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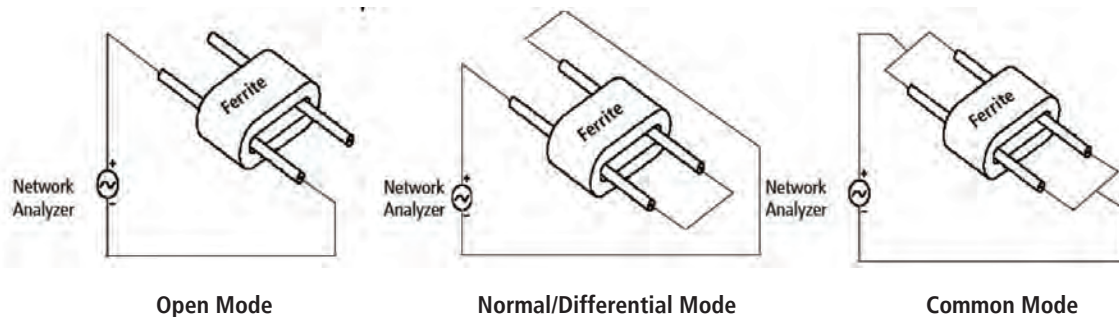
EMI FILTERING & RF INDUCTORS



COMMON MODE CHOKE FAMILY

PART SERIES	SPECIAL FEATURES	EIA PACKAGE SIZE	IMPEDANCE (Z) Ω @ 100 MHz	RATED I MAX (CONTINUOUS) mA	PEAK IMPEDANCE (Z) FREQUENCY	# OF SINGLE LINE PAIRS OR CHOKES
CM 05	USB 2.0, Low Normal Mode Z	0805	90-370	100-400	1 GHz - 1.4 GHz	1
CH 05	HDMI High Speed Signal	0805	90	400	2000	1
CF Beads	Normal Signal, Small Package	0504-0805	67-220	300-400	180-583	1
CM 21	High Current, Low Profile	2021-3421	33-60	15,000	1GHz	1
CM 22 Array	Firewire, Gigabit Ethernet	2722-5022	45-200	5,000	200 MHz - 3 GHz	2,3,4
CM 32 Array	High Current, High Frequency	3032- 6032	120-300	8,000	150 MHz - 2 GHz	2,3,4
CM 40 Array	High Current, Low to High Frequency	3440-5740	170	20,000	1 GHz	1,2
CM 41	Ultra High Current, Low to High Frequency	5441	90-160	75,000	600 MHz - 700 MHz	1
CM 44	3 Line Power	4440	110	20,000	500 MHz	3
CM 45	2 & 4 Line Power	2545-4545	130-170	10,000	500 MHz - 1 GHz	1,2
LF CM	Low Frequency	1812-5740	100-3500	200-20,000	3 MHz - 80 MHz	1

IMPEDANCE TEST FOR COMMON MODE CHOKES



Open-Mode Impedance Measurement -

The open-mode impedance characterizes the impedance of only a single conductor in the ferrite common mode choke.

Normal (Differential) Mode Impedance Measurement

The normal mode impedance characterizes the impedance presented by the common mode choke to the normal (differential) signals present in the circuit. The test circuit represents the forward and return paths through the device.

Common Mode Impedance Measurement -

The common mode impedance characterizes the impedance presented by the choke to the unintended common mode currents that might flow in the circuit and cause EMI failures. Since this current flows in both conductors, it is necessary to short the conductors on each side of the choke so that test current flows equally through both conductors.

COMMON MODE CHOKES



FEATURES

- Wire wound SMT and through hole structure rated current up to 75 Amps
- Low DCR with small package
- Stable performance under load bias
- Excellent impedance vs frequency feature
- Small size and high reliability
- For power, low frequency and high frequency signal lines
- For USB, HDMI, 1394, DVI, S-ATA, LVDS signal line applications
- Suitable for power saving especially for portable application

PART NUMBERING SYSTEM

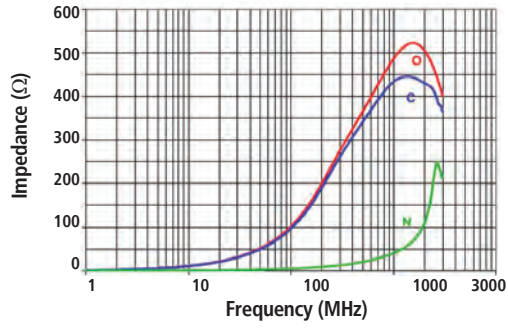
CM	0805	D	900	R	-10
Product Series Code	EIA Size Code	Rated Current Code	Inductance Value Code	Packing Code	Additional Description

