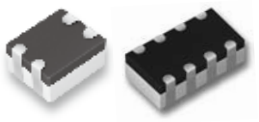
CONTENTS

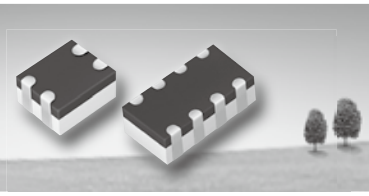
EMI Filter

Multilayer Chip Inductor

Multilayer Chip Bead

Product ID	Product Name	Series	Size (EIA)	Size (EIAJ)
	Thin Film Common Mode Filter	TCF	0504 0804	1210 2010
	Chip Common Mode Filter	MCM	0405 0508 0805 1206	1012 1220 2012 3216
	Chip Common Mode Filter Array	MCA	0805 1206	2012 3216
	LC Filter Array	LFA	0805	2012
	Multilayer Power Inductor	MIP	0805 0806 1008	2012 2016 2520
	Chip Ferrite Inductor	MFI	0603 0805 1206	1608 2012 3216
	Chip Ferrite Bead for GHz Range	MGB	0402	1005
	Chip Ferrite Bead (S series, B series) (H series)	MCB	0402 0603 0805 1206 1210 1806 1812	1005 1608 2012 3216 3225 4516 4532
	High Current Chip Ferrite Bead	MHC	0402 0603 0805 1206 1210 1806 1812	1005 1608 2012 3216 3225 4516 4532

Thin Film Common Mode Filter
TCF Series



RoHS

Features

- TCF series is a thin film common mode filter designed to suppress common mode noise for high speed differential data lines, such as USB 2.0, IEEE 1394, LVDS, DVI, HDMI, MIPI, MHL and S-ATA.

Applications

- TCF Series can be used in personal computers, note books, LCD monitors, LCD/PDP/DLP TVs, Blue-ray/DVD players, personal handheld equipments, etc.

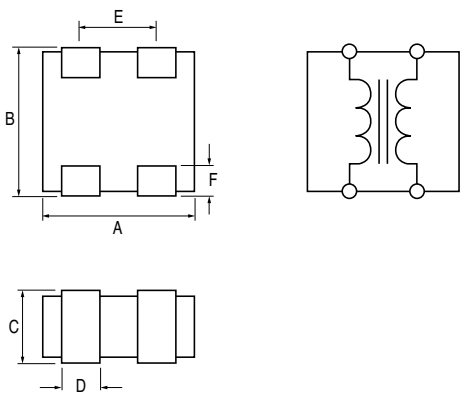
How to Order

TCF	0804	H	900	04	A
1	2	3	4	5	6

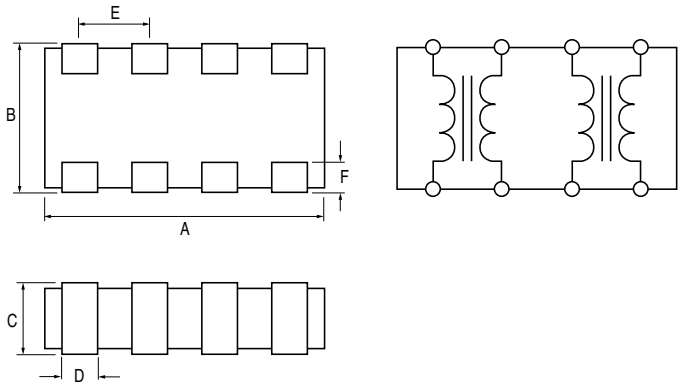
1. Series Type TCF: Thin Film Common Mode Filter, TCL=TCF Low Profile
2. Chip Size(EIA): 0504, 0804
3. Speed Identification Code: H=High Speed
4. Impedance (at 100MHz): 650= 65Ω, 900= 90Ω
5. Line Code: 02= 2 lines, 04= 4 lines
6. Specialized Specification Code

Dimensions

TCF 0504 series



TCF & TCL 0804 series



Unit:mm

Size (EIA)	TCF		TCL
	1210 (0504)	2010 (0804)	2010 (0804)
A	1.0±0.2	2.0±0.2	2.0±0.2
B	1.25±0.15	1.05±0.15	1.0±0.15
C	0.6±0.15	0.6±0.15	0.5±0.1
D	0.25±0.15	0.25±0.15	0.2±0.15
E	0.5±0.1	0.5±0.1	0.5±0.1
F	0.2±0.15	0.2±0.15	0.2±0.15

Specifications

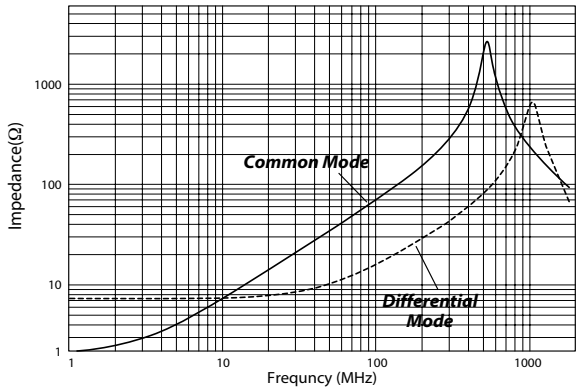
Part Number	Rated Voltage	Rated Current	Lead Soldering Temperature	Common Mode Impedance (at 100 MHz)	Cut-off Frequency	DC Resistance	Insulation Resistance
Symbol	V_{DC}	I_{DC}	T_{SOL}	Typ.	Typ.	Typ.	Min.
Units	V	mA	°C	Ω	GHz	Ω	MΩ
TCF0504H65002A	5	100	260 (10 sec.)	65	4	3	10
TCF0504H90002A	5	100	260 (10 sec.)	90	4	3	10
TCF0804H65004A	5	100	260 (10 sec.)	65	4	3	10
TCF0804H90004A	5	100	260 (10 sec.)	90	4	3	10
TCL0804H90004A	5	130	260 (10 sec.)	90	4	3 max.	10

* TCF size: 0402, 03025, 02502 to be available.
* TCFE: TCF plus ESD function to be available.

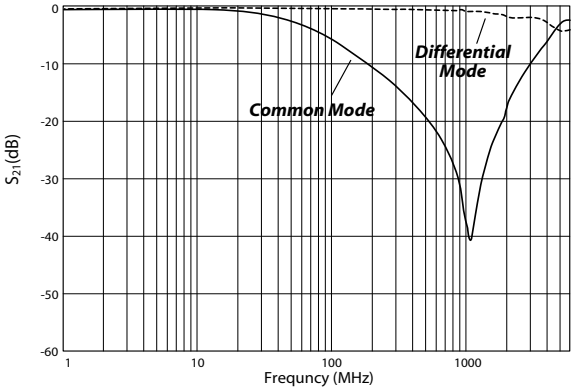
Typical Characteristics

TCF0804H650, TCF0504H650

IMPEDANCE vs. FREQUENCY CHARACTERISTICS

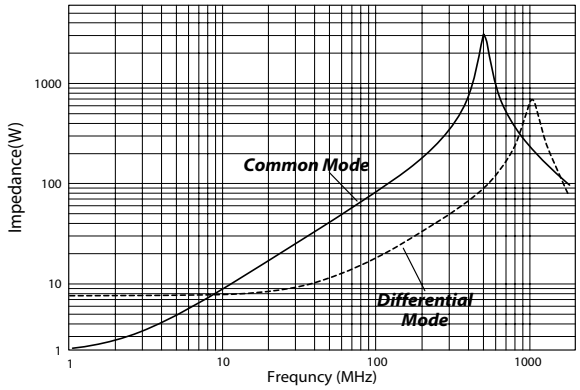


INSERTION LOSS vs. FREQUENCY CHARACTERISTICS

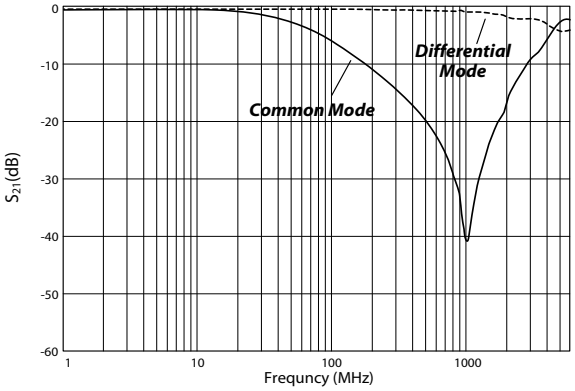


TCF0804H900, TCF0504H900

IMPEDANCE vs. FREQUENCY CHARACTERISTICS

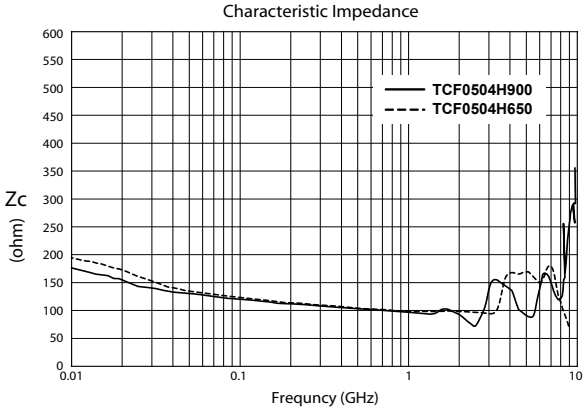


INSERTION LOSS vs. FREQUENCY CHARACTERISTICS



TCF0504H900, TCF0504H650

Characteristic Impedance



Package

Size (EIA)	1210 (0504)	2010 (0804)
Standard packing quantity (pcs/reel)	5,000	5,000

Chip Common Mode Filter
MCM Series

RoHS

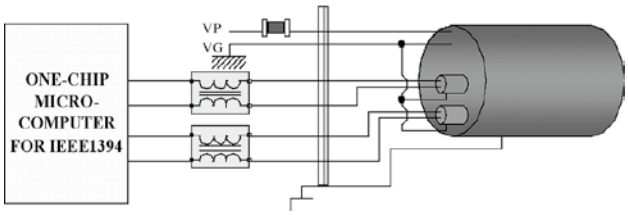
Features

- Powerful component with composite co-fired material to solve EMI problem for high-speed differential signal transmission line as USB, IEEE1394 and LVDS, without distortion to high speed signal transmission
- High coupling constant : 0.99
- Small size and low profile
- Various common mode impedance items of 67 to 220 ohm can be used, considering noise level and signal frequency
- Small dimension enable higher density packaging

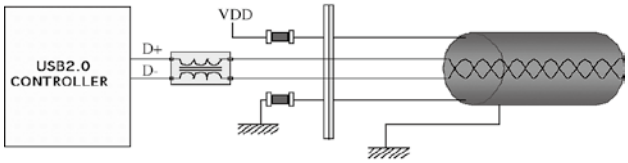
Applications

Common mode noise suppression of signal lines in high speed and high density digital equipment such as personal computer, facsimiles, modem, and digital telephones.

IEEE 1394



USB 2.0



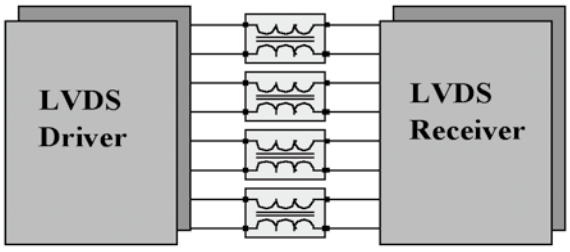
How to Order

MCM 3216 B 90 0 H B E

1 2 3 4 5 6 7 8

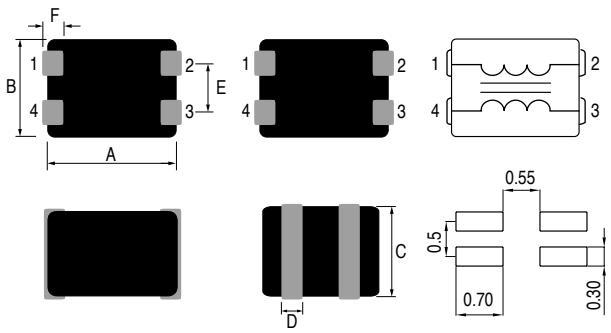
1 Series Type
2 Size (mm): Length x Width
3 Material Code
4 Impedance Value (Ω)/±25%
5 Fixed Decimal Point
ex.: 90Ω→ 900; 120Ω→121
6 Rated current:
A=50mA, B=80mA, C=100mA, D=150mA, E=200mA, F=300mA
G=400mA, H=500mA, I=600mA, J=700mA, K=800mA
7 Soldering: Green Parts: B— Lead-Free for whole chip
8 Packaging: P— Embossed paper tape, 7" reel
E— Embossed plastic tape, 7" reel

LVDS

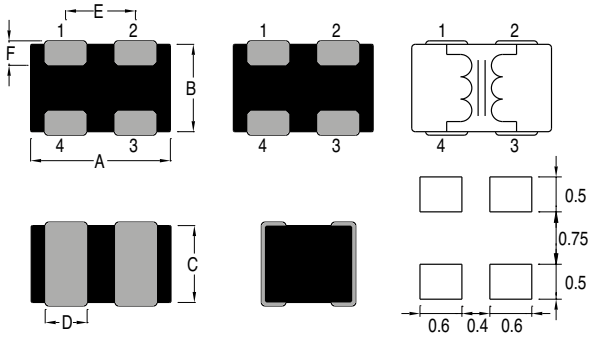


Dimensions

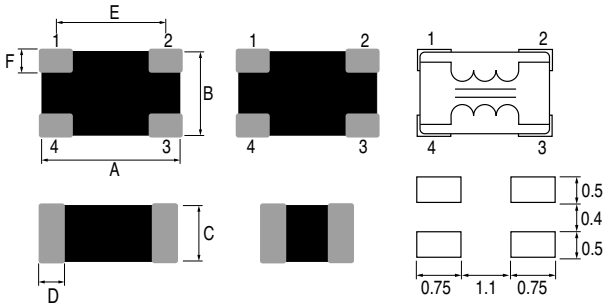
MCM 1012 series



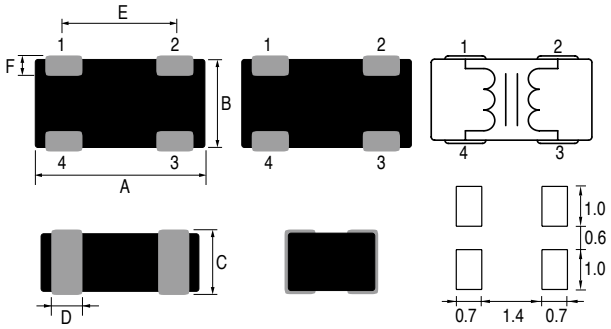
MCM 1220 series



MCM 2012 series



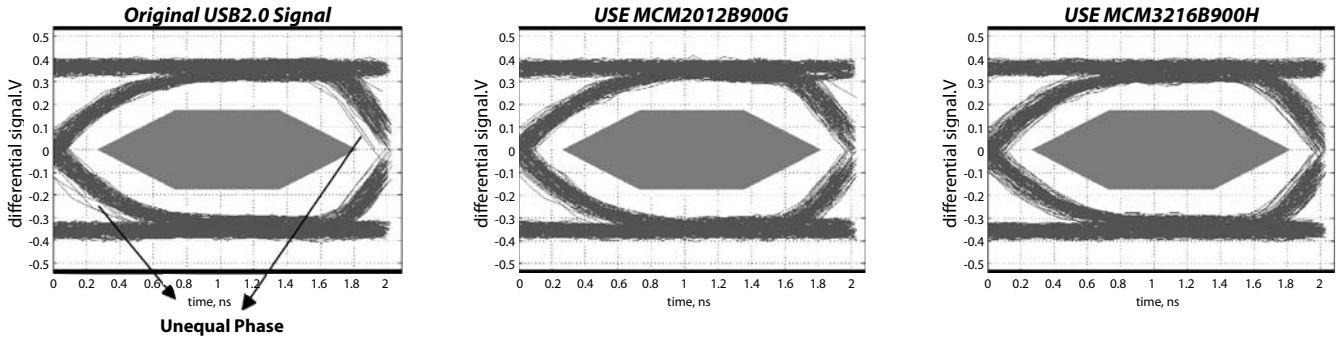
MCM 3216 series



Unit: mm

Size (EIA)	1012 (0405)	1220 (0508)	2012 (0805)	3216 (1206)
A	1.25±0.10	2.00±0.20	2.00±0.20	3.20±0.20
B	1.00±0.10	1.25±0.20	1.25±0.20	1.60±0.20
C	0.82±0.10	1.00±0.10	1.00±0.10	1.00±0.10
D	0.30±0.10	0.60±0.20	0.40±0.20	0.70±0.20
E	0.50±0.10	1.00±0.20	1.60±0.20	2.10±0.20
F	0.20±0.15	0.25±0.20	0.30±0.20	0.30±0.20

Signal Quality Test Result



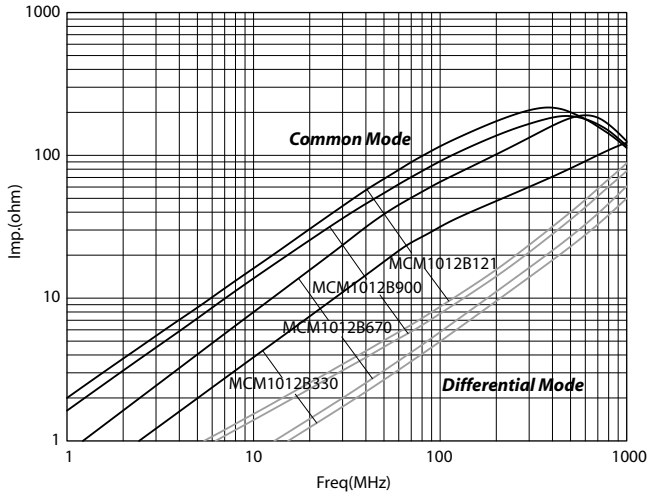
Specifications

Part Number	Impedance at 100MHz (Ω)	DCR Max. (Ω)	Rated Current (mA)	Rated Voltage (V)	Withstand Voltage (V)
1012 (EIA 0405)					
MCM1012B330FBP	33	0.50	300	10	25
MCM1012B670FBP	67	0.50	300	10	25
MCM1012B900FBP	90	0.60	300	10	25
MCM1012B121FBP	120	0.60	300	10	25
1220 (EIA 0508)					
MCM1220B900GBE	90	0.50	400	10	25
MCM1220B121GBE	120	0.50	400	10	25
MCM1220B181GBE	180	0.55	400	10	25
MCM1220B221FBE	220	0.55	300	10	25
2012 (EIA 0805)					
MCM2012B670GBE	67	0.40	400	10	25
MCM2012B900GBE	90	0.40	400	10	25
MCM2012B121GBE	120	0.40	400	10	25
MCM2012B161GBE	160	0.50	400	10	25
MCM2012B181GBE	180	0.50	400	10	25
MCM2012B221FBE	220	0.50	300	10	25
MCM2012D900FBE	90	0.70	300	10	25
MCM2012D121FBE	120	0.70	300	10	25
3216 (EIA 1206)					
MCM3216B900HBE	90	0.50	500	10	25
MCM3216B121HBE	120	0.50	500	10	25
MCM3216B181GBE	180	0.60	400	10	25
MCM3216B221GBE	220	0.60	400	10	25

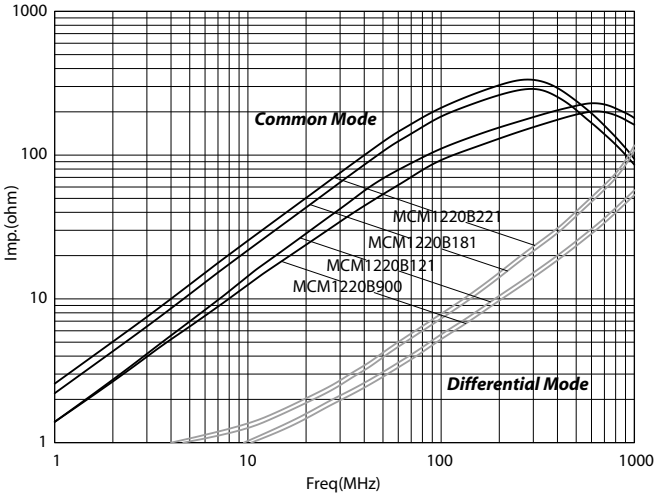
*MCM plus ESD function to be available.

