016051	—	Figure 25
2643166551	4	34mm 1.330	45.1±0.75 1.775	34.4±0.7 1.355	28.6±0.7 1.125	12.45±0.4 .490	1.5±0.3 .060	71	—	95	195	—	0199166651	Figure 26
2643166651	2	34mm 1.330	45.1±0.75 1.775	34.4±0.7 1.355	28.6±0.7 1.125	6.35±0.25 .250	0.85±0.2 .033	36	—	96	225	0199001401 0199016551	0199166651	Figure 27
2643168251	2	52mm 2.030	63.5±1.3 2.500	52.1±1.1 2.050	12.7±0.4 .500	6.35±0.25 .250	0.85±0.2 .033	22	—	39	104	0199001401 0199016051	—	Figure 28
2631163951	2	52mm 2.030	63.5±1.3 2.500	52.1±1.1 2.050	28.6±0.8 1.125	6.35±0.25 .250	0.85±0.2 .033	50	44	88	220	0199001401 0199016551	0199163951	Figure 29
2643163951	2	52mm 2.030	63.5±1.3 2.500	52.1±1.1 2.050	28.6±0.8 1.125	6.35±0.25 .250	0.85±0.2 .033	50	—	81	210	0199001401 0199016551	0199163951	Figure 30
2643167751	2	65mm 2.550	76.2±1.5 3.000	65.3±1.3 2.570	12.7±0.4 .500	6.35±0.25 .250	0.85±0.2 .033	27	—	36	110	0199001401 0199016051	—	Figure 31
2631164051	2	65mm 2.550	76.2±1.5 3.000	65.3±1.3 2.570	28.6±0.8 1.125	6.35±0.25 .250	0.85±0.2 .033	60	40	81	225	0199001401 0199016551	0199164051	Figure 32
2643164051	2	65mm 2.550	76.2±1.5 3.000	65.3±1.3 2.570	28.6±0.8 1.125	6.35±0.25 .250	0.85±0.2 .033	60	—	75	215	0199001401 0199016551	0199164051	Figure 33
2643171151	2	78mm 3.060	88.9±1.8 3.500	78.2±1.5 3.080	12.7±0.4 .500	6.5±0.35 .256	0.95±0.3 .037	31	—	33	95	0199001401 0199016051	—	Figure 34
2643168351	2	78mm 3.060	88.9±1.8 3.500	78.2±1.5 3.080	28.6±0.8 1.125	6.5±0.35 .256	0.95±0.3 .037	70	—	75	215	0199001401 0199016551	—	Figure 35

* This dimension may be modified to suit specific applications.

^ Part does not have clip slots as shown in figure.

** Bold part numbers designate preferred parts.

¹ Guaranteed Z Min is Z Typ -20%

Flat Cable EMI Suppression Cores

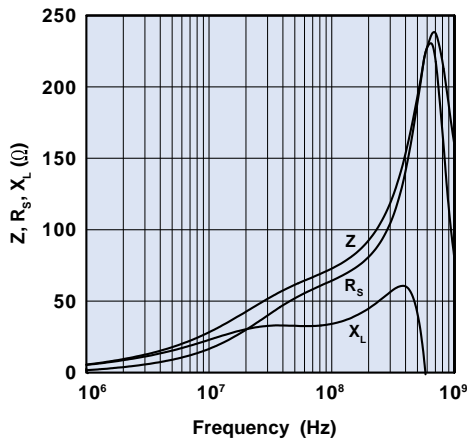


Figure 6 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643171351.

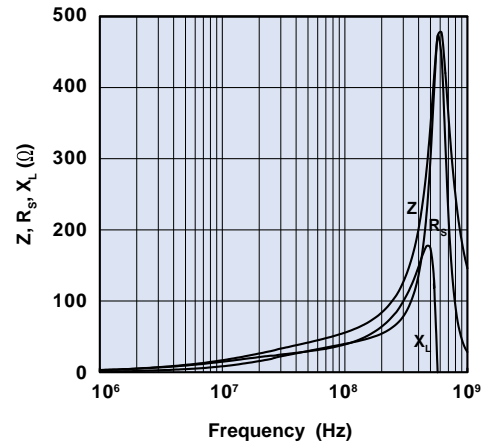


Figure 7 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643172751.