HIGH SPEED SERIAL INTERFACE COMMON MODE CHOKE

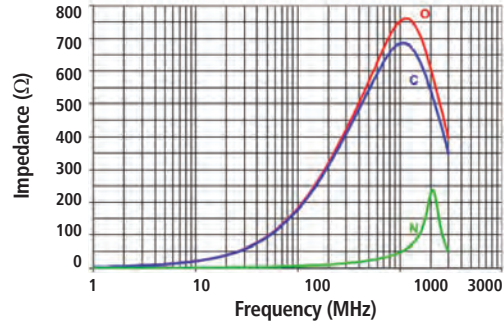
APPLICATION	TYPE	PART NUMBER	TYPICAL IMPEDANCE (Ω)				TYPICAL PEAK IMPEDANCE (Ω)	PEAK IMPEDANCE FREQUENCY (MHz)	DCR MAX (Ω)	RATED I MAX (CONTINUOUS) (mA)
			Z @ 25 MHz	Z @ 100 MHz	Z @ 500 MHz	Z @ 1 GHz				
USB2.0/LVDS	Wirewound (For 2 lines)	CM0805D900R-10	24	90	340	435	445	1405	0.3	400
		CM0805C161R-10	49	160	540	684	684	1000	0.35	300
		CM0805C221R-10	57	220	570	720	724	1147	0.4	300
		CM0805B361R-10	95	360	1080	1310	1343	913	0.4	280
		CM0805A371R-10	186	370	730	878	878	1000	0.5	100
		CM0805B501R-10	185	500	895	980	1015	833	0.5	250
		CM0805C601R-10	265	600	1080	1227	1264	782	0.375	250
HDMI/DVI/SATA	Wirewound (For 2 lines)	CH0805D900R-10	48	90	249	339	494	2000	0.3	400
		CM1206A601R-10	200	600	1450	980	1530	580	0.8	260
		CM1206C161R-10	81	160	358	555	718	2177	0.4	340
USB/Signal Line	Multilayer (For 2 lines)	CF0504C900R-10	28	90	210	148	217	583	0.6	300
		CF0504C121R-10	33	120	250	145	250	500	0.6	300
		CF0805D670R-10	24	67	196	98	166	510	0.4	400
		CF0805D900R-10	32	90	210	106	220	435	0.4	400
		CF0805D121R-10	36	120	240	103	260	397	0.4	400
		CF0805D181R-10	48	180	123	42	277	210	0.5	400
		CF0805C221R-10	50	220	109	33	296	180	0.5	300

COMMON MODE CHOKES

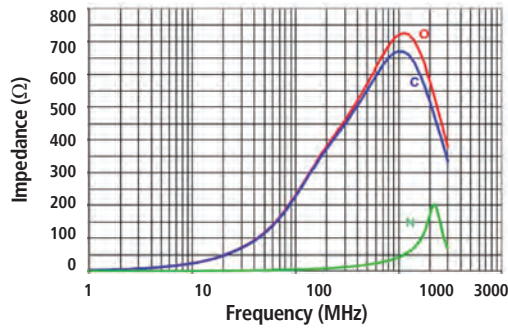
CM0805D900R-10



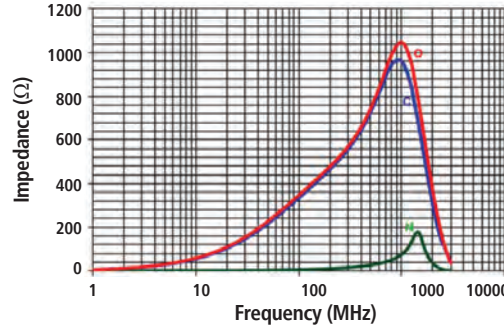
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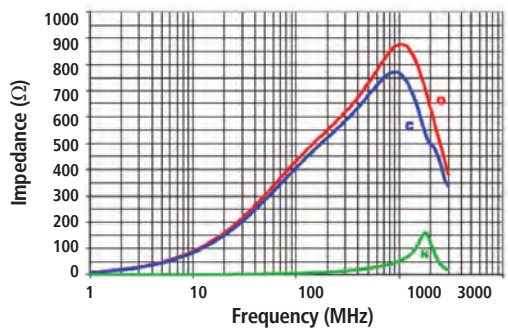
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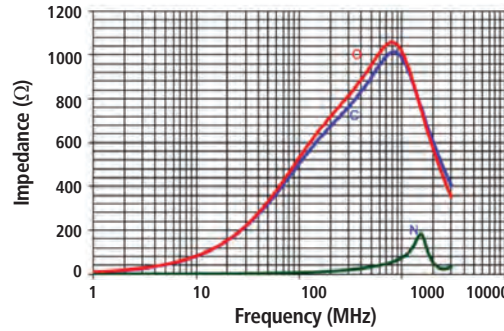
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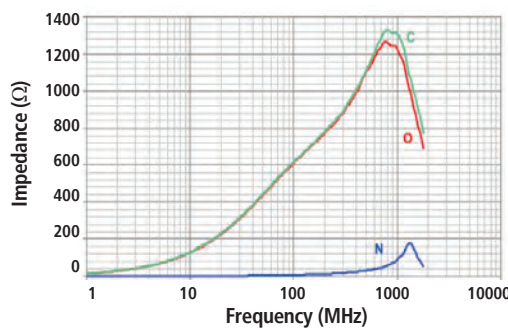
CM0805A371R-10