▶ Impedance vs. Frequency Characteristics

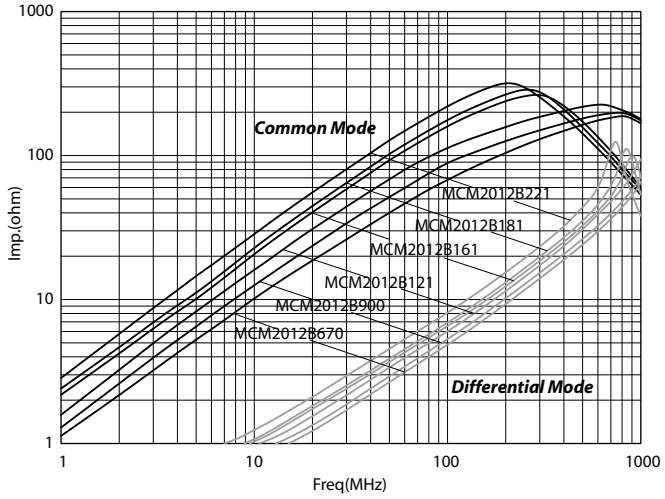
MCM1012B series



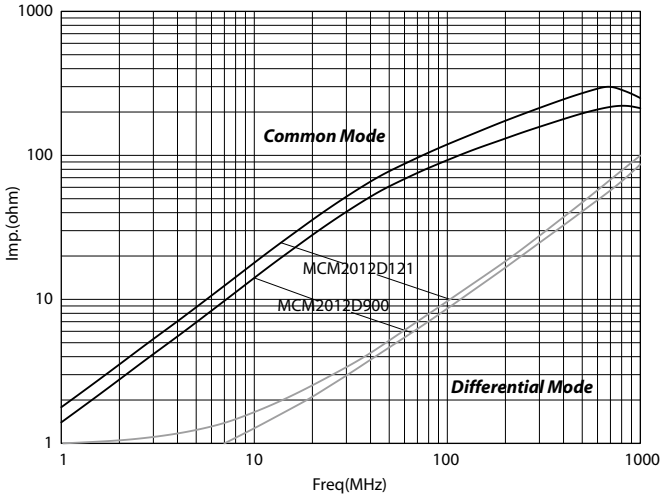
MCM1220B series



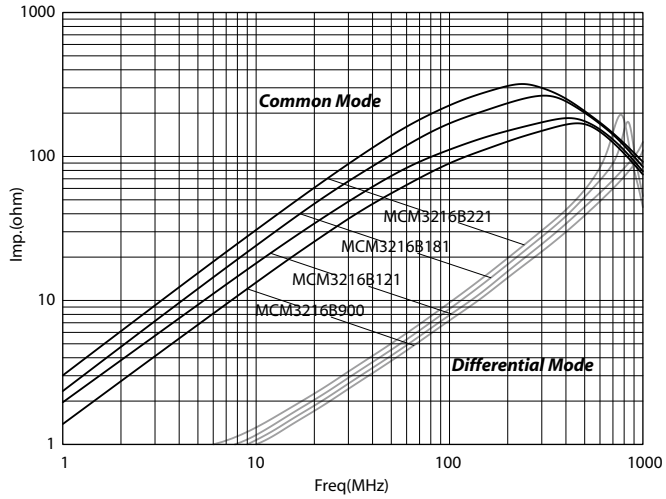
MCM2012B series



MCM2012D series

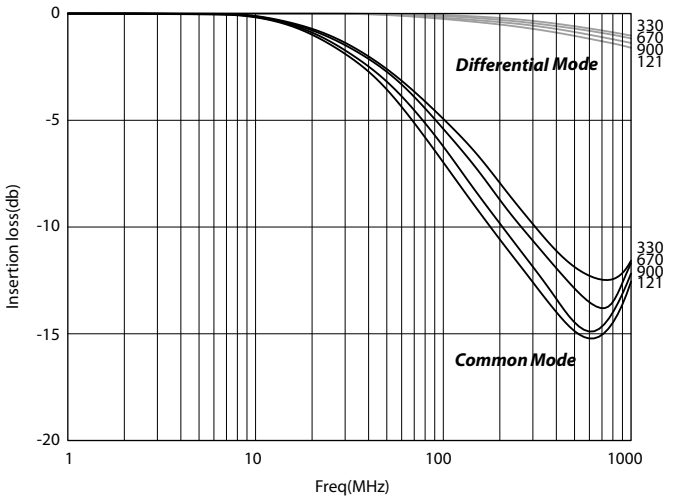


MCM3216B series

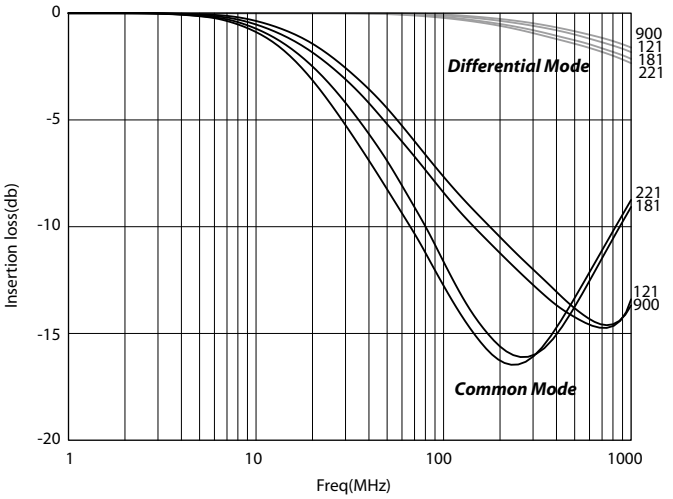


Insertion Loss vs. Frequency Characteristics

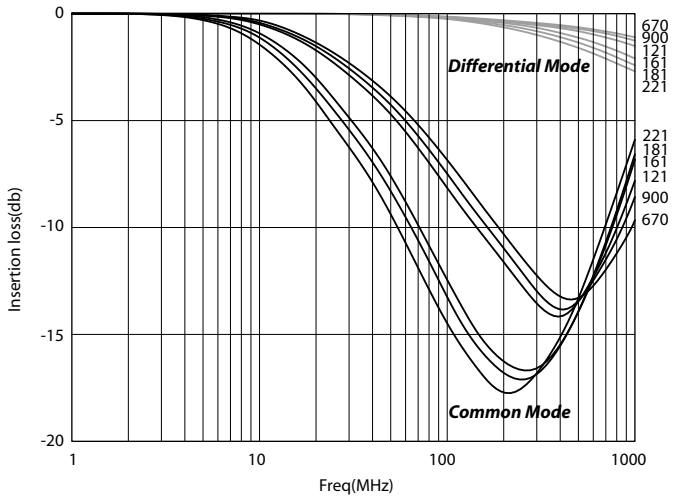
MCM1012B series



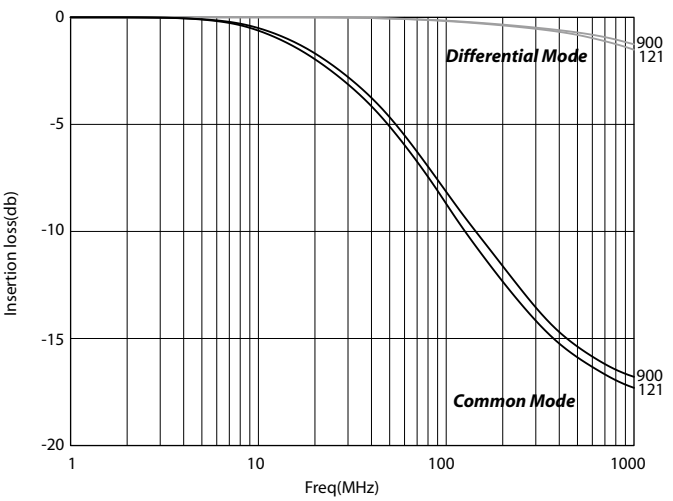
MCM1220B series



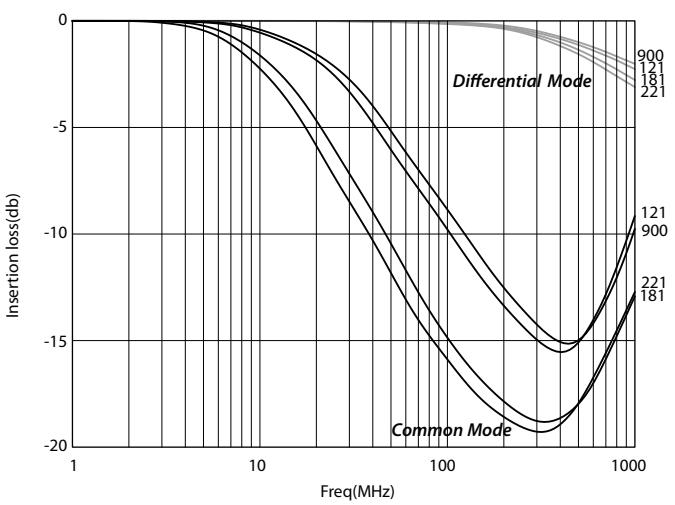
MCM2012B series



MCM2012D series



MCM3216B series



Package

Size (EIA)	1012 (0405)	1220 (0508)	2012 (0805)	3216 (1206)
Standard packing quantity (pcs/reel)	4,000	3,000	3,000	3,000

Chip Common Mode Filter Array
MCA Series

RoHS

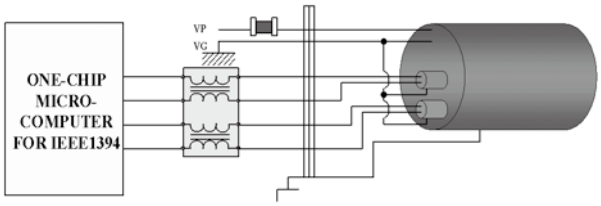
Features

- Powerful component with composite co-fired material to solve EMI problem for high-speed differential signal transmission line as USB, IEEE1394 and LVDS, because of no distortion to high speed signal transmission
- High coupling constant : 0.99
- Small size and low profile
- Various common mode impedance items of 90 to 220 ohm can be used, considering noise level and signal frequency
- Small dimension enable higher density packaging

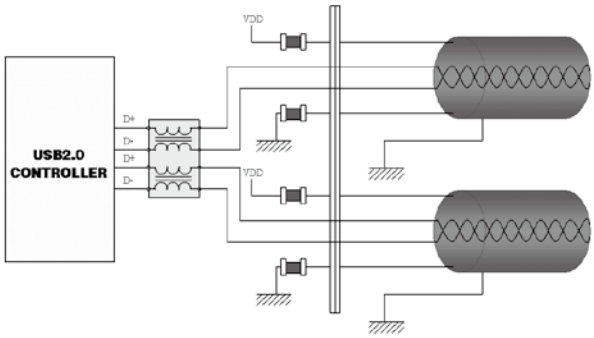
Applications

Common mode noise suppression of signal lines in High speed and high density digital equipment such as personal computer and facsimiles, modem, digital telephones.

IEEE 1394



USB 2.0



How to Order

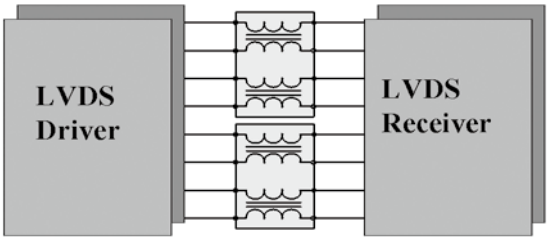
MCA	3216	B	90	0	G	B	E
1	2	3	4	5	6	7	8

1. Series Type
2. Size (mm): Length x Width
3. Material Code
4. Impedance Value (Ω)/±25%
5. Fixed Decimal Point

ex.: 90Ω→ 900; 120Ω→121

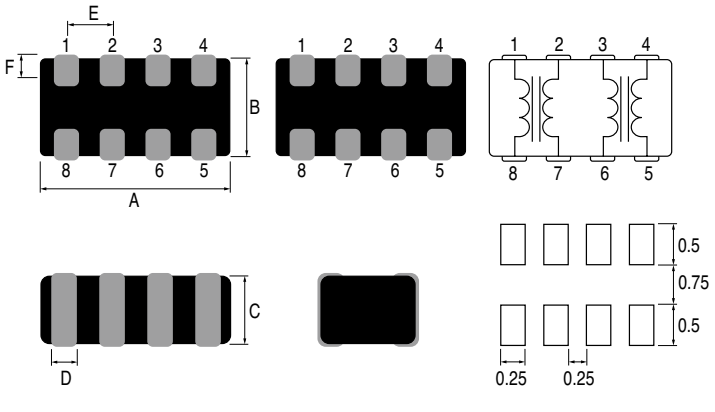
6. Rated current:
   A=50mA, B=80mA, C=100mA, D=150mA, E=200mA, F=300mA
   G=400mA, H=500mA, I=600mA, J=700mA, K=800mA
7. Soldering: B—Lead-Free for whole chip
8. Packaging: E—Embossed plastic tape, 7" reel

LVDS

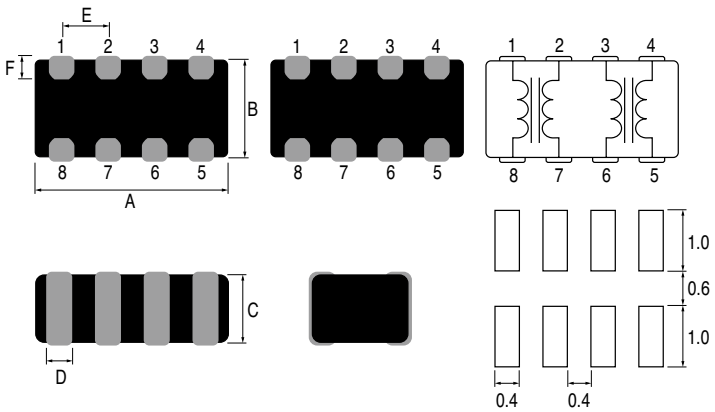


Dimensions

MCA 2012 series



MCA 3216 series

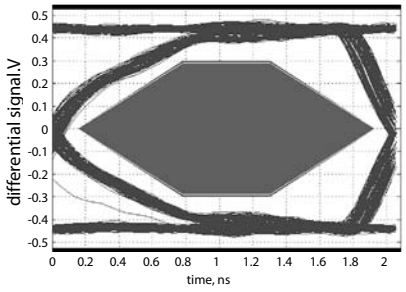


Unit:mm

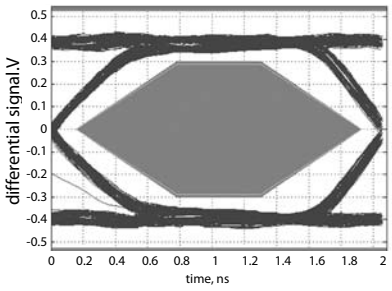
Size(EIA)	2012(0805)	3216 (1206)
A	2.00±0.20	3.20±0.20
B	1.25±0.20	1.60±0.20
C	1.00±0.10	1.00±0.10
D	0.25±0.20	0.45±0.15
E	0.50±0.20	0.80±0.10
F	0.25±0.20	0.30±0.20

Signal Quality Test Result

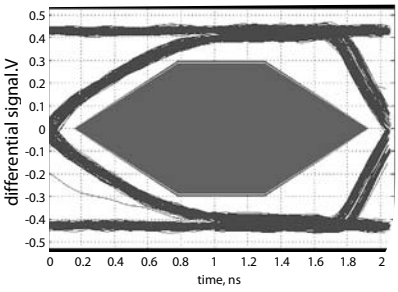
Original USB2.0 Signal



USE MCA2012B900G



USE MCA3216B900G

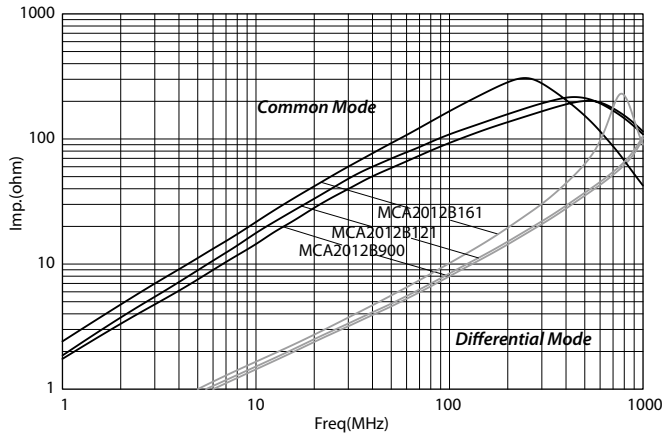


Specifications

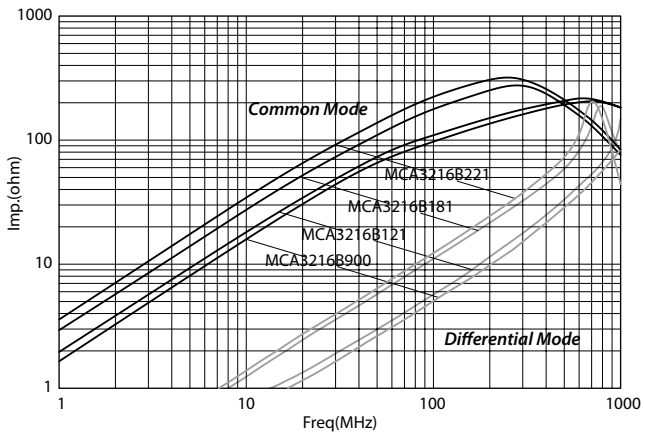
Part Number	Impedance at 100MHz (Ω)	DCR Max. (Ω)	Rated Current (mA)	Rated Voltage (V)	Withstand Voltage (V)
2012 (EIA 0805)					
MCA2012B900GBE	90	0.60	400	10	25
MCA2012B121FBE	120	0.60	300	10	25
MCA2012B161FBE	160	0.70	300	10	25
3216 (EIA 1206)					
MCA3216B900GBE	90	0.40	400	10	25
MCA3216B121FBE	120	0.40	300	10	25
MCA3216B181FBE	180	0.50	300	10	25
MCA3216B221FBE	220	0.50	300	10	25