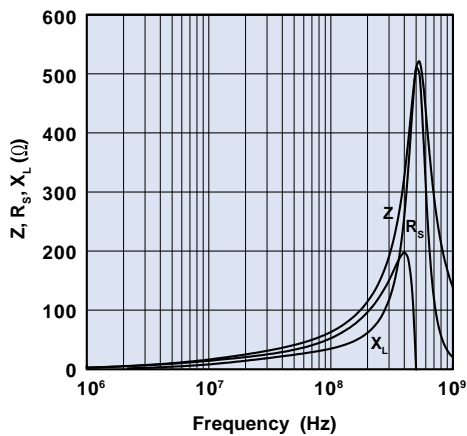


Figure 8 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643173851.

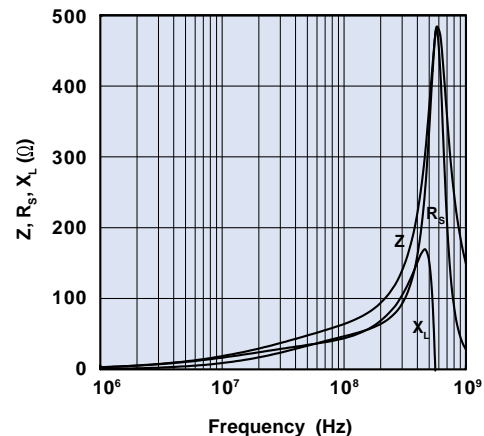


Figure 9 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643170251.

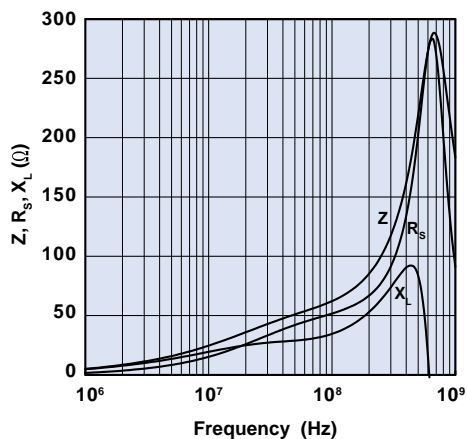


Figure 10 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643169551.

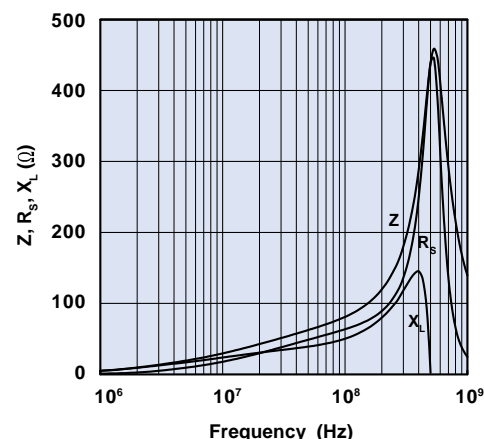


Figure 11 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643168751.

Flat Cable EMI Suppression Cores

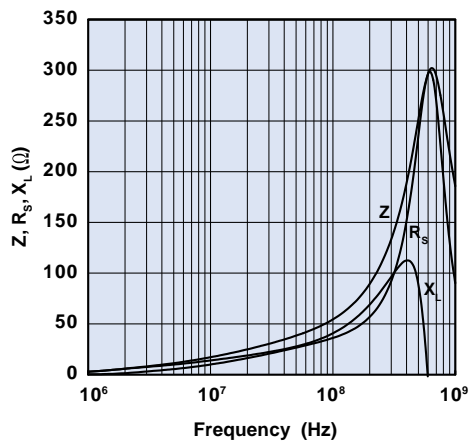


Figure 12 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643173351.