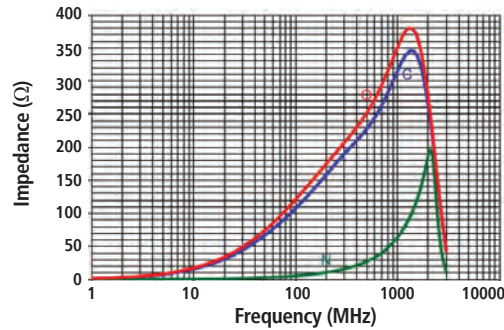
CM0805B501R-10



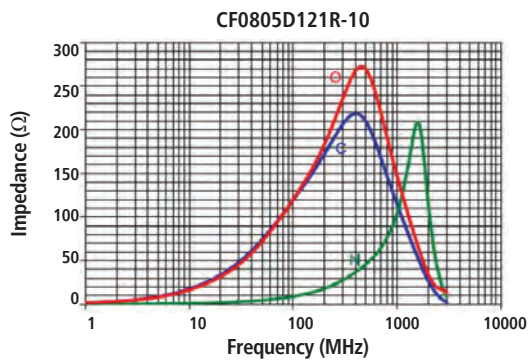
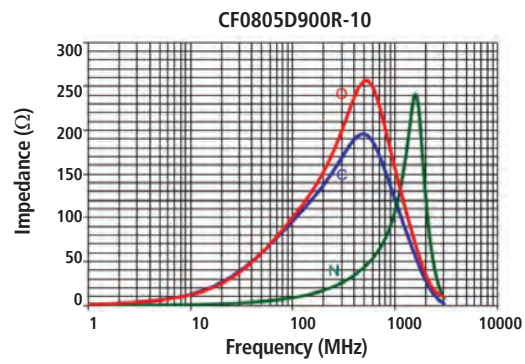
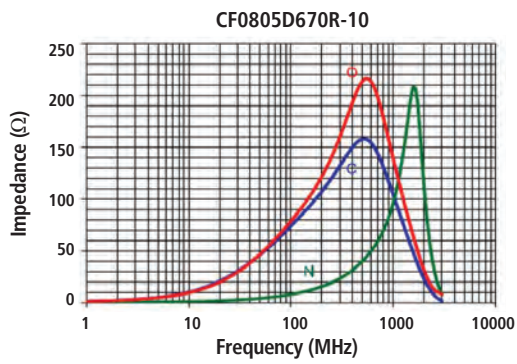
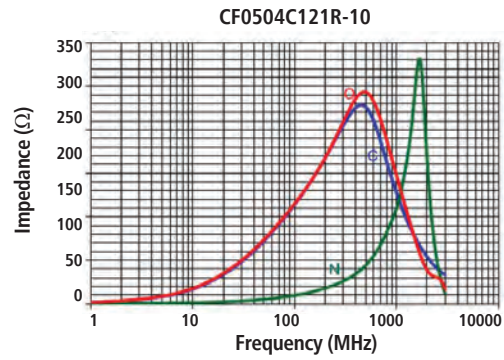
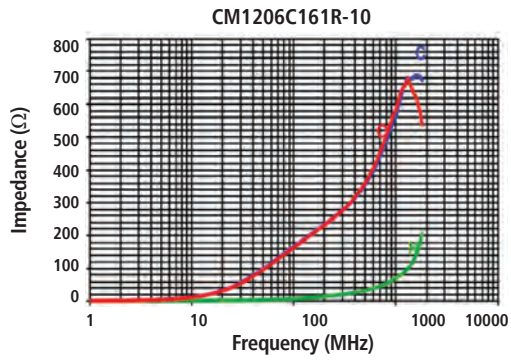
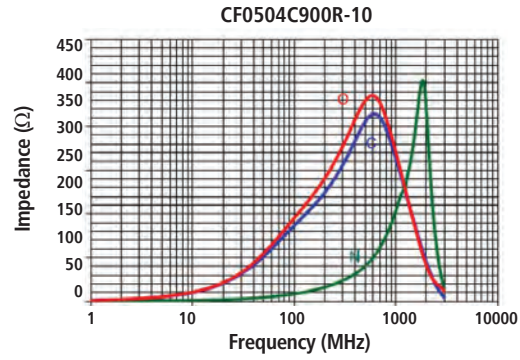
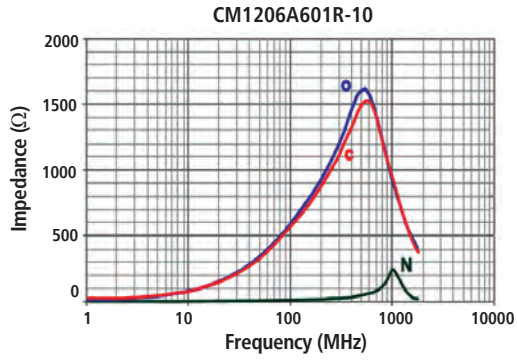
CM0805C601R-10