Impedance vs. Frequency Characteristics

MCA2012B series

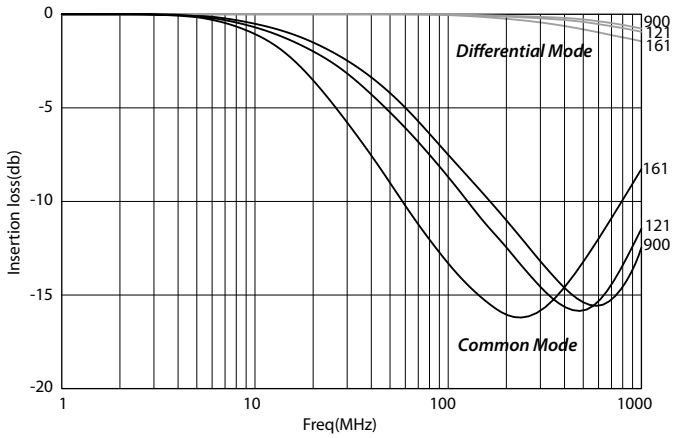


MCA3216B series

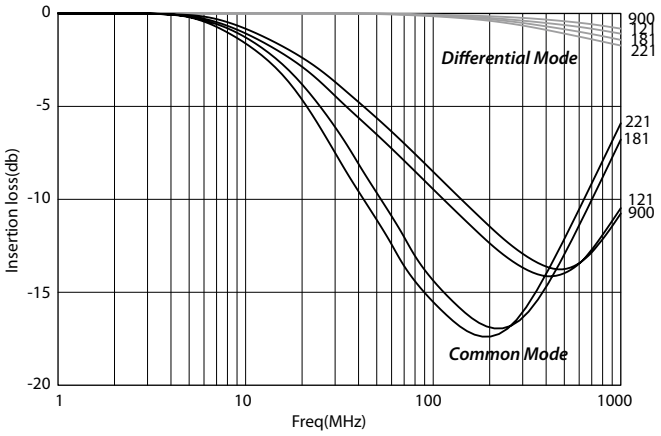


Insertion Loss vs. Frequency Characteristics

MCA2012B series



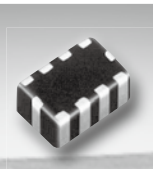
MCA3216B series



Package

Size (EIA)	2012 (0805)	3216 (1206)
Standard packing quantity (pcs/reel)	3,000	3,000

LC Filter Array
LFA Series



RoHS

Features

- SMD Type, 4 elements in one chip, 0805 size, suitable for high-density circuit design
- Construction of dielectric and magnetic materials
- EMI filtering--steep insertion loss characteristics and removes noise over a wide range
- Small size and low profile
- PI(π) type structure filter

Applications

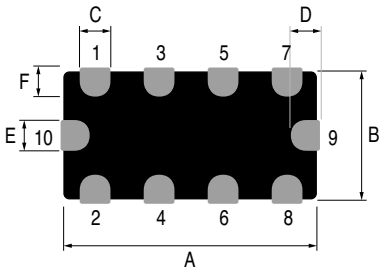
- For cellular phone, digital AV equipment, digital camera, PDA, and MP3 player
- LCD module/display
- Wireless handsets
- Lap top computer, desk top computer

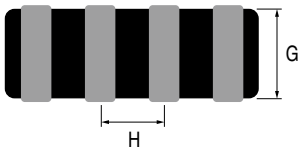
How to Order

LFA	0805	P	101	P	3
1	2	3	4	5	6

1. Series Type
2. Size (inch): Length x Width (0805/EIA)
3. Type: P— PI (π)type
4. Cut-off frequency (MHz): XX x 10^N, ex. : 100MHz= 10 x 10^1 MHz →101
5. Packaging: P—Embossed paper tape, 7" reel
6. Thickness: 2–0.55mm ; 3–0.80mm

Dimensions





Unit:mm

Size (EIA)	2012 (0805)
A	2.00±0.15
B	1.25±0.15
C	0.25±0.15
D	0.20±0.15
E	0.25±0.15
F	0.20±0.15
G	0.80±0.15
	0.55±0.10
H	0.50±0.15

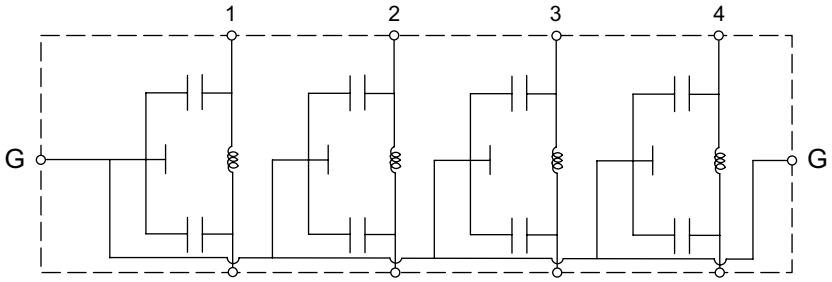
▶ Specifications

Electrical Property

Part Number	Cut-Off Frequency @-3dB Typical	Attenuation Typical	Capacitance @1MHz (Reference)	Rated Current	Rated Voltage	Insulation Resistance @3VDC (min)
LFA0805P101P3	100 MHz	-30dB 800~1900 MHz -25dB 2000~2500 MHz	55pF	250 mA	12V	100 MΩ
LFA0805P141P2	140 MHz	-25dB 900~2500 MHz	30pF			
LFA0805P201P3	200 MHz	-30dB 1800~2500 MHz	17pF			

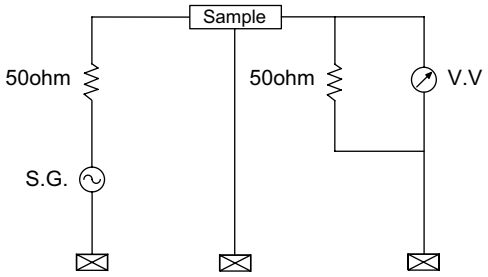
Operation Temperature: -25 ~ +85°C

Schematics

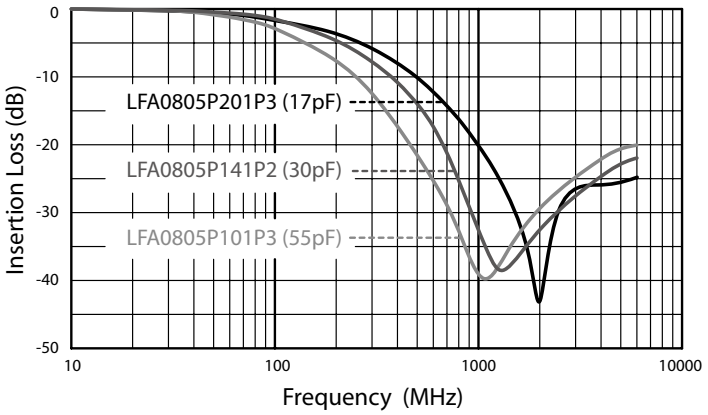


▶ Insertion Loss vs. Frequency Characteristics

Measurement circuit



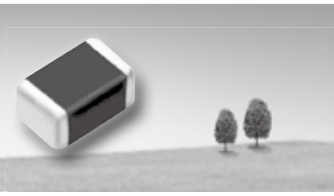
Typical insertion loss



▶ Package

Size (EIA)	2012 (0805)
Standard packing quantity (pcs/reel)	4,000

Multilayer Power Inductor
MIP Series



RoHS

Features

- The monolithic construction performs high reliability and ensures a closed magnetic flux in a component avoids magnetic leakage and interference
- Allow for higher mounting density
- Low DC resistance

Applications

Suitable for DVD, DSC, PND, PC, NB, Power Line

How to Order

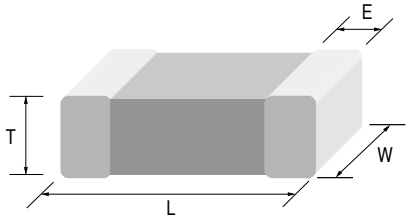
MIP	2520	1R0	M	B	E
1	2	3	4	5	6

1. Series Type
2. Chip Size (mm): Length x Width
3. Inductance (μH): R means decimal point
   ex.: 1.0μH →1R0
4. Tolerance: M= ±20%
5. Soldering: Green Parts: B—Lead-Free for whole chip
6. Packaging: E- Embossed plastic tape, 7" reel

Dimensions

Unit:mm

Size (EIA)	2012 (0805)	2016 (0806)	2520 (1008)
L	2.00±0.20	2.00±0.20	2.5±0.20
W	1.25±0.20	1.60±0.20	2.0±0.20
T	0.90±0.10	0.90±0.10	0.9±0.10
E	0.50±0.30	0.50±0.30	0.5±0.30



Specifications

Part Number	Inductance±20%(μH)	Test Freq (MHz)	S.R.F (MHz) Min.	DCR±25% (Ω)	Rated Current (mA)
MIP 2012 (EIA 0805)					
MIP20122R2MBE	2.2	1	70	0.170	900
MIP20124R7MBE	4.7	1	40	0.230	700
MIP 2016 (EIA 0806)					
MIP20162R2MBE	2.2	1	40	0.120	1100
MIP20164R7MBE	4.7	1	20	0.160	900
MIP 2520 (EIA 1008)					
MIP25201R0MBE	1.0	1	60	0.055	1600
MIP25201R5MBE	1.5	1	50	0.070	1500
MIP25202R2MBE	2.2	1	40	0.080	1300
MIP25203R3MBE	3.3	1	30	0.100	1200
MIP25204R7MBE	4.7	1	25	0.110	1100

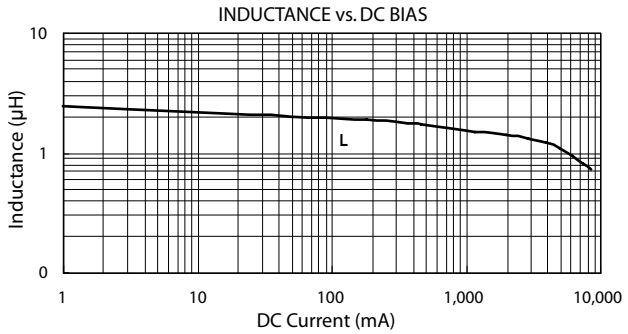
*MIP size: 1608 to be available.

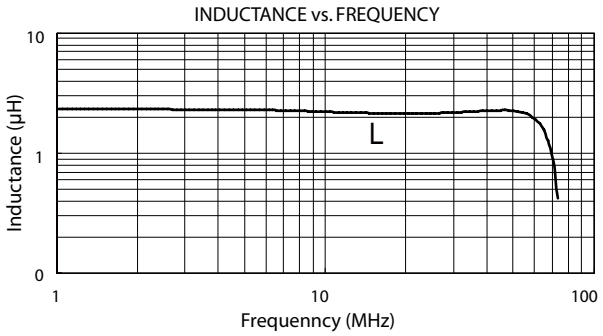
General Technical Data

Operating Temperature Range	-40°C ~ +85°C
Storage Condition	Less than 40°C and 70% RH
Soldering Method	Reflow or Wave Soldering

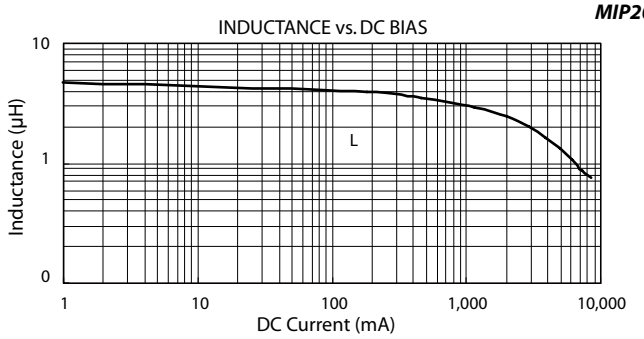
General Technical Data

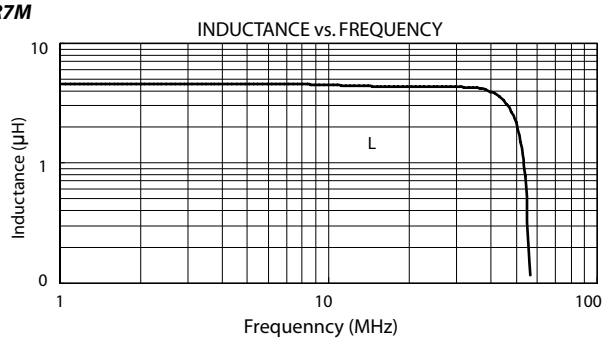
MIP20122R2M





MIP20124R7M





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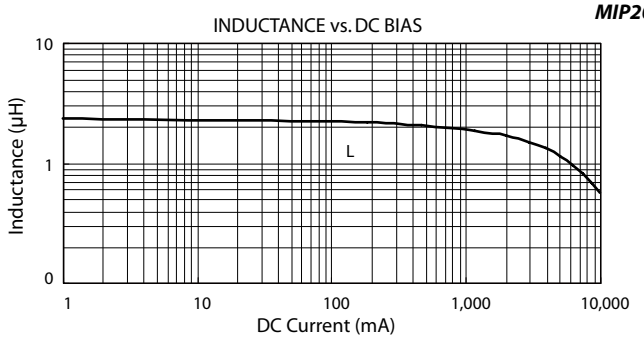

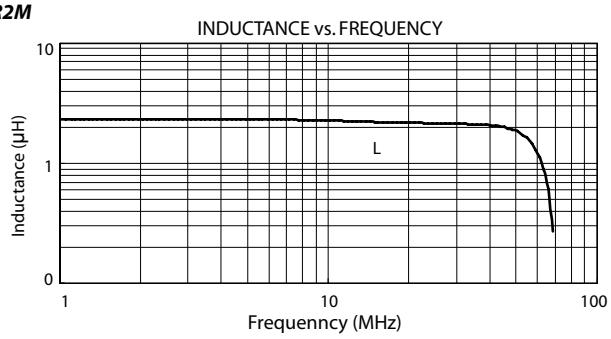

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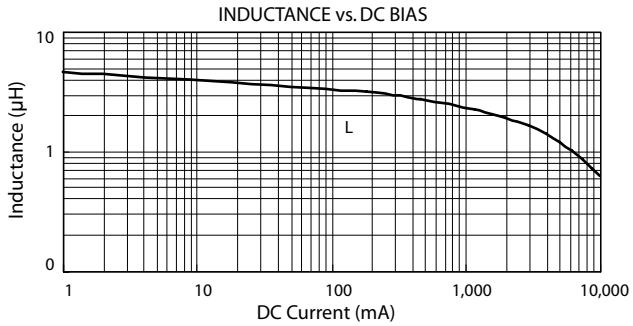
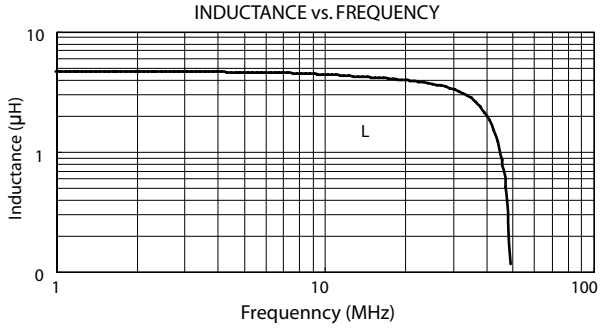
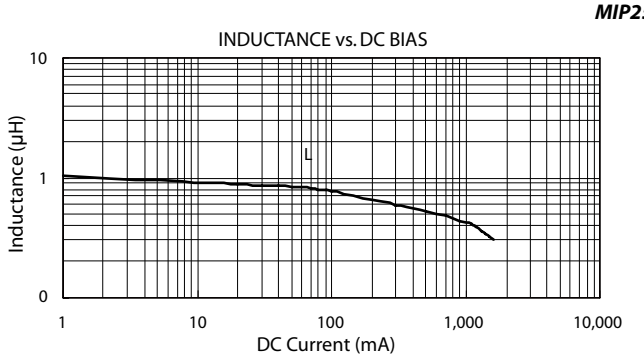
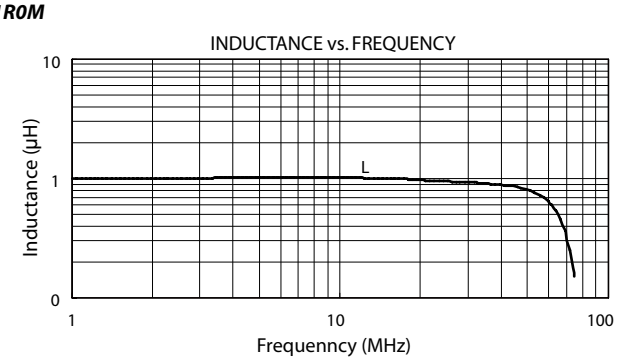