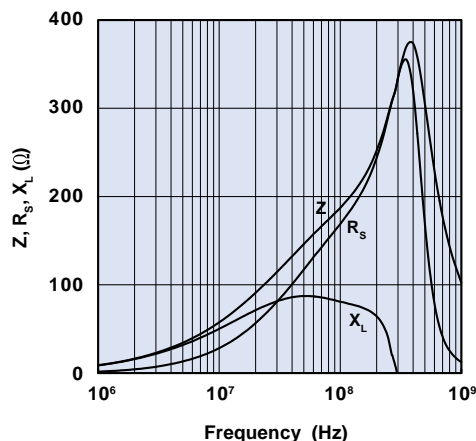


Figure 13 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643168651.

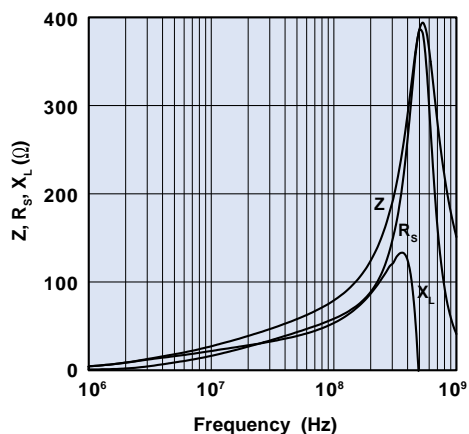


Figure 14 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643164551.

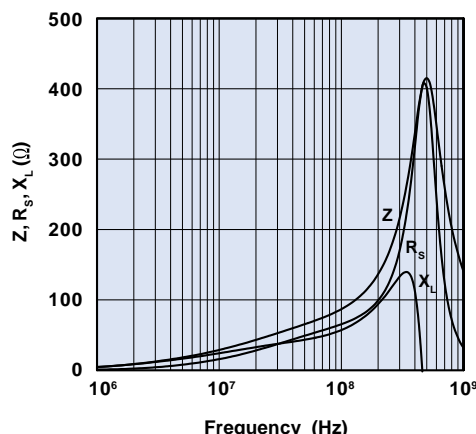


Figure 15 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643171051.

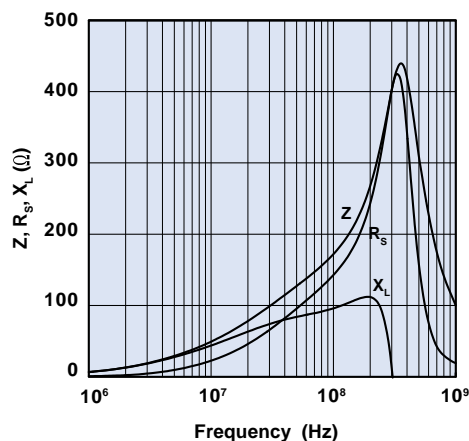


Figure 16 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643166851.

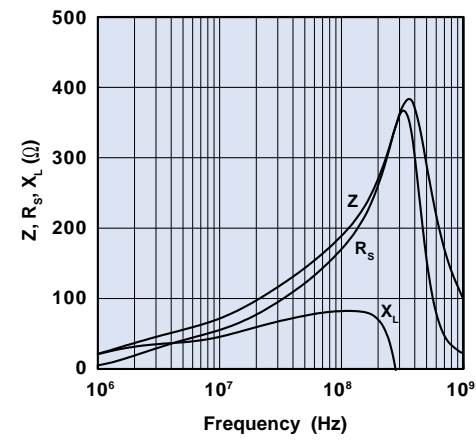


Figure 17 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2631163851.

Flat Cable EMI Suppression Cores

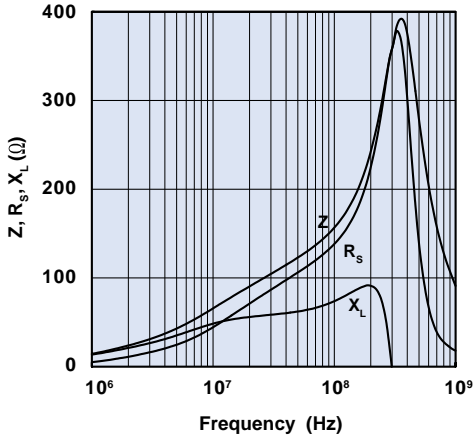


Figure 18 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643163851.