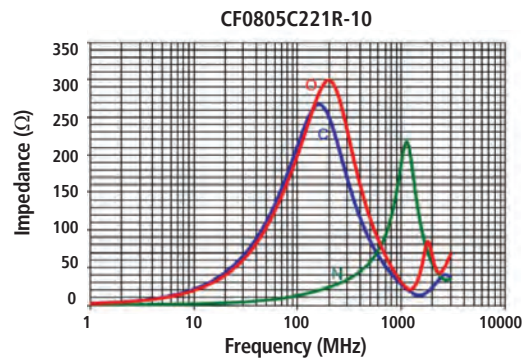
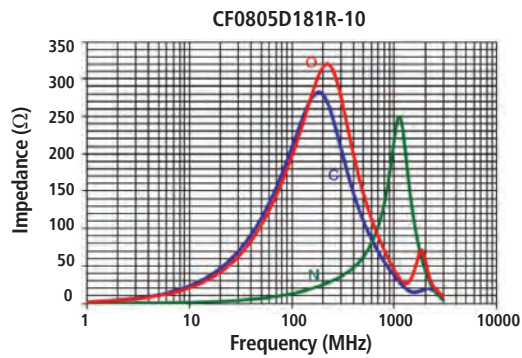
CH0805D900R-10



COMMON MODE CHOKES



COMMON MODE CHOKES



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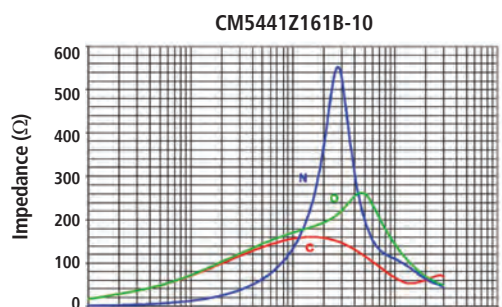
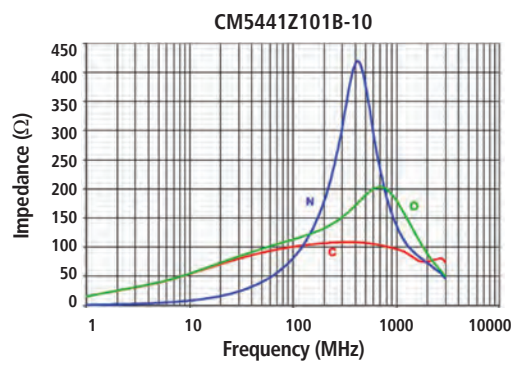
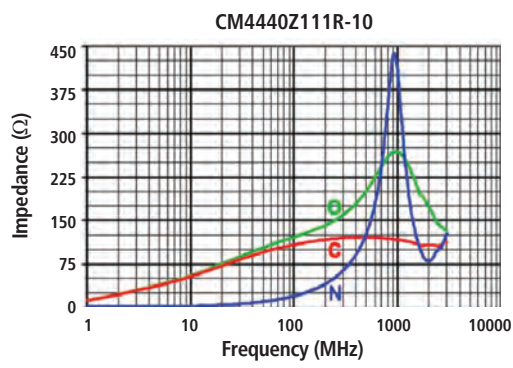
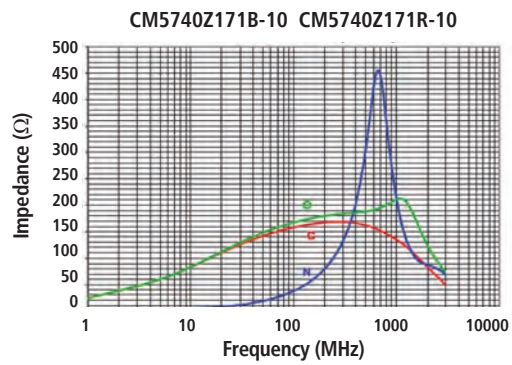
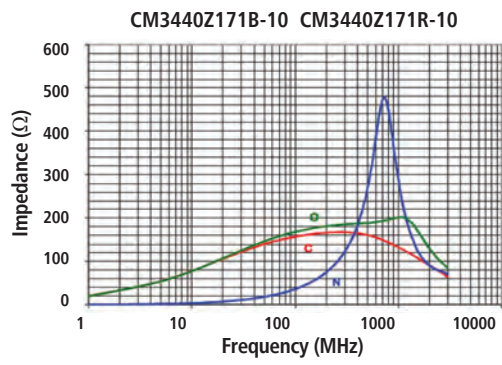
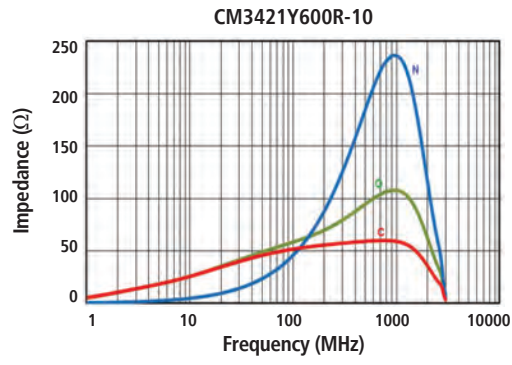
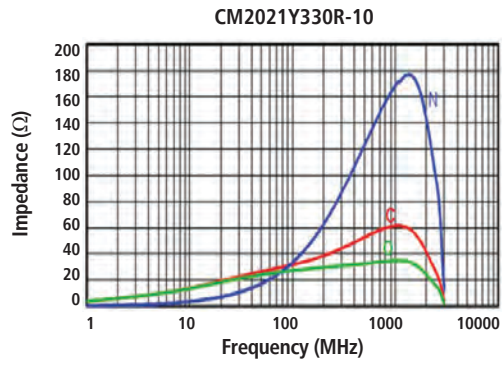
DIMENSION