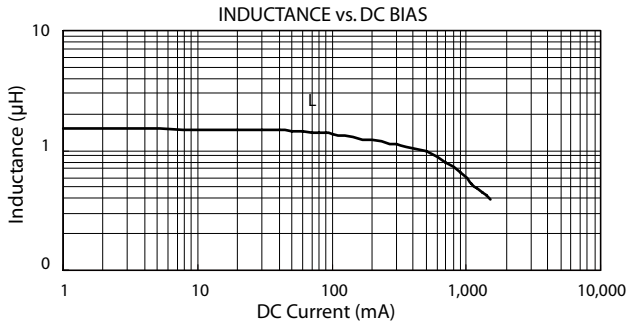
MIP25201R0M

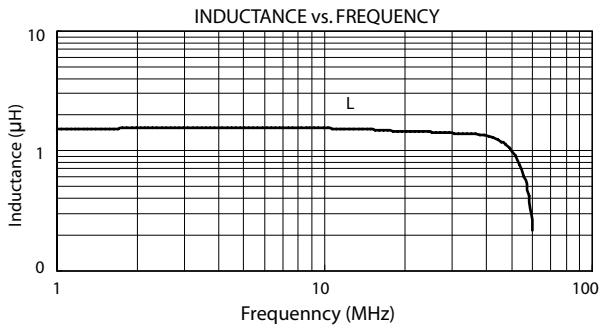




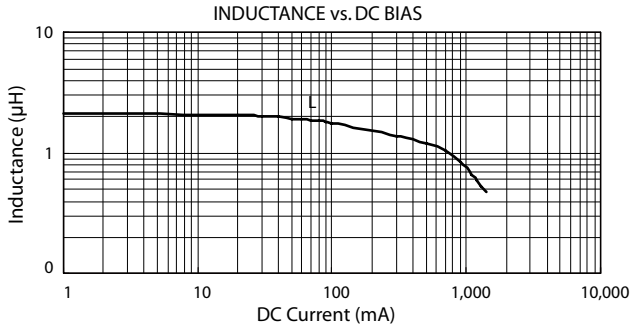
General Technical Data

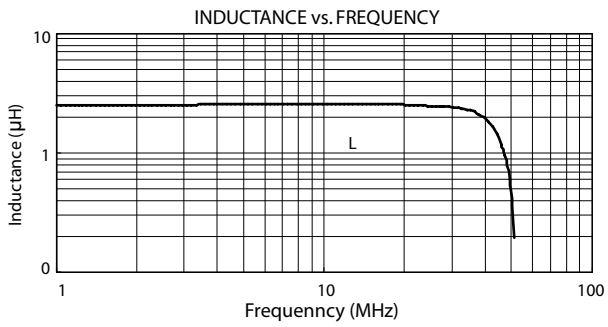
MIP25201R5M



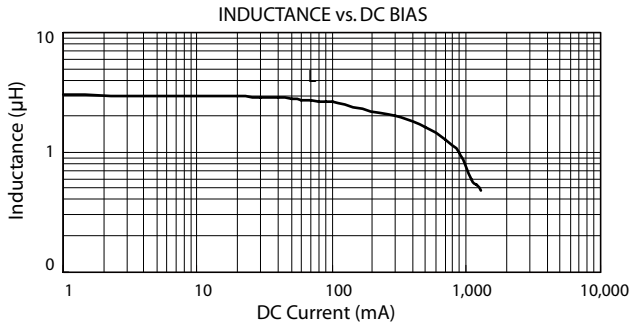


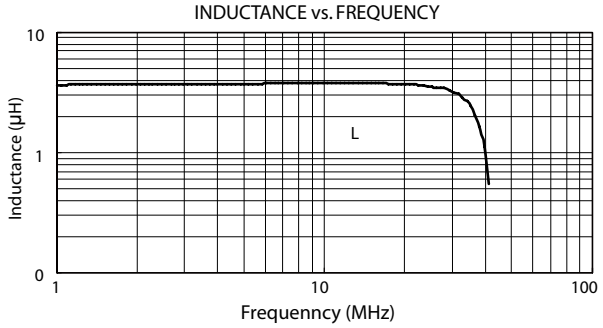
MIP25202R2M



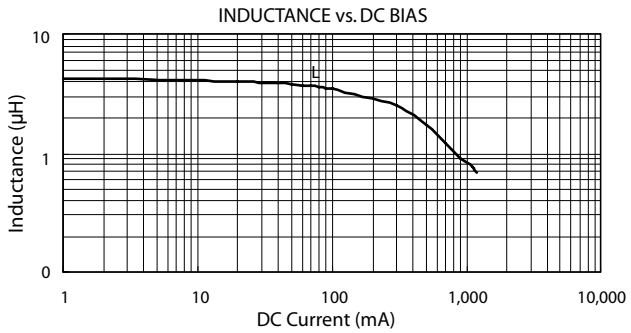


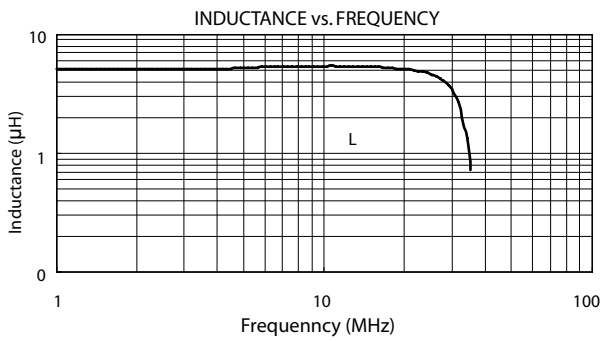
MIP25203R3M





MIP25204R7M

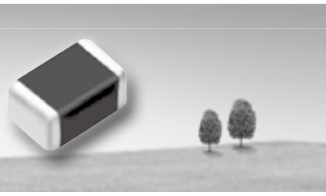




Package

Size (EIA)	2012 (0805)	2016 (0806)	2520 (1008)
Standard packing quantity (pcs/reel)	3,000	3,000	3,000

Chip Ferrite Inductor
MFI Series



RoHS

Features

- The monolithic construction performs high reliability and ensures a closed magnetic flux in a component avoids magnetic leakage and interference
- Allow for higher mounting density

Applications

RF and wireless communication, information technology equipment which includes computer, telecommunications, radar detectors, automotive electronics, cellular phones, pagers, audio equipment, PDAs, keyless remote system and low-voltage power supply modules.

How to Order

MFI 3216 4R7 K B —
1 2 3 4 5 6

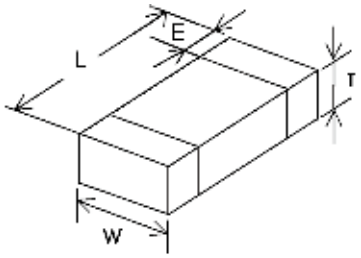
1. Series type
2. Chip size(mm) : Length x Width
3. Inductance (ΩH): R means decimal point
   Ex.: 4.7ΩH→4R7
4. Tolerance : J±5%, K=±10%, M=±20%
5. Soldering : Green Parts: B—Lead-Free for whole chip
6. Packaging : P—Embossed paper tape, 7" reel
   E—Embossed plastic tape, 7" reel

Dimensions

Unit:mm

Size (EIA)	1608 (0603)	2012_09 (0805)	2012_12 (0805)	3216 (1206)
L	1.60±0.15	2.00±0.20	2.00±0.20	3.20±0.20
W	0.80±0.15	1.25±0.20	1.25±0.20	1.60±0.20
T	0.80±0.15	0.90±0.20	1.25±0.20	1.10±0.20
E	0.30±0.20	0.50±0.30	0.50±0.30	0.50±0.30

The thickness of 2012 specification under 4.7μH is 0.90mm +/-0.20mm



Specifications

Part Number	Inductance & Tolerance (ΩH)	Q Min.	Test Freq (MHz)	SRF (MHz) Min.	DCR Max. (Ω)	Rated Current Max.(mA)
1608 (EIA 0603)						
MFI1608R10KBP	0.10±10%	15	25	240	0.50	50
MFI1608R12KBP	0.12±10%	15	25	235	0.50	50
MFI1608R15KBP	0.15±10%	15	25	205	0.60	50
MFI1608R18KBP	0.18±10%	15	25	190	0.60	50
MFI1608R22KBP	0.22±10%	15	25	170	0.80	50
MFI1608R27KBP	0.27±10%	15	25	155	0.80	50
MFI1608R33KBP	0.33±10%	15	25	140	0.80	35
MFI1608R39KBP	0.39±10%	15	25	125	1.00	35
MFI1608R47KBP	0.47±10%	15	25	120	1.00	35
MFI1608R56KBP	0.56±10%	15	25	110	1.55	35
MFI1608R68KBP	0.68±10%	15	25	100	1.70	35
MFI1608R82KBP	0.82±10%	15	25	95	2.10	35
MFI16081R0KBP	1.0±10%	35	10	85	0.60	25
MFI16081R2KBP	1.2±10%	35	10	70	0.80	25
MFI16081R5KBP	1.5±10%	35	10	65	0.80	25
MFI16081R8KBP	1.8±10%	35	10	60	0.80	25
MFI16082R2KBP	2.2±10%	35	10	55	1.00	15
MFI16082R7KBP	2.7±10%	35	10	50	1.20	15
MFI16083R3KBP	3.3±10%	35	10	45	1.40	15
MFI16083R9KBP	3.9±10%	40	10	42	1.60	15
MFI16084R7KBP	4.7±10%	40	10	40	1.80	15
MFI160810RKBP	10±10%	30	2	17	1.85	3
2012 (EIA 0805)						
MFI2012R10KBP	0.10±10%	20	25	255	0.30	250
MFI2012R12KBP	0.12±10%	20	25	250	0.30	250
MFI2012R15KBP	0.15±10%	20	25	230	0.40	250
MFI2012R18KBP	0.18±10%	20	25	210	0.40	250
MFI2012R22KBP	0.22±10%	20	25	195	0.50	250
MFI2012R27KBP	0.27±10%	20	25	170	0.50	250
MFI2012R33KBP	0.33±10%	20	25	165	0.50	250
MFI2012R39KBP	0.39±10%	25	25	155	0.60	200
MFI2012R47KBP	0.47±10%	25	25	140	0.60	200
MFI2012R56KBE	0.56±10%	25	25	130	0.70	150
MFI2012R68KBE	0.68±10%	25	25	120	0.80	150
MFI2012R82KBE	0.82±10%	25	25	115	1.00	150

Part Number	Inductance & Tolerance (ΩH)	Q Min.	Test Freq (MHz)	SRF (MHz) Min.	DCR Max. (Ω)	Rated Current Max.(mA)
2012 (EIA 0805)						
MFI20121R0KBE	1.0±10%	45	10	85	0.40	50
MFI20121R2KBE	1.2±10%	45	10	75	0.50	50
MFI20121R5KBE	1.5±10%	45	10	65	0.50	50
MFI20121R8KBE	1.8±10%	45	10	60	0.60	50
MFI20122R2KBE	2.2±10%	45	10	55	0.60	30
MFI20122R7KBE	2.7 ±10%	45	10	50	0.70	30
MFI20123R3KBE	3.3±10%	45	10	45	0.80	30
MFI20123R9KBE	3.9±10%	45	10	44	0.90	30
MFI20124R7KBE	4.7±10%	45	10	41	1.00	30
MFI20125R6KBE	5.6±10%	50	4	37	0.90	15
MFI20126R8KBE	6.8±10%	50	4	34	1.00	15
MFI20128R2KBE	8.2±10%	50	4	30	1.10	15
MFI201210RKBE	10±10%	50	2	28	1.00	15
MFI201212RKBE	12±10%	50	2	26	1.10	15
MFI201215RKBE	15±10%	35	1	22	0.80	5
MFI201218RKBE	18±10%	35	1	21	0.90	5
MFI201222RKBE	22±10%	35	1	19	1.10	5
3216 (EIA 1206)						
MFI3216R10KBE	0.10±10%	20	25	270	0.25	250
MFI3216R12KBE	0.12±10%	20	25	250	0.30	250
MFI3216R15KBE	0.15±10%	20	25	200	0.30	250
MFI3216R18KBE	0.18±10%	20	25	185	0.40	250
MFI3216R22KBE	0.22±10%	20	25	170	0.40	250
MFI3216R27KBE	0.27±10%	20	25	150	0.50	250
MFI3216R33KBE	0.33±10%	20	25	145	0.50	250
MFI3216R39KBE	0.39±10%	25	25	135	0.50	200
MFI3216R47KBE	0.47±10%	25	25	125	0.60	200
MFI3216R56KBE	0.56±10%	25	25	115	0.70	150
MFI3216R68KBE	0.68±10%	25	25	105	0.80	150
MFI3216R82KBE	0.82±10%	25	25	100	0.90	150
MFI32161R0KBE	1.0±10%	45	10	87	0.40	100
MFI32161R2KBE	1.2±10%	45	10	75	0.50	100
MFI32161R5KBE	1.5±10%	45	10	69	0.50	50
MFI32161R8KBE	1.8±10%	45	10	64	0.50	50
MFI32162R2KBE	2.2±10%	45	10	58	0.60	50
MFI32162R7KBE	2.7±10%	45	10	52	0.60	50
MFI32163R3KBE	3.3±10%	45	10	48	0.70	50
MFI32163R9KBE	3.9±10%	45	10	44	0.80	50
MFI32164R7KBE	4.7±10%	45	10	41	0.90	50
MFI32165R6KBE	5.6±10%	50	4	32	0.80	25
MFI32166R8KBE	6.8±10%	50	4	29	0.90	25
MFI32168R2KBE	8.2±10%	50	4	26	1.00	25
MFI321610RKBE	10±10%	50	2	26	0.60	25
MFI321612RKBE	12±10%	50	2	26	0.60	15
MFI321615RKBE	15±10%	50	1	22	0.70	5
MFI321618RKBE	18±10%	50	1	21	0.70	5
MFI321622RKBE	22±10%	50	1	19	0.90	5

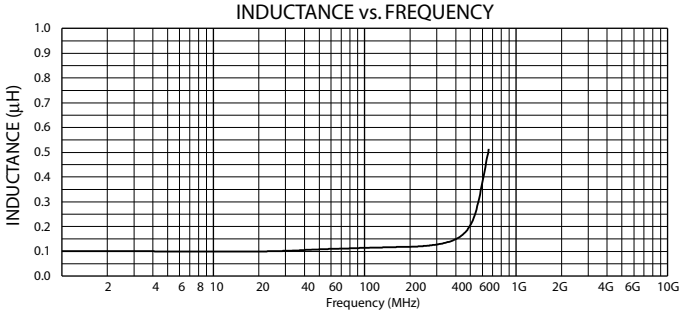
General Technical Data

Operating Temperature Range	-55°C ~ +125°C
Storage Condition	Less than 40°C and 70% RH
Soldering Method	Reflow or Wave Soldering