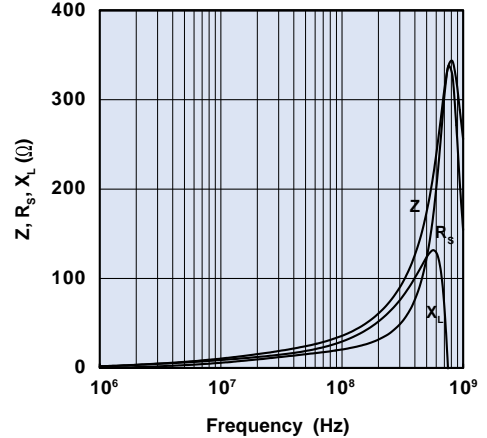


Figure 19 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643172551.

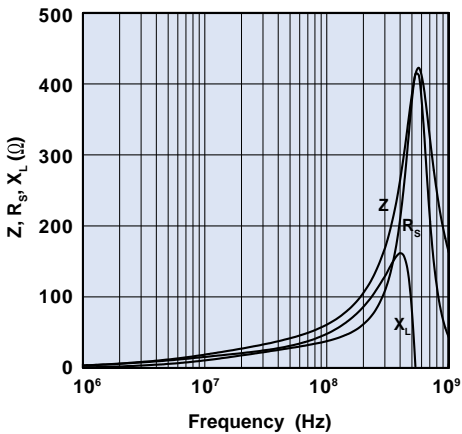


Figure 20 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643169351.

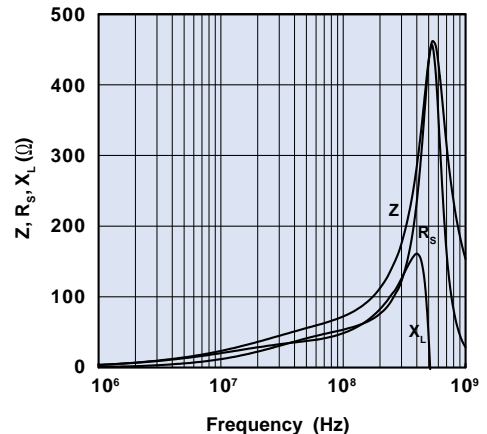


Figure 21 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643167051.

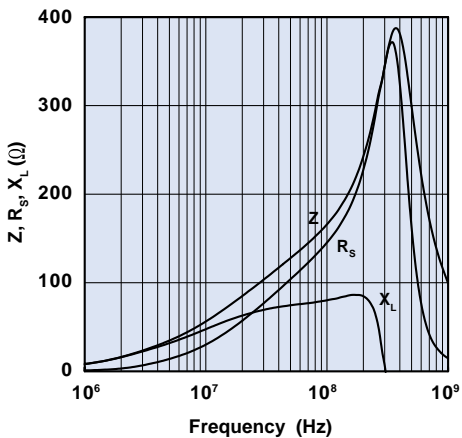


Figure 22 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643166451.

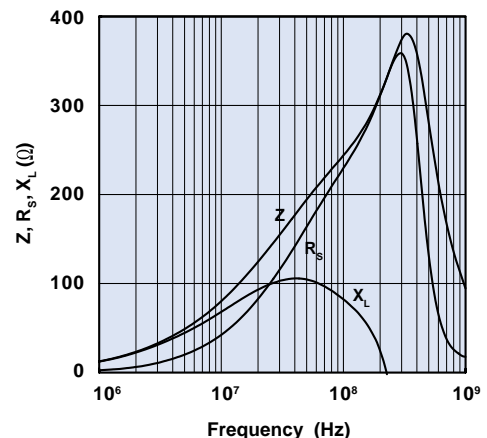


Figure 23 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643168051.