PART NUMBER	EIA PKG SIZE	METRIC PKG SIZE	A mm (INCHES)	B mm (INCHES)	C mm (INCHES)	D mm (INCHES)	D1 mm (INCHES)	E mm (INCHES)	
CM0805 CH0805	0805	2012	2.00 (0.079)	1.20 (0.047)	1.20 (0.047)	-	-	-	
CF0504	0504	1210	1.25 (0.049)	1.00 (0.039)	0.82 (0.032)	0.30 (0.012)	0.20 (0.008)	0.50 (0.020)	
CF0805	0805	2012	2.00 (0.079)	1.25 (0.049)	1.00 (0.039)	0.30 (0.012)	-	0.40 (0.016)	

POWER LINES COMMON MODE CHOKE

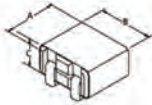
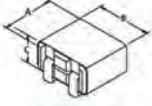
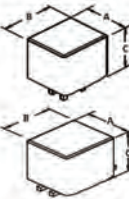

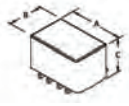

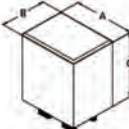
APPLICATION	TYPE	PART NUMBER	TYPICAL IMPEDANCE (Ω)				TYPICAL PEAK IMPEDANCE (Ω)	PEAK IMPEDANCE FREQUENCY (MHz)	DCR MAX (Ω)	RATED I MAX (CONTINUOUS) (mA)
			Z @ 25 MHz	Z @ 100 MHz	Z @ 500 MHz	Z @ 1 GHz				
Power Lines	Surface Mount (For 2 lines)	CM2021Y330R-10	18	33	52	61	62	1100	0.0008	15,000
		CM3421Y600R-10	39	60	96	110	110	1000	0.0008	15,000
	Thru-Hole (For 2 lines)	CM3440Z171B-10	116	170	189	202	202	1000	0.001	20,000
	Thru-Hole (For 4 lines)	CM5740Z171B-10	116	170	189	202	202	1000	0.001	20,000
	Surface Mount (For 2 lines)	CM3440Z171R-10	116	170	189	202	202	1000	0.001	20,000
	Surface Mount (For 4 lines)	CM5740Z171R-10	116	170	189	202	202	1000	0.001	20,000
	Surface Mount (For 3 lines)	CM4440Z111R-10	79	110	122	117	122	500	0.001	20,000
		CM4440Z121R-10	82	120	122	117	123	460	0.001	20,000
	Thru-Hole (For 2 lines)	CM5441Z101B-10	79	100	188	183	204	682	0.0003	30,000 mA @ 25°C Temp Rise 70,000 mA @ 30 °C Temp Rise
		CM5441Z161B-10	112	160	261	146	263	457	0.0003	
CM5441Z161R-10		110	160	260	140	265	460	0.0003		