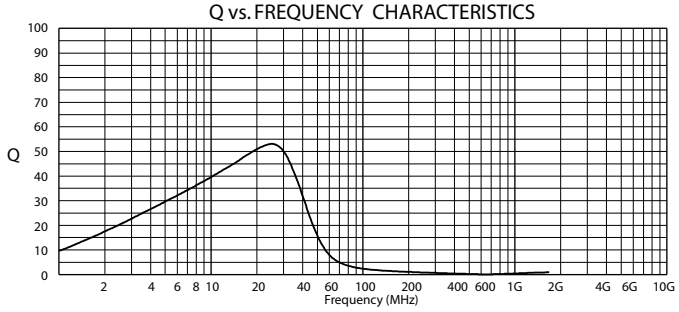
Characteristics

MFI1608 R10

INDUCTANCE vs. FREQUENCY

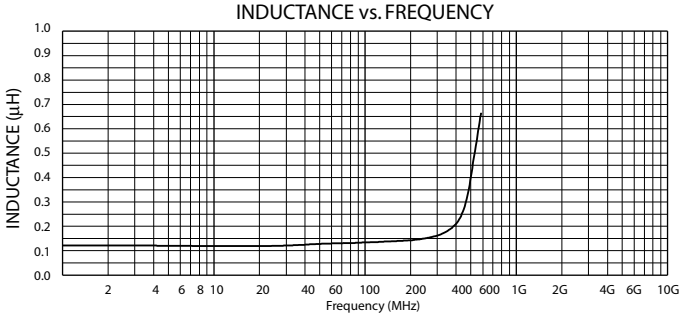


Q vs. FREQUENCY CHARACTERISTICS

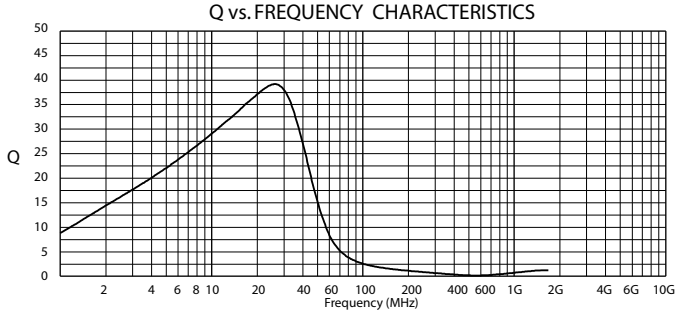


MFI1608 R12

INDUCTANCE vs. FREQUENCY

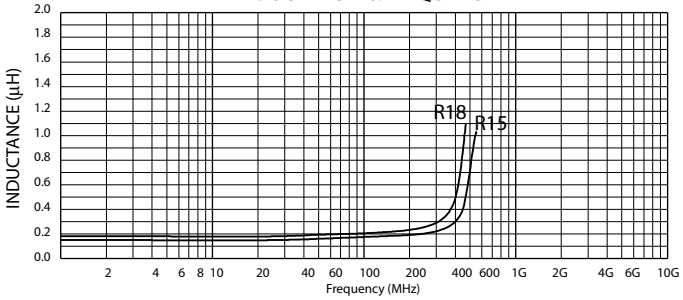


Q vs. FREQUENCY CHARACTERISTICS

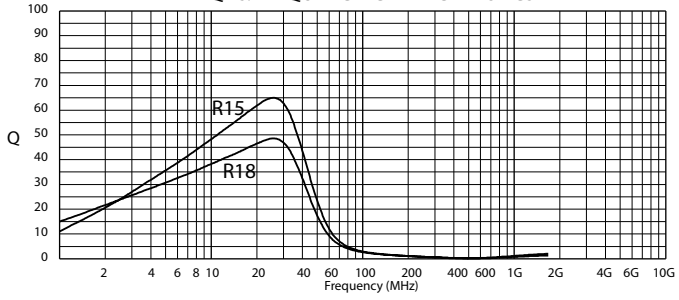


MFI1608 R15 & R18

INDUCTANCE vs. FREQUENCY

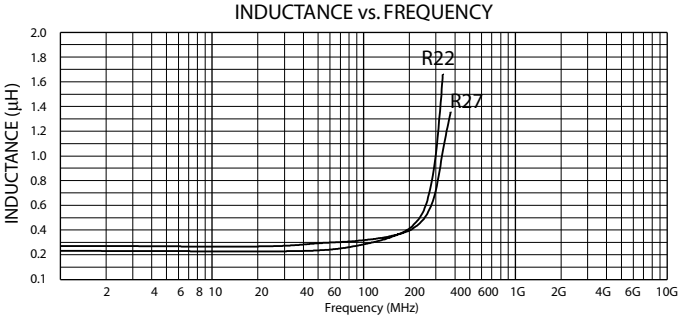


Q vs. FREQUENCY CHARACTERISTICS

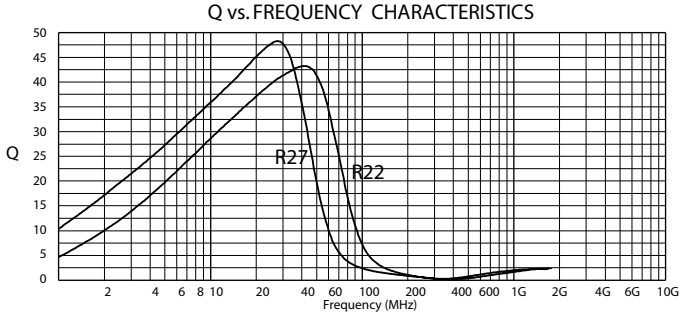


MFI1608 R22 & R27

INDUCTANCE vs. FREQUENCY

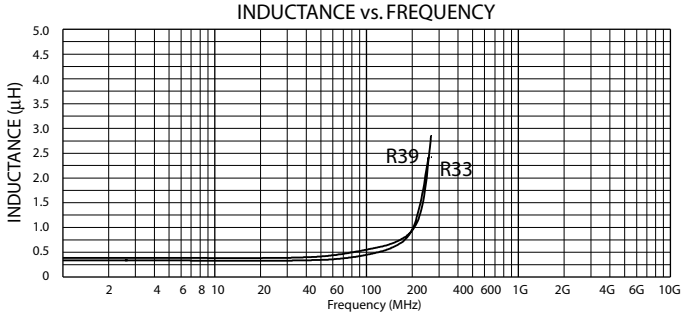


Q vs. FREQUENCY CHARACTERISTICS

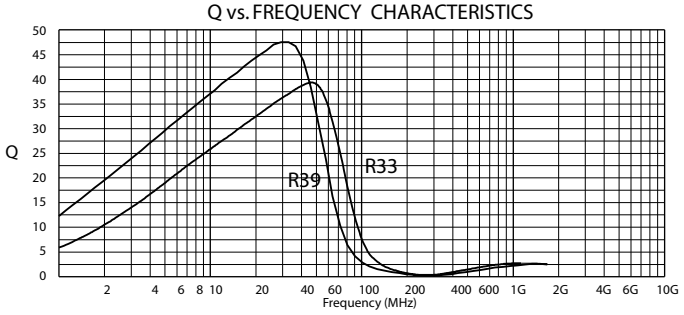


MFI1608 R33 & R39

INDUCTANCE vs. FREQUENCY

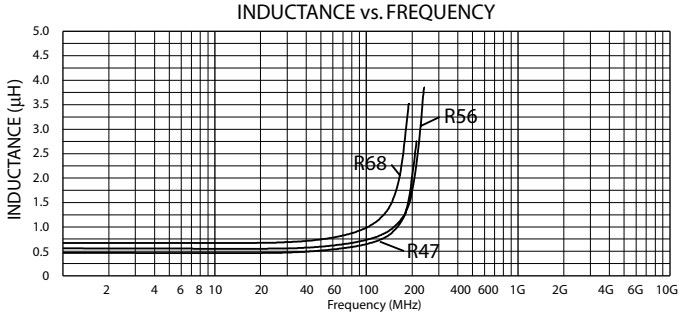


Q vs. FREQUENCY CHARACTERISTICS

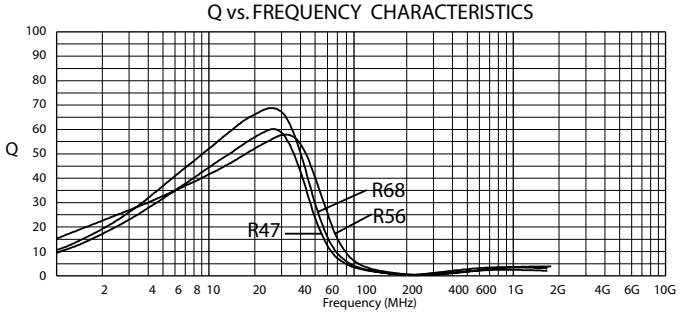


MFI1608 R47, R56 & R68

INDUCTANCE vs. FREQUENCY

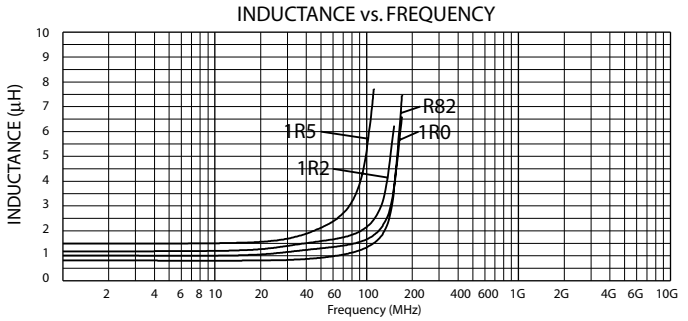


Q vs. FREQUENCY CHARACTERISTICS

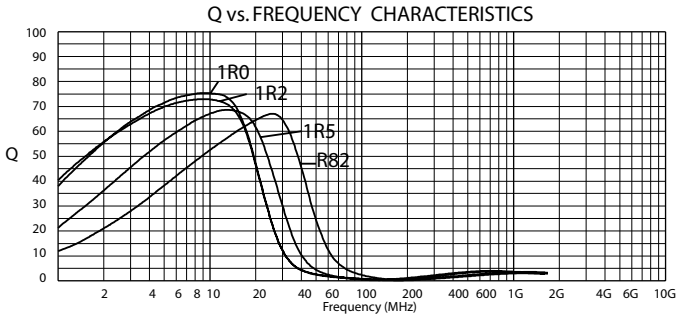


MFI1608 R82, 1R0, 1R2 & 1R5

INDUCTANCE vs. FREQUENCY

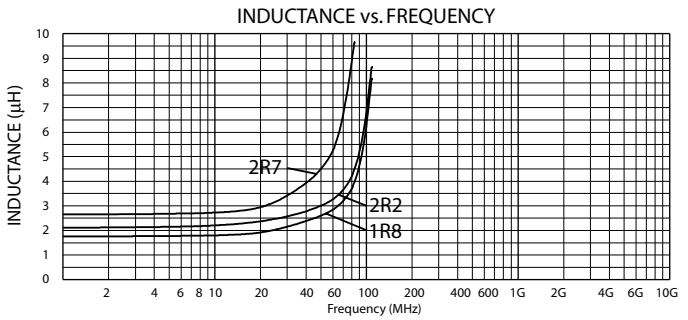


Q vs. FREQUENCY CHARACTERISTICS

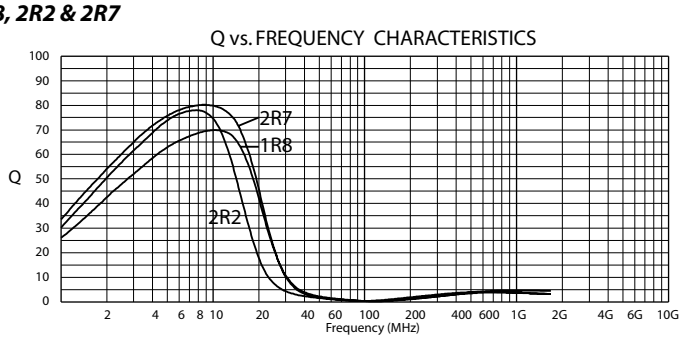


MFI1608 1R8, 2R2 & 2R7

INDUCTANCE vs. FREQUENCY

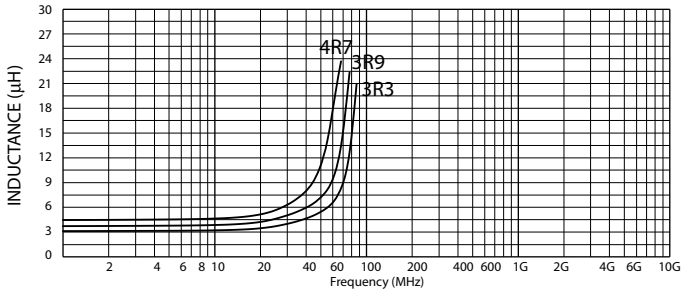


Q vs. FREQUENCY CHARACTERISTICS

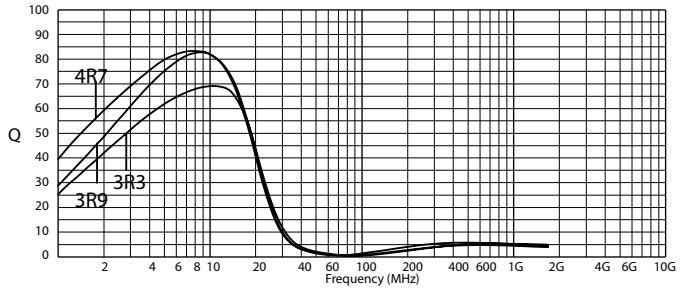


MFI1608 3R3, 3R9 & 4R7

INDUCTANCE vs. FREQUENCY

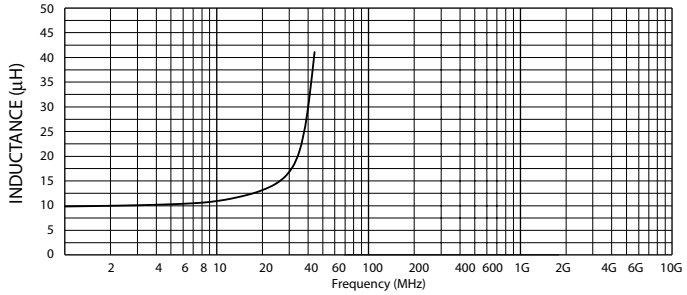


Q vs. FREQUENCY CHARACTERISTICS

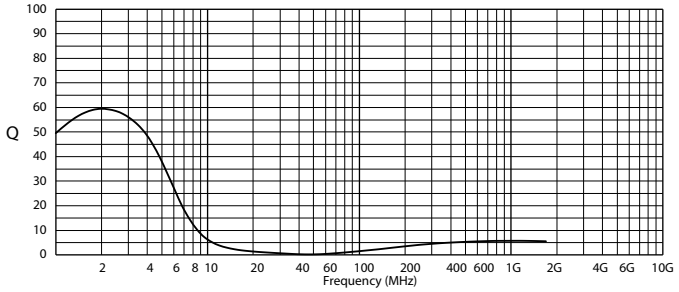


MFI1608 10R

INDUCTANCE vs. FREQUENCY

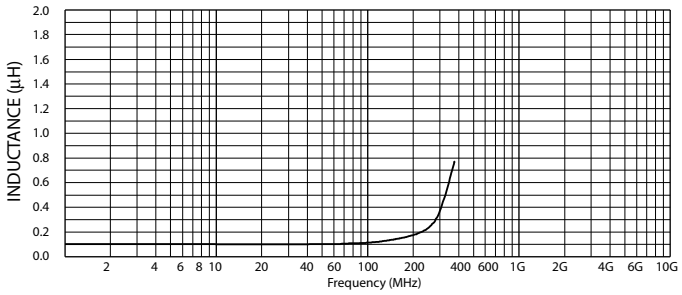


Q vs. FREQUENCY CHARACTERISTICS

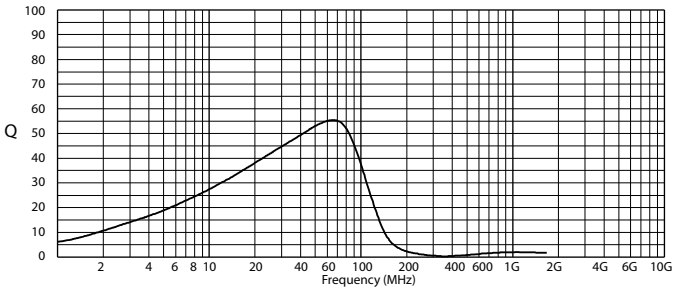


MFI2012 R10

INDUCTANCE vs. FREQUENCY

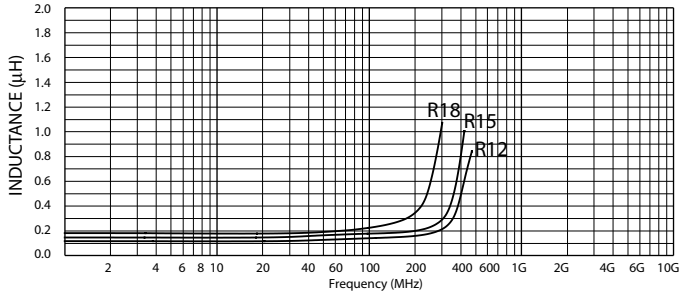


Q vs. FREQUENCY CHARACTERISTICS

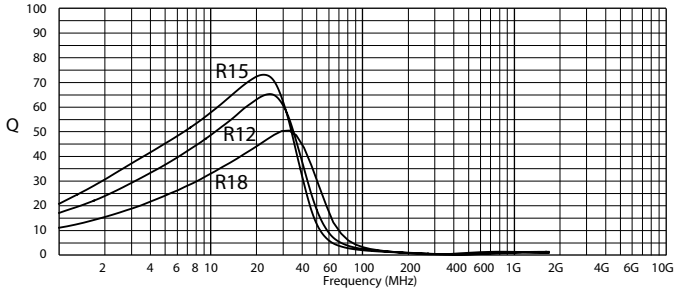


MFI2012 R12, R15, R18

INDUCTANCE vs. FREQUENCY

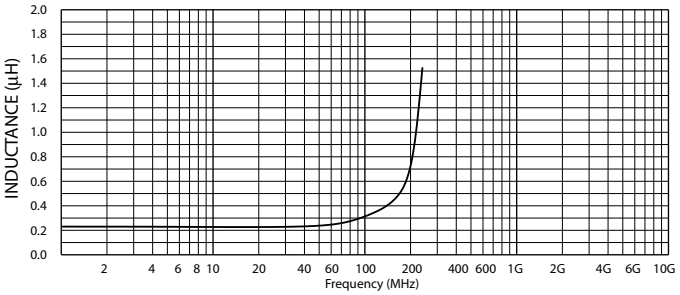


Q vs. FREQUENCY CHARACTERISTICS

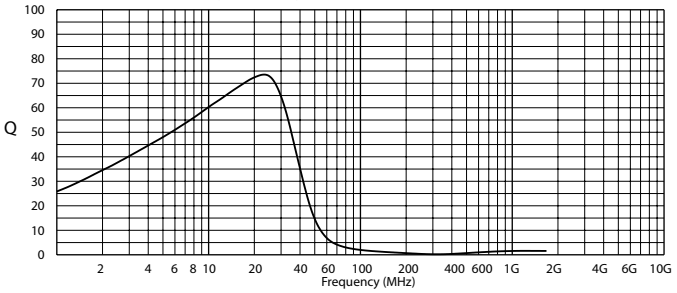


MFI2012 R22

INDUCTANCE vs. FREQUENCY

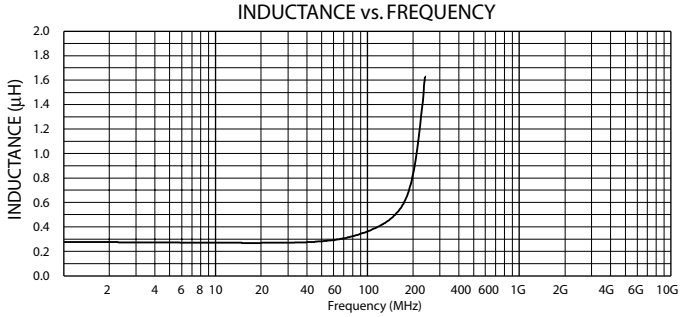


Q vs. FREQUENCY CHARACTERISTICS

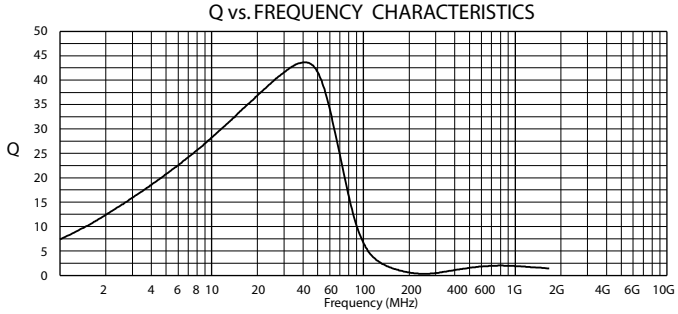


MFI2012 R27

INDUCTANCE vs. FREQUENCY

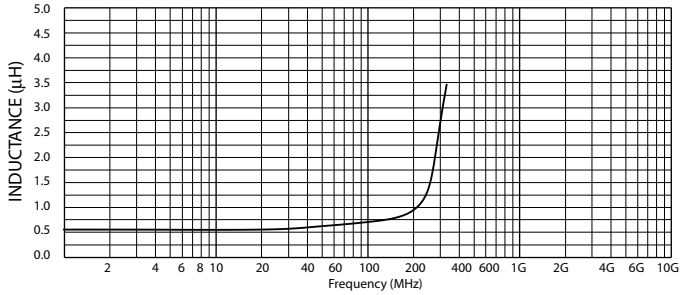


Q vs. FREQUENCY CHARACTERISTICS

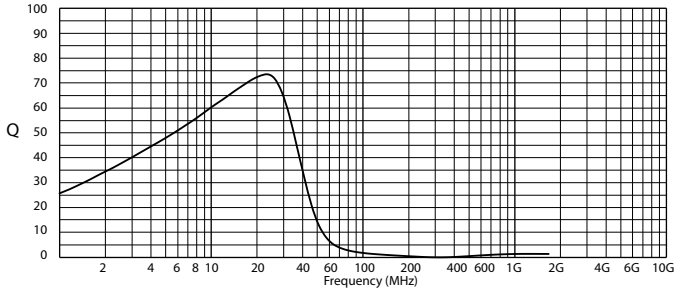


MFI2012 R33

INDUCTANCE vs. FREQUENCY

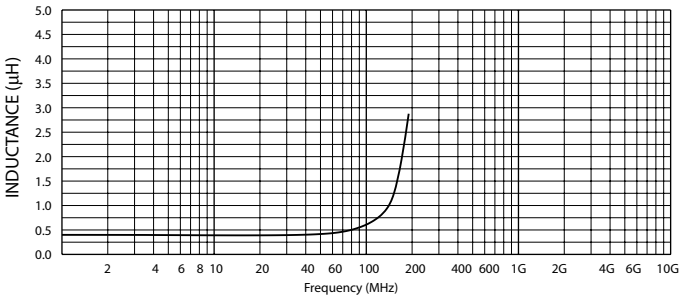


Q vs. FREQUENCY CHARACTERISTICS

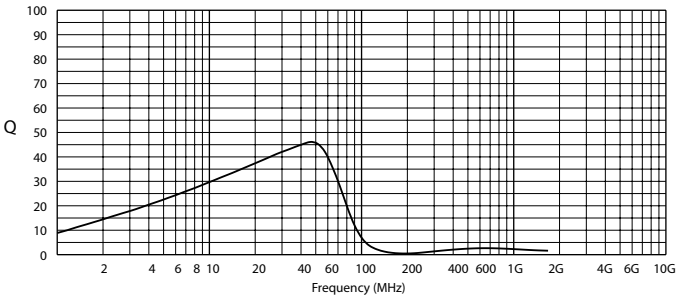


MFI2012 R39

INDUCTANCE vs. FREQUENCY

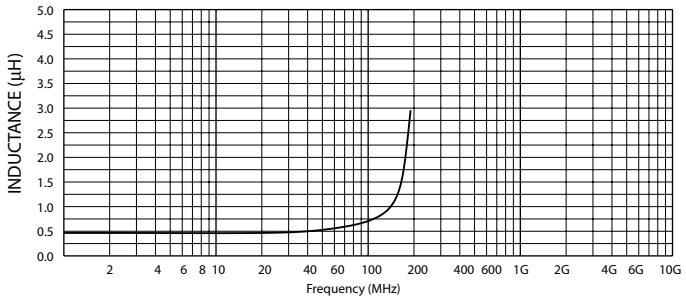


Q vs. FREQUENCY CHARACTERISTICS

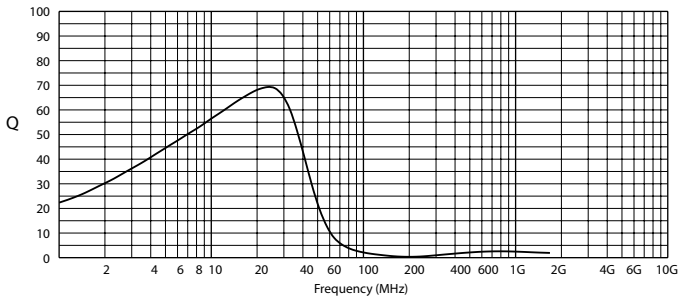


MFI2012 R47

INDUCTANCE vs. FREQUENCY

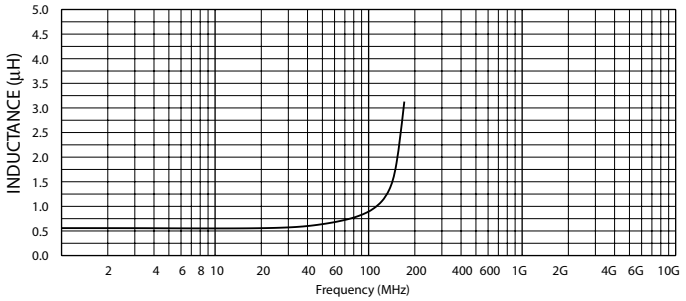


Q vs. FREQUENCY CHARACTERISTICS

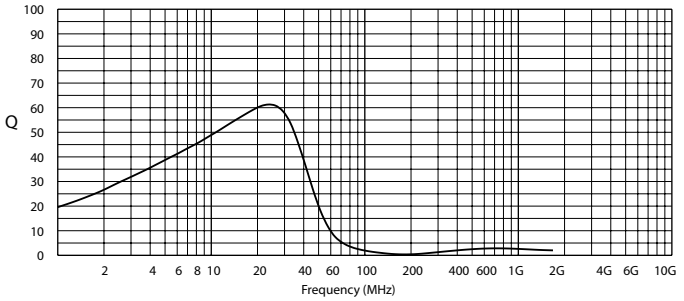


MFI2012 R56

INDUCTANCE vs. FREQUENCY

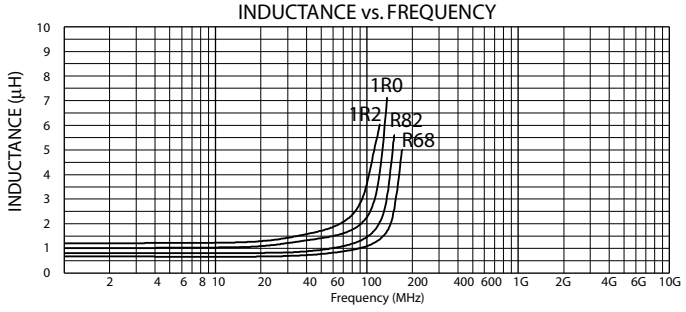