Flat Cable EMI Suppression Cores

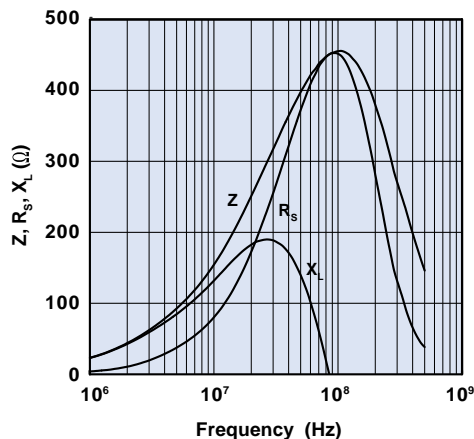


Figure 24 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643167551.

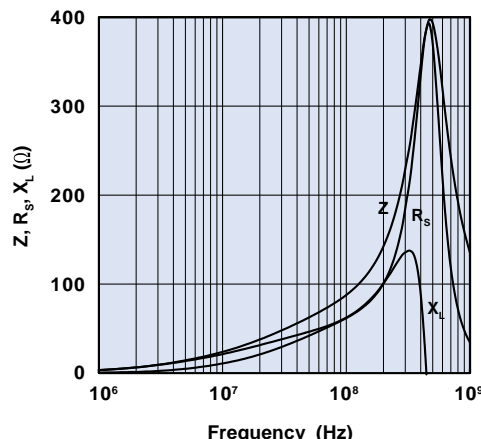


Figure 25 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643170951.

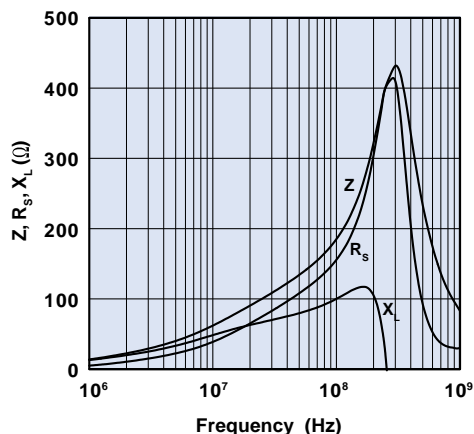


Figure 26 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643166551.

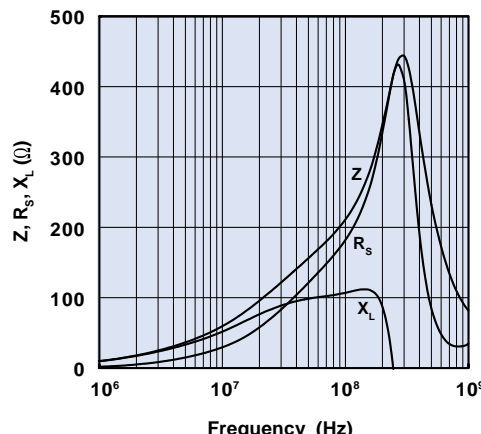


Figure 27 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643166651.

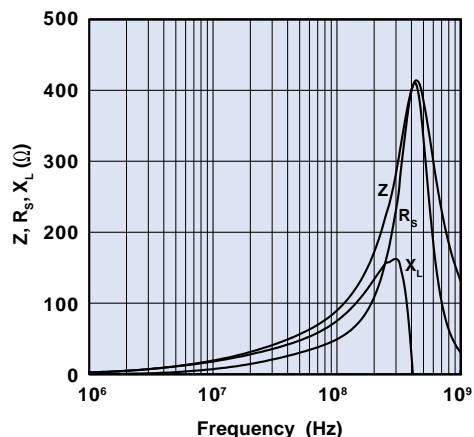


Figure 28 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643168251.