COMMON MODE CHOKES



COMMON MODE CHOKES

DIMENSION

PART NUMBER	A mm (INCHES)	B mm (INCHES)	C mm (INCHES)	
CM2021Y330R-10	5.00 (0.197)	5.60 (0.220)	2.85 (0.112)	
CM3421Y600R-10	8.68 (0.342)	5.60 (0.220)	2.85 (0.112)	
CM3440Z171B-10	8.51 (0.335)	10.03 (0.395)	9.32 (0.367)	
CM3440Z171R-10	8.51 (0.335)	10.03 (0.395)	9.32 (0.367)	
CM5740Z171B-10	14.48 (0.570)	10.03 (0.395)	9.32 (0.367)	
CM5740Z171R-10	14.48 (0.570)	10.03 (0.395)	9.32 (0.367)	
CM4440Z111R-10	11.05 (0.435)	10.03 (0.395)	9.32 (0.367)	
CM5441Z101B-10	13.72 (0.540)	10.41 (0.410)	10.52 (0.414)	
CM5441Z161B-10	13.72 (0.540)	10.41 (0.410)	15.24 (0.600)	

COMMON MODE CHOKE
SERIES

SORTED BY IMPEDANCE @ 100 MHz OR 4 MHz

PART NUMBER	TYPICAL Z Ω @ 25 MHz	NOMINAL Z Ω @ 100 MHz	TYPICAL Z Ω @ 500 MHz	TYPICAL Z Ω @ 1 GHz	TYPICAL PEAK IMPEDANCE (Ω)	TYPICAL PEAK IMPEDANCE FREQ. (MHz)	DCR MAX (Ω)	RATED CONTINUOUS CURRENT (mA)	A (mm) LENGTH	B (mm) WIDTH	C (mm) HEIGHT
CM2021Y330R-10	18	33	52	61	62	1100	0.001	15,000	5.60	2.85	5.00
CM3421Y600R-10	39	60	96	110	110	1000	0.001	15,000	5.60	2.85	8.68
CF0805D670R-10	24	67	196	98	166	510	0.4	400	2.00	1.25	1.00
CM2722R800R-10	60	80	92	98	140	3000	0.02	5,000	6.99	5.72	4.32
CM3822R800R-10	64	80	97	105	151	3000	0.02	5,000	9.78	5.72	4.32
CM5022R800R-10	61	80	95	102	150	3000	0.02	5,000	12.57	5.72	4.32
CF0504C900R-10	28	90	210	148	217	583	0.6	300	1.25	1.00	0.82
CF0805D900R-10	32	90	210	106	220	435	0.4	400	2.00	1.25	1.00
CM0805D900R-10	24	90	340	435	445	1405	0.3	400	2.00	1.20	1.20
CH0805D900R-10	48	90	249	339	494	2000	0.3	400	2.00	1.20	1.20
CM5441Z101B-10	79	100	188	183	204	682	0.0008	75,000	13.72	10.41	10.52
CM4440Z111R-10	79	110	122	177	122	500	0.001	20,000	11.05	10.03	9.32
CM4440Z121R-10	82	120	122	117	123	460	0.001	20,000	11.05	10.03	9.32
CF0504C121R-10	33	120	250	145	250	500	0.6	300	1.25	1.00	0.82
CF0805D121R-10	36	120	240	103	260	397	0.4	400	2.00	1.25	1.00
CM3032V121R-10	80	120	130	140	169	2010	0.01	8,000	7.62	8.13	5.72
CM4545Z131B-10	65	130	267	256	288	682	0.01	10,000	11.38	11.38	9.32
CM4545Z131R-10	65	130	267	256	288	682	0.01	10,000	11.38	11.38	9.32
CM5022R151R-10	113	150	165	167	177	2092	0.02	5,000	12.57	5.72	7.62