Q vs. FREQUENCY CHARACTERISTICS

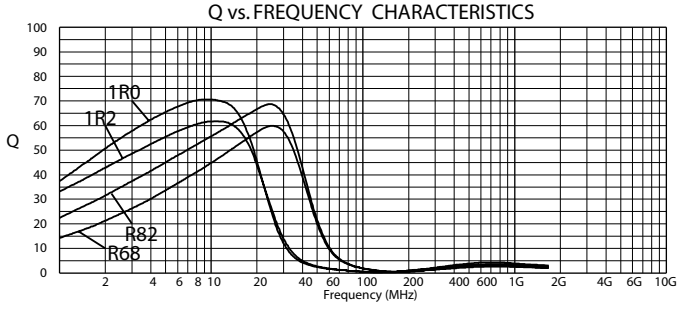


MFI2012 R68, R82, 1R0 & 1R2

INDUCTANCE vs. FREQUENCY

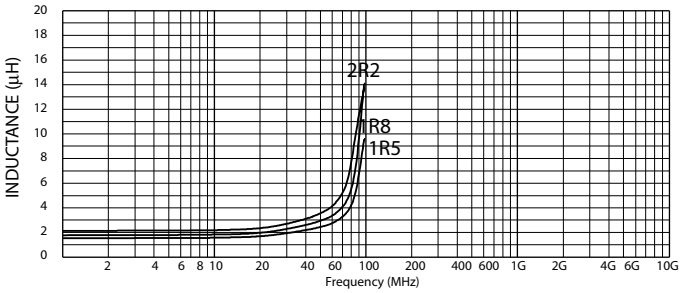


Q vs. FREQUENCY CHARACTERISTICS

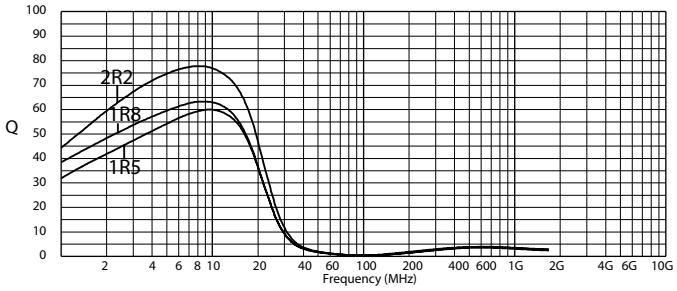


MFI2012 1R5, 1R8 & 2R2

INDUCTANCE vs. FREQUENCY

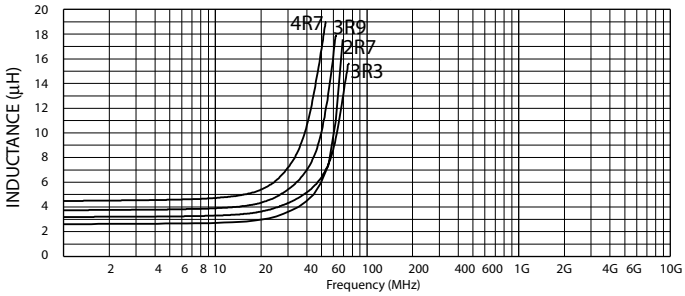


Q vs. FREQUENCY CHARACTERISTICS

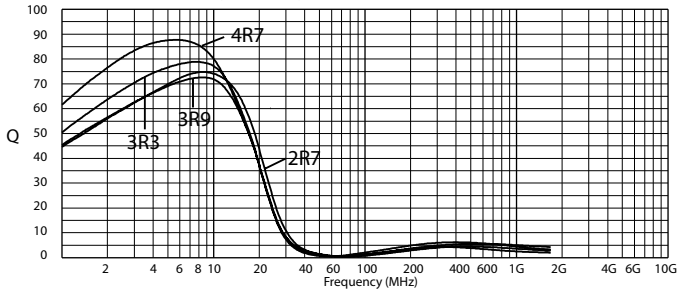


MFI2012 2R7, 3R3, 3R9 & 4R7

INDUCTANCE vs. FREQUENCY

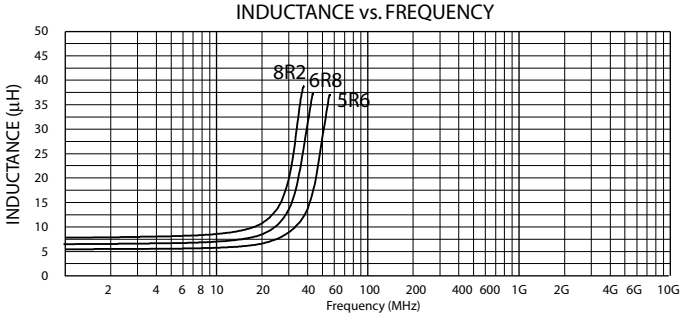


Q vs. FREQUENCY CHARACTERISTICS

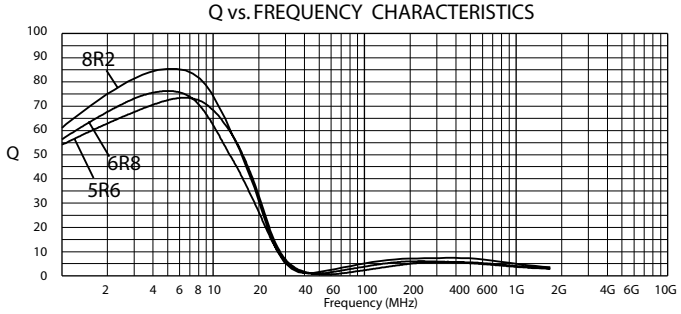


MFI2012 5R6, 6R8 & 8R2

INDUCTANCE vs. FREQUENCY

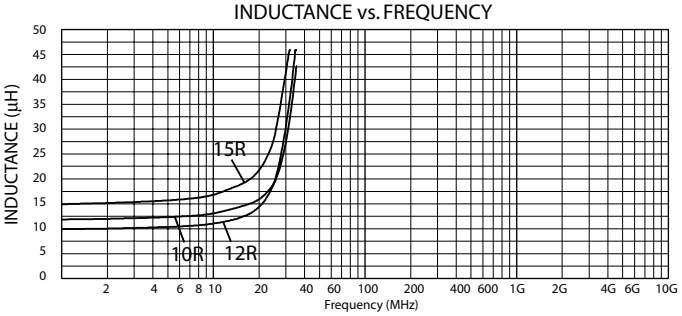


Q vs. FREQUENCY CHARACTERISTICS

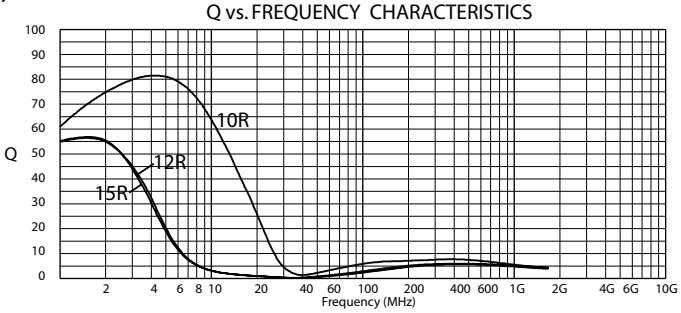


MFI2012 10R, 12R & 15R

INDUCTANCE vs. FREQUENCY

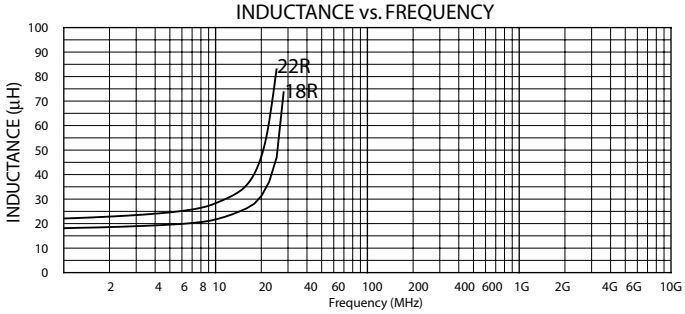


Q vs. FREQUENCY CHARACTERISTICS

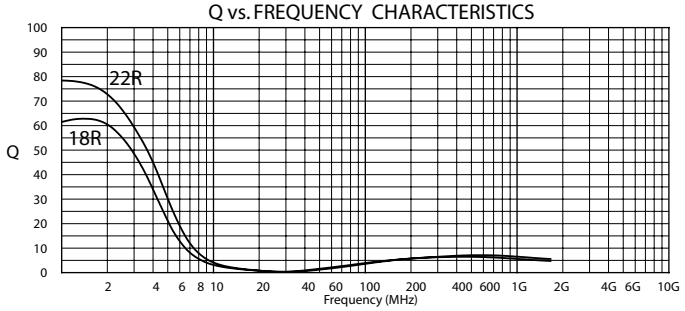


MFI2012 18R & 22R

INDUCTANCE vs. FREQUENCY

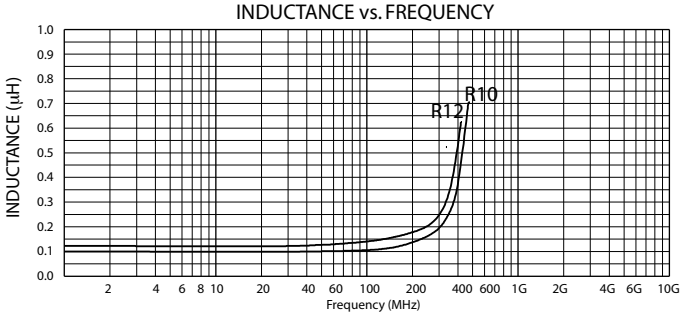


Q vs. FREQUENCY CHARACTERISTICS

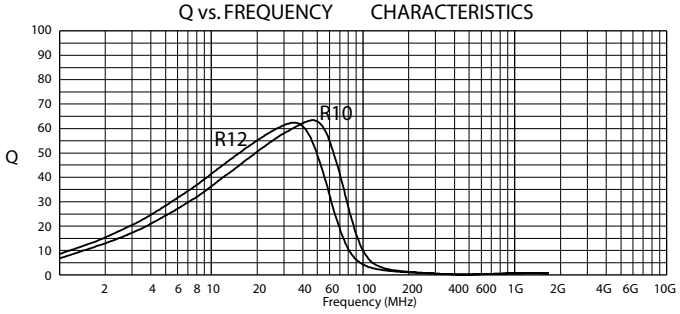


MFI3216 R10 & R12

INDUCTANCE vs. FREQUENCY

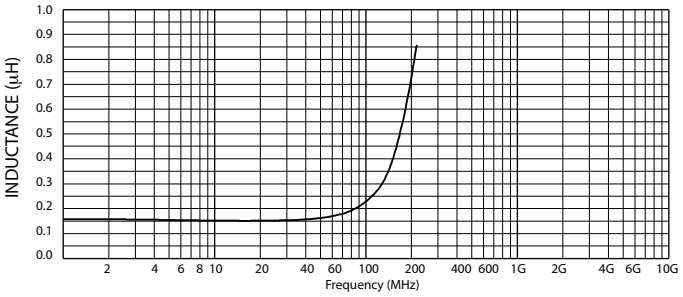


Q vs. FREQUENCY CHARACTERISTICS

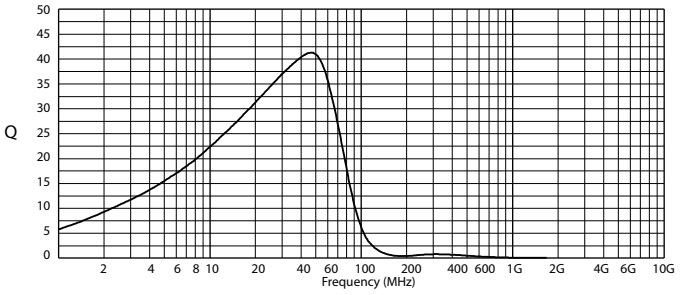


MFI3216 R15

INDUCTANCE vs. FREQUENCY

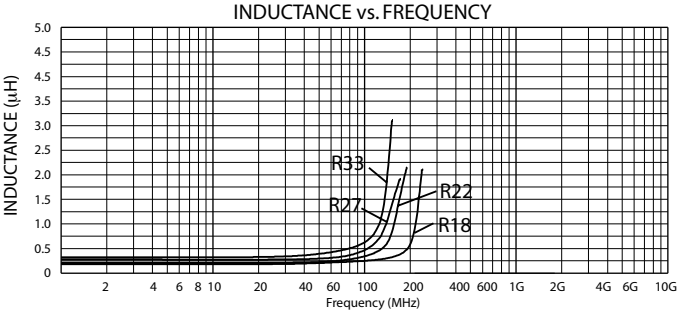


Q vs. FREQUENCY CHARACTERISTICS

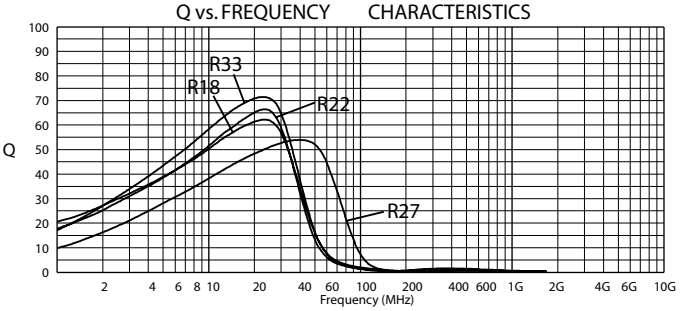


MFI3216 R18, R22, R27 & R33

INDUCTANCE vs. FREQUENCY

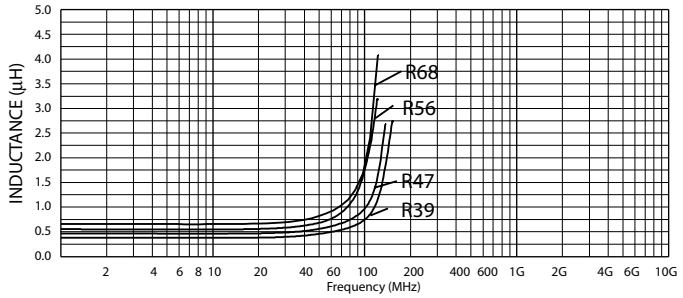


Q vs. FREQUENCY CHARACTERISTICS

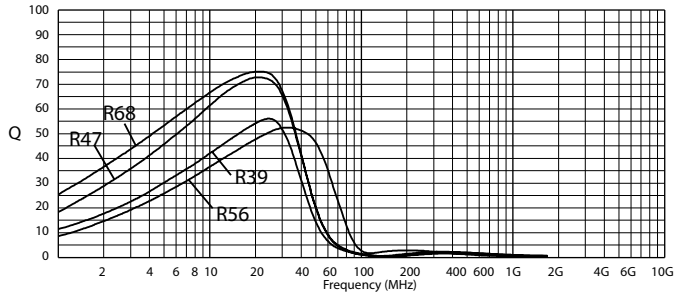


MFI3216 R39, R47, R56 & R68

INDUCTANCE vs. FREQUENCY

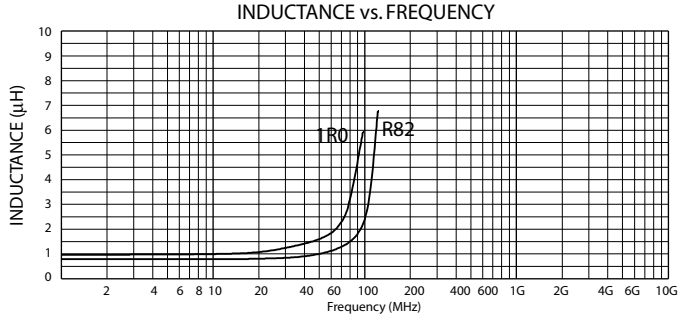


Q vs. FREQUENCY CHARACTERISTICS

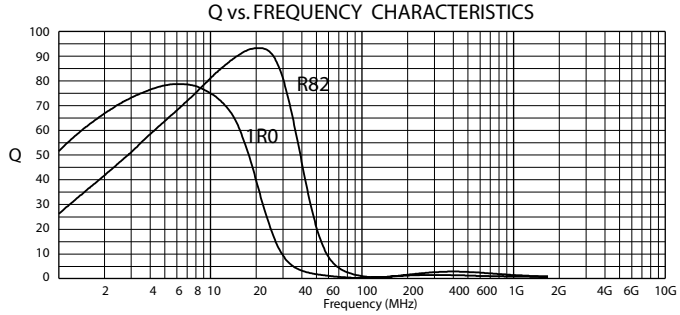


MFI3216 R82 & 1R0

INDUCTANCE vs. FREQUENCY

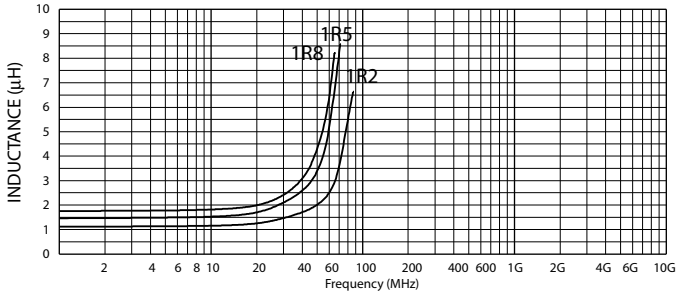


Q vs. FREQUENCY CHARACTERISTICS

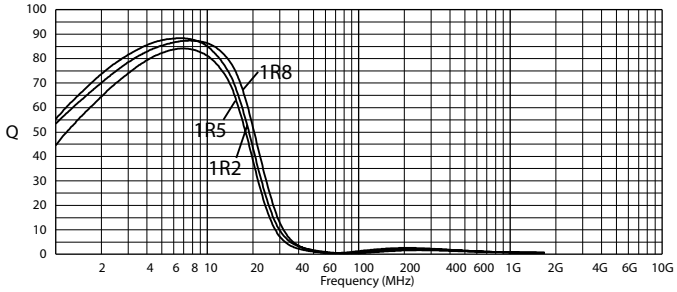


MFI3216 1R2, 1R5 & 1R8

INDUCTANCE vs. FREQUENCY

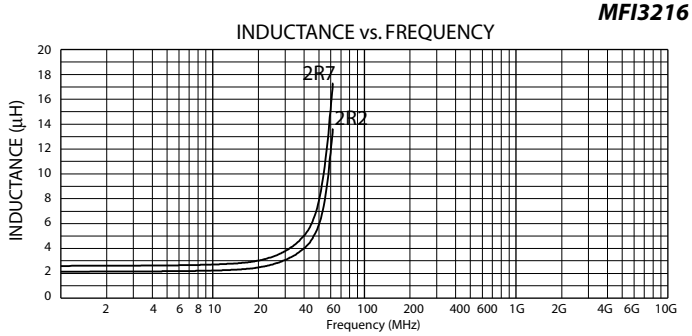


Q vs. FREQUENCY CHARACTERISTICS

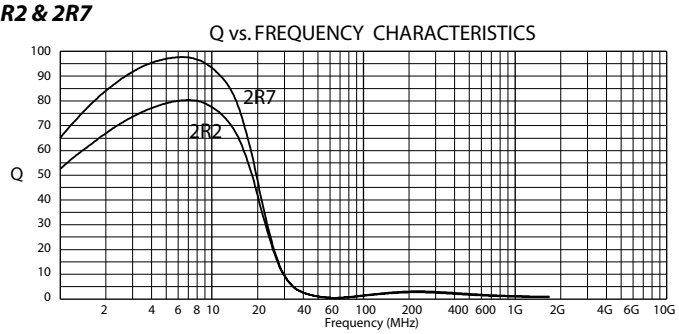


MFI3216 2R2 & 2R7

INDUCTANCE vs. FREQUENCY

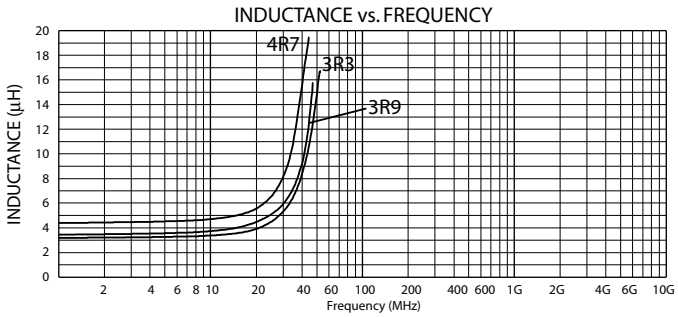


Q vs. FREQUENCY CHARACTERISTICS

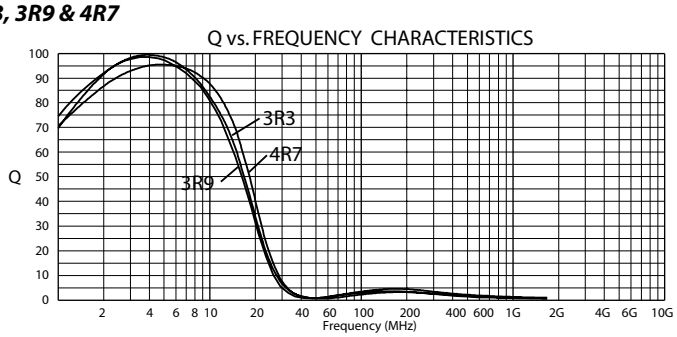


MFI3216 3R3, 3R9 & 4R7

INDUCTANCE vs. FREQUENCY

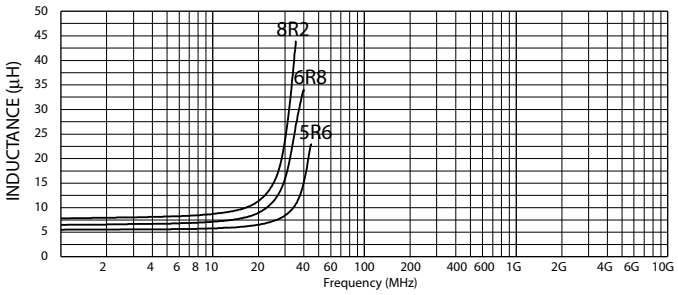


Q vs. FREQUENCY CHARACTERISTICS

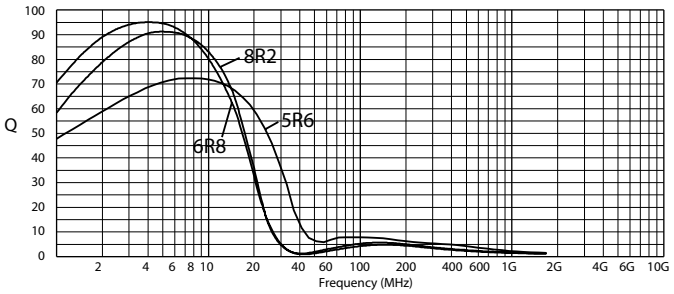


MFI3216 5R6, 6R8 & 8R2

INDUCTANCE vs. FREQUENCY

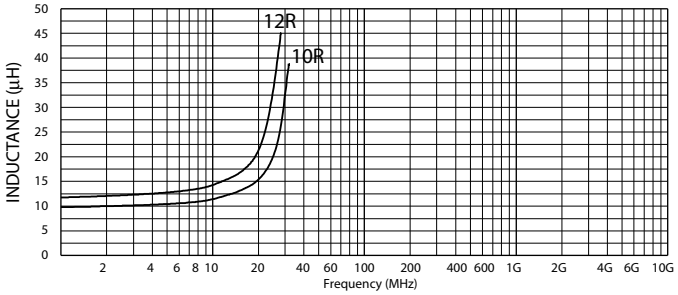


Q vs. FREQUENCY CHARACTERISTICS

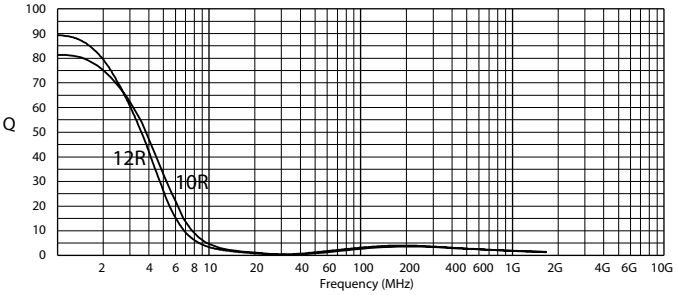


MFI3216 10R & 12R

INDUCTANCE vs. FREQUENCY

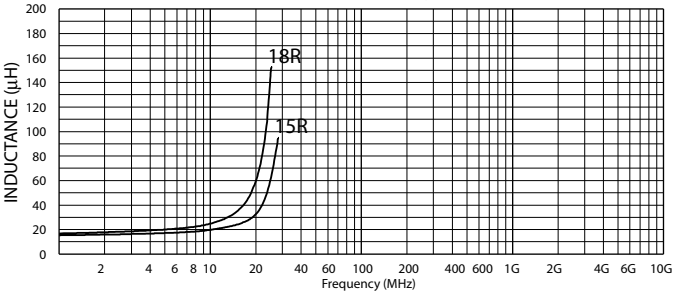


Q vs. FREQUENCY CHARACTERISTICS

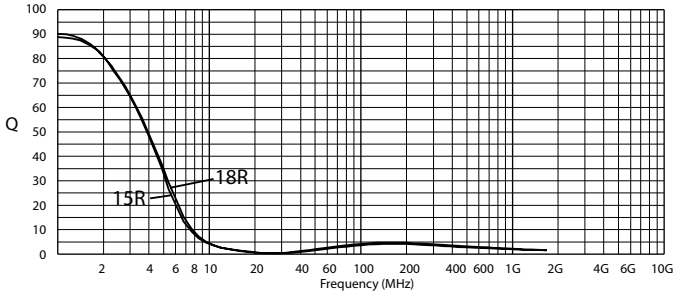


MFI3216 15R & 18R

INDUCTANCE vs. FREQUENCY

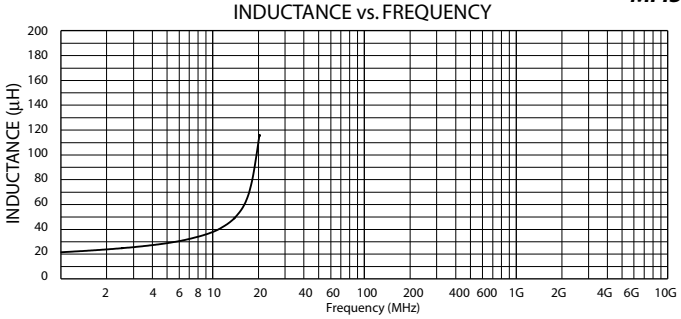


Q vs. FREQUENCY CHARACTERISTICS

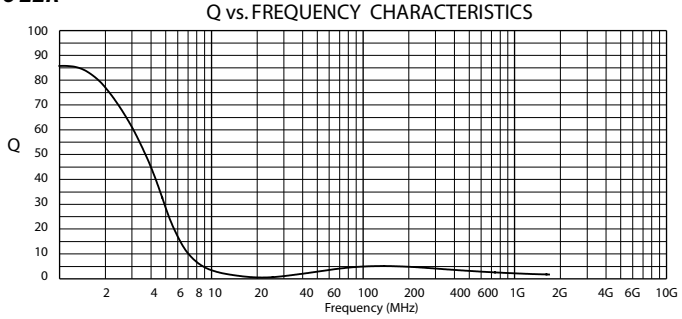