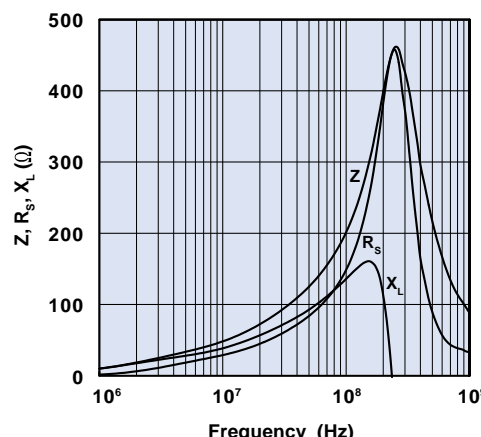


Figure 29 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2631163951.

Flat Cable EMI Suppression Cores

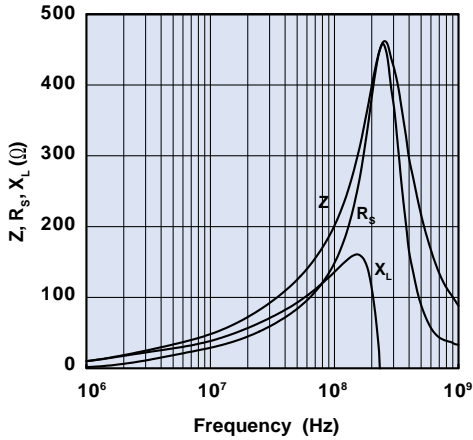


Figure 30 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643163951.

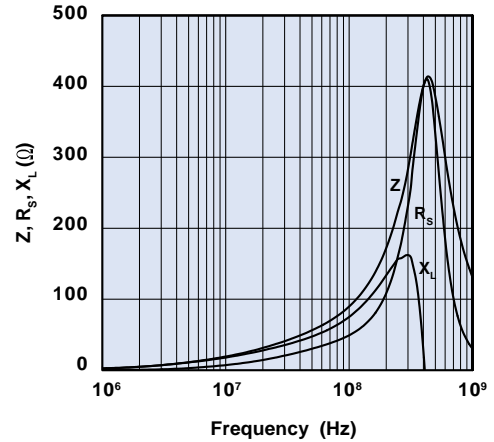


Figure 31 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643167751.

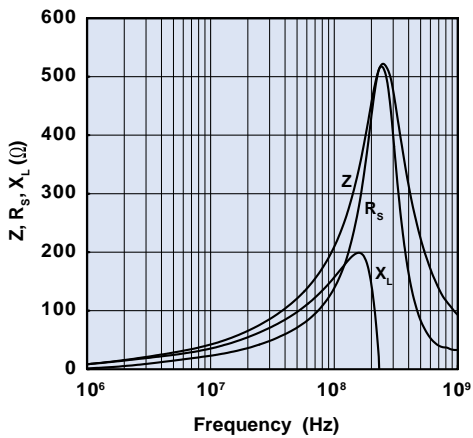


Figure 32 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2631164051.

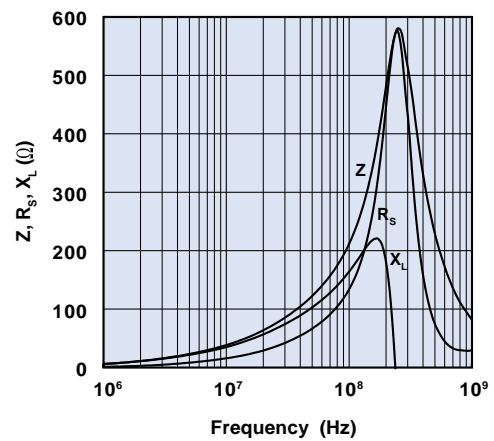


Figure 33 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643164051.

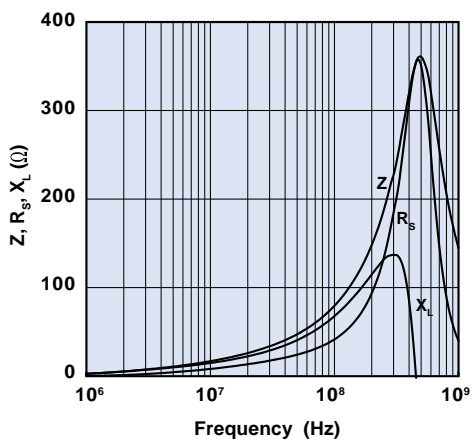


Figure 34 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643171151.