CM2722R151R-10	113	150	165	165	168	1783	0.02	5,000	6.99	5.72	7.62
CM3822R151R-10	107	150	170	169	172	1646	0.02	5,000	9.78	5.72	7.62
CM0805C161R-10	49	160	540	684	684	1000	0.35	300	2.00	1.20	1.20
CM1206C161R-10	81	160	358	555	718	2177	0.4	340	3.20	1.60	1.80
CM5441Z161B-10	112	160	261	146	263	457	0.0008	75,000	13.72	10.41	15.24
CM5441Z161R-10	110	160	260	140	265	457	0.0003	75,000	13.72	10.41	15.24
CM3440Z171B-10	116	170	189	202	202	1000	0.001	20,000	8.51	10.03	9.32
CM3440Z171R-10	116	170	189	202	202	1000	0.001	20,000	8.51	10.03	9.32
CM5740Z171B-10	114	170	189	202	202	1000	0.001	20,000	14.48	10.03	9.32
CM5740Z171R-10	114	170	189	202	202	1000	0.001	20,000	14.48	10.03	9.32
CM2545X171B-10	108	170	210	180	210	500	0.01	10,000	6.30	11.38	9.32
CM2545X171R-10	108	170	210	180	210	500	0.01	10,000	6.30	11.38	9.32
CF0805D181R-10	48	180	123	42	277	210	0.5	400	2.00	1.25	1.00
CM6032V201R-10	140	200	219	213	219	500	0.01	8,000	15.24	8.13	9.45
CM3032V201R-10	143	200	210	199	214	319	0.01	8,000	7.62	8.13	9.45
CM5022R201R-10	142	200	206	188	210	306	0.02	5,000	12.57	5.72	9.53
CM2722R201R-10	142	200	202	187	206	272	0.02	5,000	6.99	5.72	9.53
CM4732V201R-10	152	200	218	187	229	241	0.01	8,000	11.94	8.13	9.45
CM3822R201R-10	141	200	207	187	213	218	0.02	5,000	9.78	5.72	9.53
CF0805C221R-10	50	220	109	33	296	180	0.5	300	2.00	1.25	1.00
CM0805C221R-10	57	220	570	720	724	1147	0.4	300	2.00	1.20	1.20
CM3032V301R-10	211	300	280	224	307	214	0.01	8,000	7.62	8.13	14.48
CM4732V301R-10	217	300	250	172	328	168	0.01	8,000	11.94	8.13	14.48
CM6032V301R-10	240	300	258	170	346	149	0.01	8,000	15.24	8.13	14.48
CM0805A371R-10	186	370	730	878	878	1000	0.5	100	2.00	1.20	1.20
Low Frequency Parts	@ 1 MHz	@ 4 MHz	@ 10 MHz	@ 25 MHz	(Ohms)	(MHz)	(Ohms)	(mA)	(mm)	(mm)	(mm)
CM5740Z241B-10	170 (2 Turns)	240 (2 Turns)	173 (2 Turns)	140 (2 Turns)	276 (2 Turns)	3 (2 Turns)	0.001	20,000	14.48	10.03	9.32
CM2824E182R-10	200	570	920	1400	1920	80	0.26	800	7.50	5.50	3.80
CM1812C282R-10	370	1100	1900	2700	3500	50	0.5	200	5.00	3.50	5.55
CM2824E352R-10	350	1400	2100	3200	3950	45	0.3	800	7.50	5.50	3.80
CM2824E702R-10	3000	7000	5800	4800	7200	6	0.26	700	7.50	5.50	3.80
CM2824B103R-10	10000	8900	3980	1800	13200	2	1.3	400	7.50	5.50	3.80