MFI3216 22R

INDUCTANCE vs. FREQUENCY



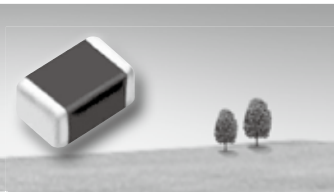
Q vs. FREQUENCY CHARACTERISTICS



▶ *Package*

Size (EIA)	1608 (0603)	201209 (0805)	201212 (0805)	3216 (1206)
Standard packing quantity (pcs/reel)	4,000	4,000	3,000	3,000

Chip Ferrite Bead for GHz Range
MGB Series



RoHS

Features

- Effectively filtering capability over a wide range of frequency (Several MHz to GHz)
- Monolithic inorganic material construction
- Closed magnetic circuit avoids crosstalk
- Excellent solderability and heat resistance
- High reliability

Applications

RF and wireless communication, information technology equipment which includes computer, laptop, telecommunications, radar detectors, automotive electronics, cellular phones, pagers, audio equipment, PDAs, keyless remote system and Navigator systems.

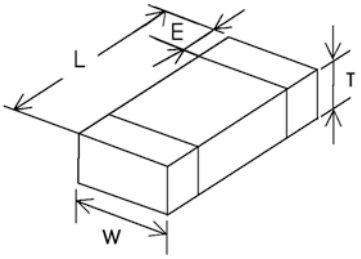
How to Order

MGB	1005	G	60	1	F	B	P
1	2	3	4	5	6	7	8

1. Series Name
2. Size Code: the first two digitals : length(mm), the last two digitals : width(mm)
3. Material Code
4. Impedance (Ω)/±25%
5. Fixed Decimal Point

ex.: 600Ω→ 601; 1000Ω→ 102

6. Rated current: C=100mA, D=150mA, E=200mA, F=300mA, G=400mA, H=500mA, L=1000mA, M=1500mA, N=2000mA, Y=250mA
7. Soldering: Green Parts: B- Lead-Free for whole chip
8. Packaging: P—Embossed paper tape, 7" reel



Dimensions

Unit:mm

Size(EIA)	1005 (0402)
L	1.00±0.10
W	0.50±0.10
T	0.50±0.10
E	0.25±0.10

Specifications

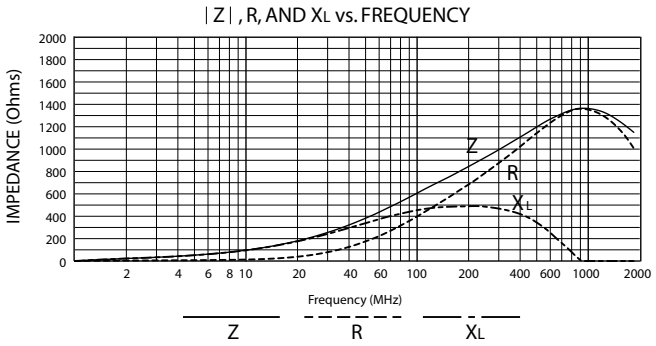
Part Number	Impedance (Ω) ±25% @100MHz	Impedance (Ω) ±40% @1GHz	DCR (Ω) Max	Rated Current (mA)
1005 (EIA 0402)				
MGB1005G601FBP	600	1400	0.85	300
MGB1005G102YBP	1000	2000	1.25	250
MGB1005G182EBP	1800	2700	2.20	200

General Technical Data

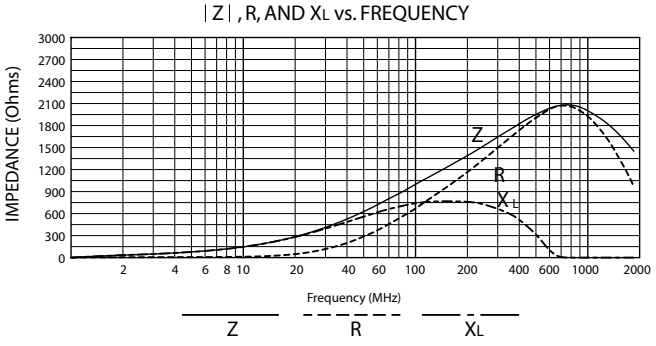
Operating Temperature Range	-55°C ~ +125°C
Storage Condition	Less than 40°C and 70% RH
Soldering Method	Reflow or Wave Soldering

Impedance vs. Frequency

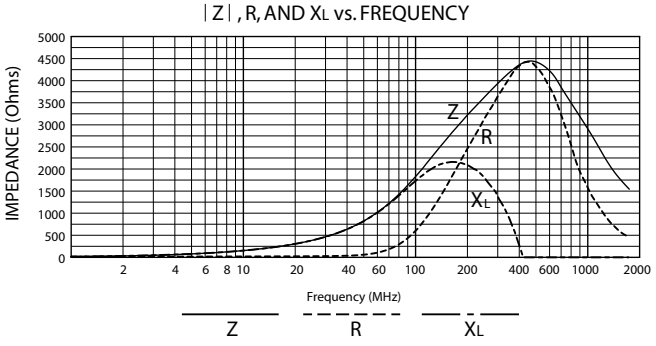
MGB1005G601F



MGB1005G102Y



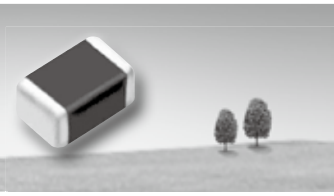
MGB1005G 182E



Package

Size (EIA)	1005 (0402)
Standard Packing Quantity (pcs / reel)	10,000

Chip Ferrite Bead
MCB-S/B Series



RoHS

Features

- Monolithic inorganic material construction
- Closed magnetic circuit avoids crosstalk
- SMD Type & suitable for reflow and wave soldering
- Available in various sizes
- Excellent solderability and heat resistance
- High reliability
- Effectively filtering capability over a wide range of frequency

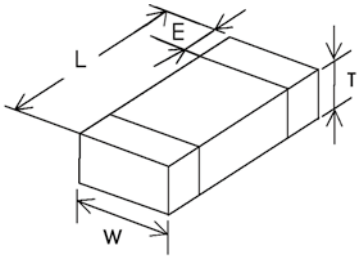
Applications

Filtering between analog and digital circuitry, clock generation circuitry, I/O interconnects, isolation between RF noisy circuits and logic devices susceptible to functional degradation, power supply filtering to prevent conducted RF energy from corrupting the power generation circuitry, high frequency EMI prevention of computer, printers, VCRs, TVs and portable telephones.