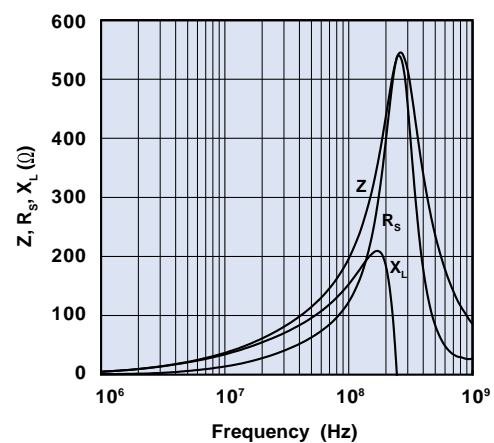


Figure 35 Impedance, reactance, and resistance vs. frequency for flat cable EMI suppression core 2643168351.

Flat Cable EMI Suppression Cores

Cases and Clips

Fair-Rite offers polypropylene cases and steel and polypropylene clips to assist in the assembly of the split cable core halves.

For Flat Cable Snap-its, see pages 116 and 117.

- Figure 1 cases are polypropylene with a flammability rating of UL94-V0.
- Figure 2 and Figure 3 clips are **0.5mm (.020")** high carbon steel with a zinc electroplate finish.
- Figure 4 clips are polypropylene with a flammability rating of UL94-V0.

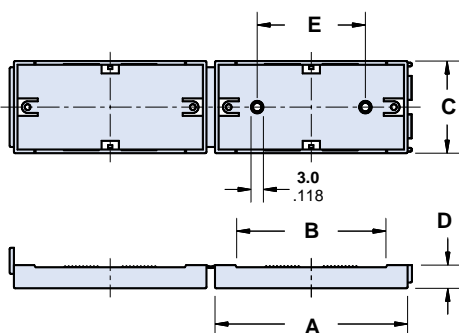


Figure 1
Case has rows of serrated teeth that grip and center the core around the cable (Patented).

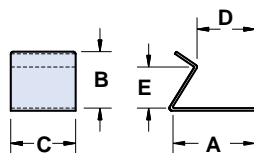


Figure 2

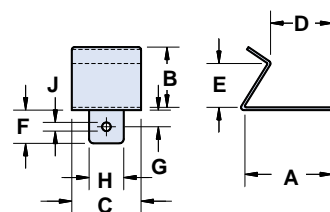


Figure 3

Cases

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

Part Number Case	Fig.	A	B	C	D	E
0199166651	1	49.5 1.950	34.4 1.350	32.3 1.272	8.1 .320	20.0 .787
0199163951	1	67.8 2.670	52.1 2.051	32.3 1.272	8.1 .320	38.0 1.496
0199164051	1	80.8 3.180	65.3 2.570	32.3 1.272	8.1 .320	50.8 2.000

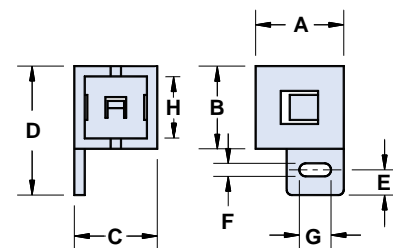


Figure 4

Clips

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

Part Number Clip	Fig.	A	B	C	D	E	F	G	H	J
0199001401	2	16.1 .635	11.0 .433	12.7 .500	11.4 .450	8.0 .315	—	—	—	—
0199010301	3	21.2 .835	11.0 .433	12.7 .500	16.5 .650	8.0 .315	7.5 .295	4.0 .157	6.0 .236	3.0 .118
0199016051	4	16.7 .657	15.9 .626	15.9 .626	24.6 .969	4.4 .171	3.2 .126	6.4 .252	13.1 .516	—
0199016551	4	16.7 .657	32.2 1.27	15.9 .626	40.5 1.59	4.4 .171	3.2 .126	6.4 .252	29.5 1.161	—