COMMON MODE CHOKE
SERIES

SORTED BY RATED CURRENT (AT CONTINUOUS OPERATION)

PART NUMBER	TYPICAL Z Ω @ 25 MHz	NOMINAL Z Ω @ 100 MHz	TYPICAL Z Ω @ 500 MHz	TYPICAL Z Ω @ 1 GHz	TYPICAL PEAK IMPEDANCE (Ω)	TYPICAL PEAK IMPEDANCE FREQ. (MHz)	DCR MAX (Ω)	RATED CONTINUOUS CURRENT (mA)	A (mm) LENGTH	B (mm) WIDTH	C (mm) HEIGHT
CM0805A371R-10	186	370	730	878	878	1,000	0.5	100	2.00	1.20	1.20
CM0805C161R-10	49	160	540	684	684	1,000	0.35	300	2.00	1.20	1.20
CM0805C221R-10	57	220	570	720	724	1,147	0.4	300	2.00	1.20	1.20
CF0504C900R-10	28	90	210	148	217	583	0.6	300	1.25	1.00	0.82
CF0504C121R-10	33	120	250	145	250	500	0.6	300	1.25	1.00	0.82
CF0805C221R-10	50	220	109	33	296	180	0.5	300	2.00	1.25	1.00
CF0805D670R-10	24	67	196	98	166	510	0.4	400	2.00	1.25	1.00
CF0805D900R-10	32	90	210	106	220	435	0.4	400	2.00	1.25	1.00
CF0805D121R-10	36	120	240	103	260	397	0.4	400	2.00	1.25	1.00
CF0805D181R-10	48	180	123	42	277	210	0.5	400	2.00	1.25	1.00
CH0805D900R-10	48	90	249	339	494	2000	0.3	400	2.00	1.20	1.20
CM0805D900R-10	24	90	340	435	445	1,405	0.3	400	2.00	1.20	1.20
CM2722R151R-10	113	150	165	165	168	1,783	0.02	5,000	6.99	5.72	7.62
CM2722R201R-10	142	200	202	187	206	272	0.02	5,000	6.99	5.72	9.53
CM2722R800R-10	60	80	92	98	140	3,000	0.02	5,000	6.99	5.72	4.32
CM3822R151R-10	107	150	170	169	172	1,646	0.02	5,000	9.78	5.72	7.62
CM3822R201R-10	141	200	207	187	213	218	0.02	5,000	9.78	5.72	9.53
CM3822R800R-10	64	80	97	105	151	3,000	0.02	5,000	9.78	5.72	4.32
CM5022R151R-10	113	150	165	167	177	2,092	0.02	5,000	12.57	5.72	7.62
CM5022R201R-10	142	200	206	188	210	306	0.02	5,000	12.57	5.72	9.53
CM5022R800R-10	61	80	95	102	150	3,000	0.02	5,000	12.57	5.72	4.32
CM3032V121R-10	80	120	130	140	169	2,010	0.01	8,000	7.62	8.13	5.72
CM3032V201R-10	143	200	210	199	214	319	0.01	8,000	7.62	8.13	9.45
CM3032V301R-10	211	300	280	224	307	214	0.01	8,000	7.62	8.13	14.48
CM4732V201R-10	152	200	218	187	229	241	0.01	8,000	11.94	8.13	9.45
CM4732V301R-10	217	300	250	172	328	168	0.01	8,000	11.94	8.13	14.48
CM6032V201R-10	140	200	219	213	219	500	0.01	8,000	15.24	8.13	9.45
CM6032V301R-10	240	300	258	170	346	149	0.01	8,000	15.24	8.13	14.48
CM2545X171B-10	108	170	210	180	210	500	0.01	10,000	6.30	11.38	9.32
CM2545X171R-10	108	170	210	180	210	500	0.01	10,000	6.30	11.38	9.32
CM45452131B-10	65	130	267	256	288	682	0.01	10,000	11.38	11.38	9.32
CM45452131R-10	65	130	267	256	288	682	0.01	10,000	11.38	11.38	9.32
CM2021Y330R-10	18	33	52	61	62	1,100	0.001	15,000	5.60	2.85	5.00
CM3421Y600R-10	39	60	96	110	110	1,000	0.001	15,000	5.60	2.85	8.68
CM3440Z171B-10	116	170	189	202	202	1,000	0.001	20,000	8.51	10.03	9.32
CM3440Z171R-10	116	170	189	202	202	1,000	0.001	20,000	8.51	10.03	9.32
CM4440Z111R-10	79	110	122	117	122	500	0.001	20,000	11.05	10.03	9.32
CM5740Z171B-10	114	170	189	202	202	1,000	0.001	20,000	14.48	10.03	9.32
CM5740Z171R-10	114	170	189	202	202	1,000	0.001	20,000	14.48	10.03	9.32
CM5441Z101B-10	79	100	188	183	204	682	0.0008	75,000	13.72	10.41	10.52
CM5441Z101B-13	79	100	188	183	204	682	0.0008	75,000	13.72	10.41	10.52
CM5441Z161B-10	112	160	261	146	263	457	0.0008	75,000	13.72	10.41	15.24
CM5441Z161B-13	112	160	261	146	263	457	0.0008	75,000	13.72	10.41	15.24
Low Frequency Parts	@ 1 MHz	@ 4 MHz	@ 10 MHz	@ 25 MHz	(Ohms)	(MHz)	(Ohms)	(mA)	(mm)	(mm)	(mm)
CM1812C282R-10	370	1,100	1,900	2,700	3,500	50	0.5	200	5.00	3.50	5.55
CM2824B103R-10	10,000	8,900	3,980	1,800	13,200	2	1.3	400	7.50	5.50	3.80
CM2824E702R-10	3,000	7,000	5,800	4,800	7,200	6	0.26	700	7.50	5.50	3.80
CM2824E182R-10	200	570	920	1,400	1,920	80	0.26	800	7.50	5.50	3.80
CM2824E352R-10	350	1,400	2,100	3,200	3,950	45	0.3	800	7.50	5.50	3.80
CM5740Z241B-10	170 (2 Turns)	240 (2 Turns)	173 (2 Turns)	140 (2 Turns)	276 (2 Turns)	3 (2 Turns)	0.001	20,000	14.48	10.03	9.32

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