How to Order

MCB	1005	S	12	1	F	B	—
1	2	3	4	5	6	7	8

1 Series type
2 Size (mm): Length x Width
3 Material Code
4 Impedance (Ω)/±25%
5 Fixed Decimal Point
ex.: 60Ω→ 600; 120Ω→ 121
6 Rated current:
A=50mA, B=80mA, C=100mA, D=150mA, E=200mA, F=300mA
G=400mA, H=500mA, I=600mA, J=700mA, K=800mA, Y=250mA
7 Soldering: Green Parts: B—Lead-Free for whole chip
8 Packaging: P—Embossed paper tape, 7" reel
E—Embossed plastic tape, 7" reel



Dimensions

Unit:mm

Size (EIA)	1005 (0402)	1608 (0603)	2012 (0805)	3216 (1206)	3225 (1210)	4516 (1806)	4532 (1812)
L	1.00±0.10	1.60±0.15	2.00±0.20	3.20±0.20	3.20±0.20	4.50±0.25	4.50±0.25
W	0.50±0.10	0.80±0.15	1.25±0.20	1.60±0.20	2.50±0.20	1.60±0.20	3.20±0.25
T	0.50±0.10	0.80±0.15	0.90±0.20	1.10±0.20	1.30±0.20	1.60±0.20	1.50±0.25
E	0.25±0.10	0.30±0.20	0.50±0.30	0.50.±0.30	0.50.±0.30	0.60±0.40	0.60±0.40

Specifications

Part Number	Impedance +/-25% (Ω)	Test Freq. (MHz)	DCR (Ω) Max	Rated Current (mA)
1005 (EIA 0402)				
MCB1005S100FBP	10	100	0.10	300
MCB1005S200FBP	20	100	0.20	300
MCB1005S300FBP	30	100	0.25	300
MCB1005S400FBP	40	100	0.30	300
MCB1005S600FBP	60	100	0.35	300
MCB1005S700FBP	70	100	0.35	300
MCB1005S121FBP	120	100	0.40	300
MCB1005S241EBP	240	100	0.70	200
MCB1005S301EBP	300	100	0.80	200
MCB1005S471EBP	470	100	1.00	200
MCB1005S601FBP	600	100	1.00	300
MCB1005S102EBP	1000	100	1.50	200
MCB1005B601FBP	600	100	0.60	300
MCB1005B102EBP	1000	100	1.00	200
MCB1005B152DBP	1500	100	1.50	150
1608 (EIA 0603)				
MCB1608S100IBP	10	100	0.05	600
MCB1608S220IBP	22	100	0.05	600
MCB1608S300IBP	30	100	0.08	600
MCB1608S400IBP	40	100	0.10	600
MCB1608S600IBP	60	100	0.10	600
MCB1608S700IBP	70	100	0.10	600
MCB1608S800IBP	80	100	0.10	600
MCB1608S101IBP	100	100	0.15	600
MCB1608S121IBP	120	100	0.15	600
MCB1608S181FBP	180	100	0.30	300
MCB1608S221FBP	220	100	0.30	300
MCB1608S301FBP	300	100	0.35	300
MCB1608S471FBP	470	100	0.40	300
MCB1608S601EBP	600	100	0.45	200
MCB1608S751CBP	750	100	0.60	100
MCB1608S102CBP	1000	100	0.60	100
2012 (EIA 0805)				
MCB2012S070KBP	7	100	0.05	800
MCB2012S110KBP	11	100	0.05	800
MCB2012S170KBP	17	100	0.05	800
MCB2012S260KBP	26	100	0.05	800
MCB2012S300KBP	30	100	0.05	800
MCB2012S320KBP	32	100	0.05	800
MCB2012S400KBP	40	100	0.05	800
MCB2012S600KBP	60	100	0.15	800
MCB2012S800KBP	80	100	0.15	800
MCB2012S900KBP	90	100	0.15	800

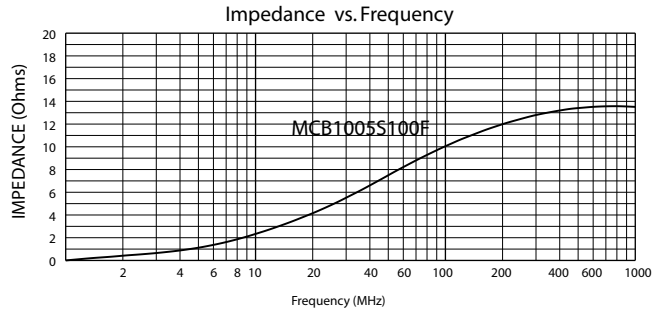
Part Number	Impedance +/-25% (Ω)	Test Freq. (MHz)	DCR (Ω) Max	Rated Current (mA)
2012 (EIA 0805)				
MCB2012S121KBP	120	100	0.15	800
MCB2012S151KBP	150	100	0.15	800
MCB2012S181HBP	180	100	0.20	500
MCB2012S221HBP	220	100	0.20	500
MCB2012S301HBP	300	100	0.20	500
MCB2012S401HBP	400	100	0.30	500
MCB2012S601HBP	600	100	0.30	500
MCB2012S102FBP	1000	100	0.35	300
MCB2012S152FBP	1500	100	0.40	300
MCB2012S202EBP	2000	100	0.50	200
3216 (EIA 1206)				
MCB3216S190KBE	19	100	0.05	800
MCB3216S260KBE	26	100	0.05	800
MCB3216S310KBE	31	100	0.05	800
MCB3216S500KBE	50	100	0.08	800
MCB3216S700KBE	70	100	0.10	800
MCB3216S900KBE	90	100	0.15	800
MCB3216S121IBE	120	100	0.15	600
MCB3216S151IBE	150	100	0.15	600
MCB3216S201IBE	200	100	0.20	600
MCB3216S221IBE	220	100	0.20	600
MCB3216S301IBE	300	100	0.20	600
MCB3216S601HBE	600	100	0.30	500
MCB3216S102HBE	1000	100	0.40	500
MCB3216S122HBE	1200	100	0.40	500
MCB3216S152EBE	1500	50	0.50	200
MCB3216S202EBE	2000	30	0.50	200
3225 (EIA 1210)				
MCB3225S310KBE	31	100	0.30	800
MCB3225S600KBE	60	100	0.30	800
MCB3225S900KBE	90	100	0.30	800
4516 (EIA 1806)				
MCB4516S680KBE	68	100	0.10	800
MCB4516S800KBE	80	100	0.10	800
MCB4516S101KBE	100	100	0.20	800
MCB4516S151KBE	150	100	0.30	800
4532 (EIA 1812)				
MCB4532S700KBE	70	100	0.40	800
MCB4532S800KBE	80	100	0.40	800
MCB4532S121KBE	120	100	0.40	800

General Technical Data

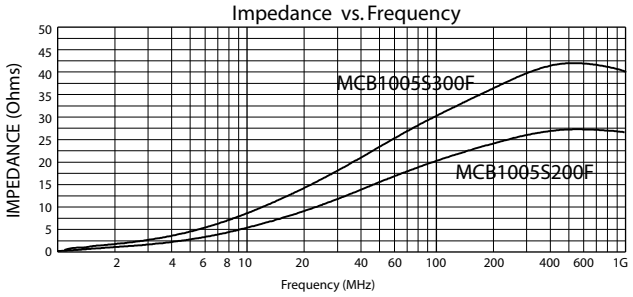
Operating Temperature Range	-55°C ~ +125°C
Storage Condition	Less than 40°C and 70% RH
Soldering Method	Reflow or Wave Soldering

Impedance vs. Frequency

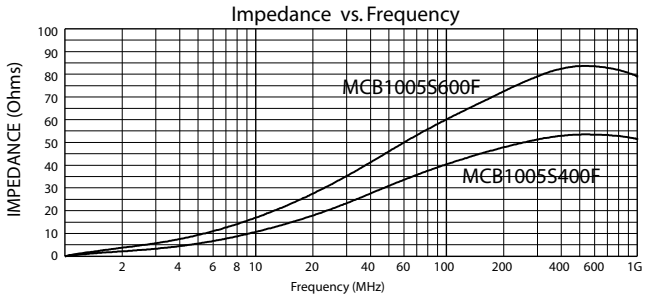
MCB1005S-100F



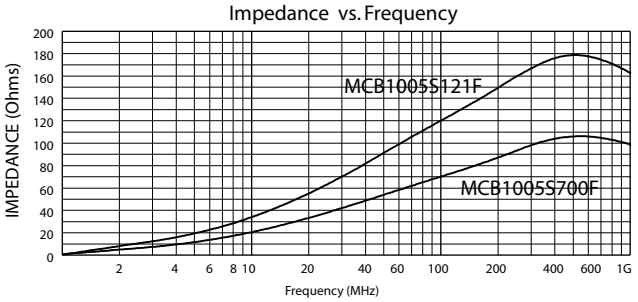
MCB1005S-200F & 300F



MCB1005S-400F & 600F



MCB1005S-700F & 121F



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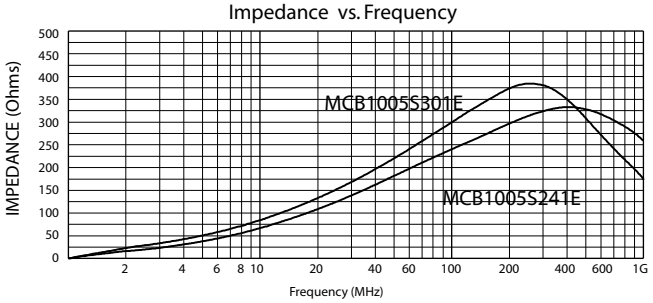
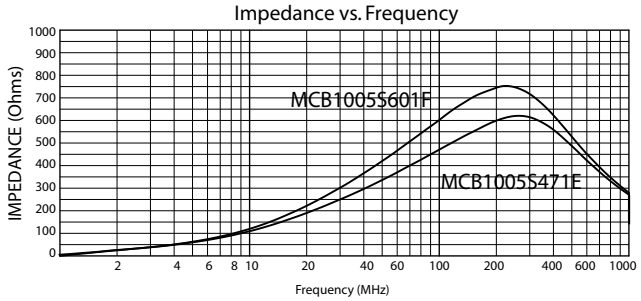


MCB1005S-471E & 601F



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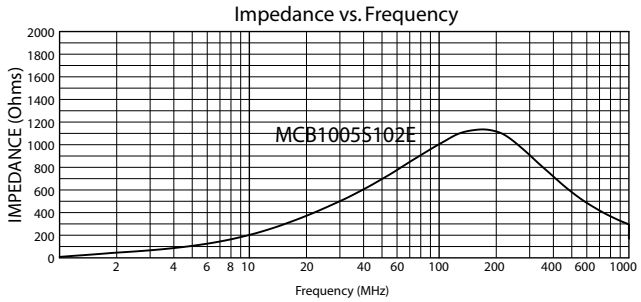
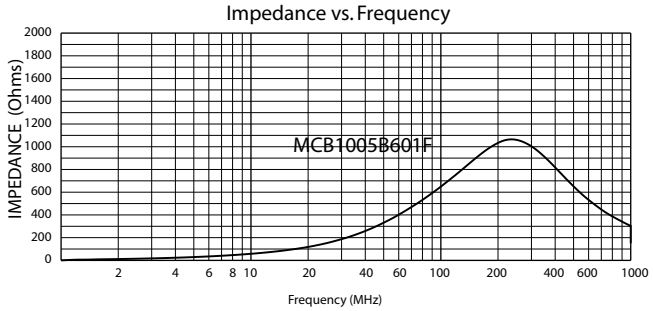
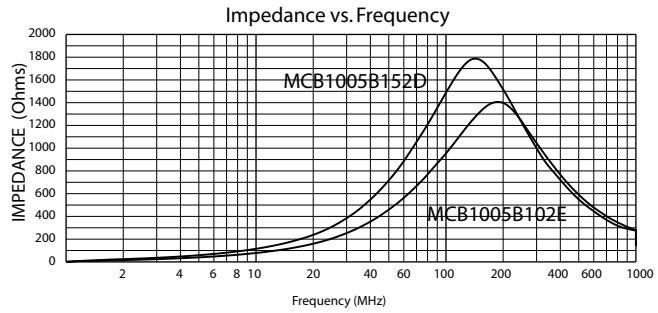


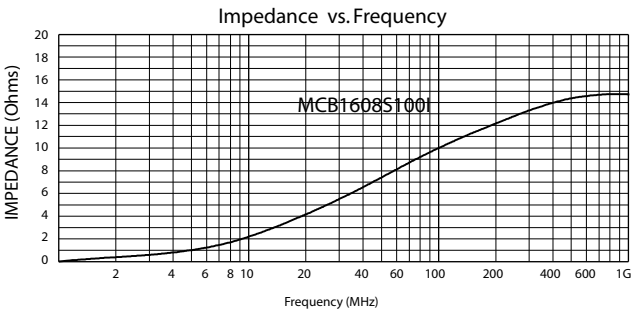
MCB1005B-601F



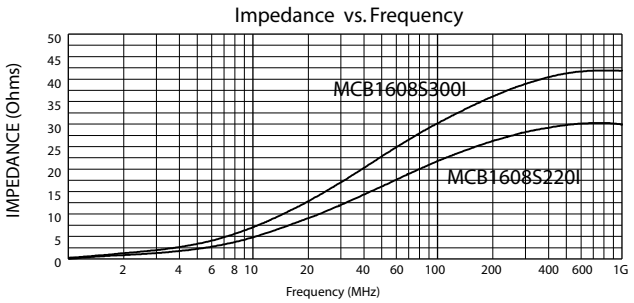
MCB1005B-102E & 152D



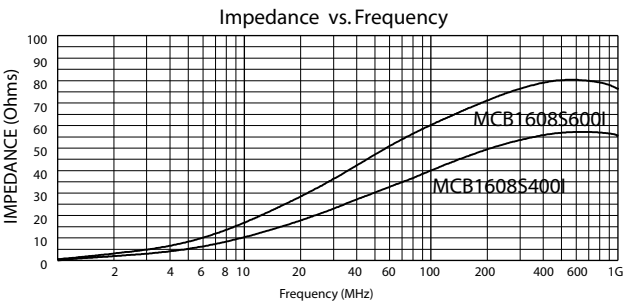
MCB1608S 100I



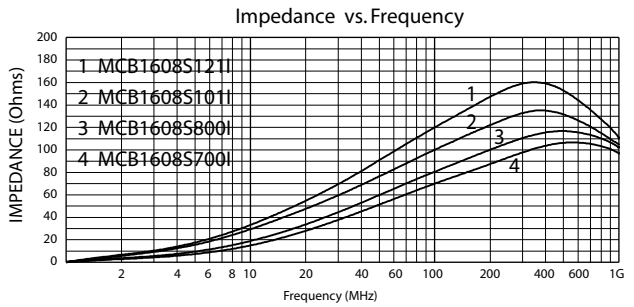
MCB1608S-220I & 300I



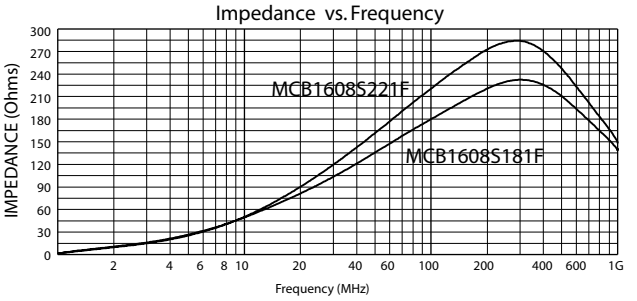
MCB1608S-400I, 600I



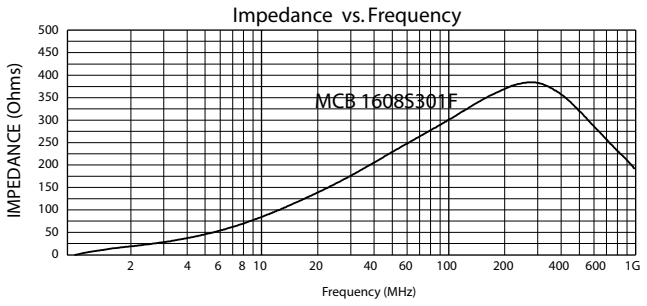
MCB1680S-700I, 800I, 101I & 121I



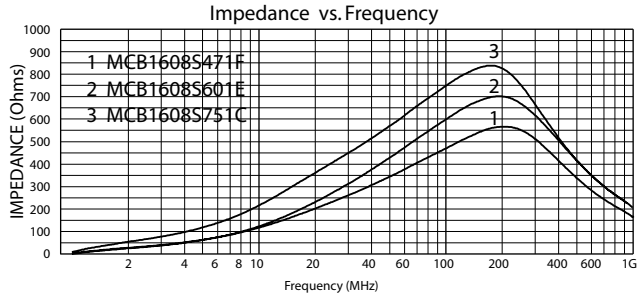
MCB1608S-181F & 221F



MCB1608S301F



MCB1608S - 471F, 601E & 751C



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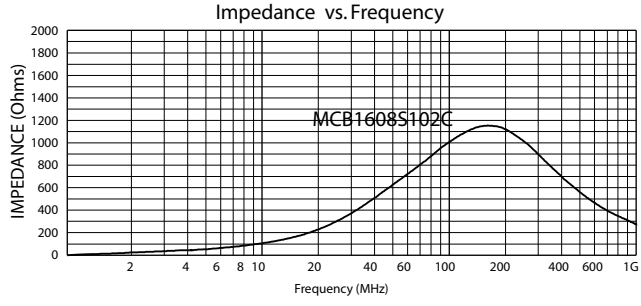
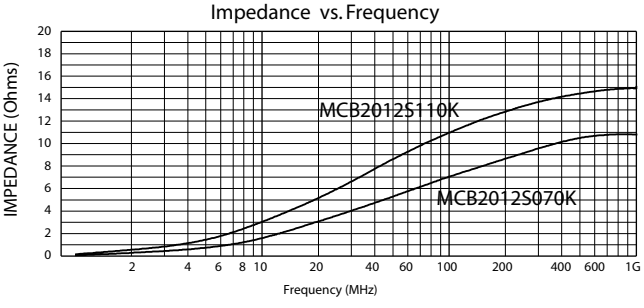
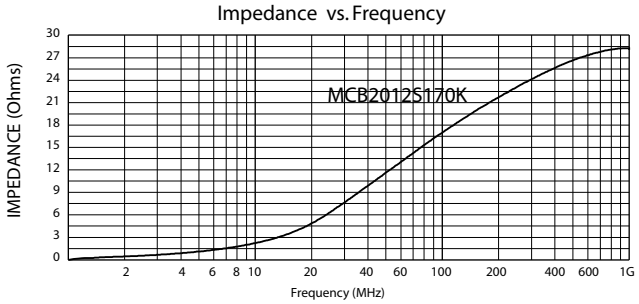


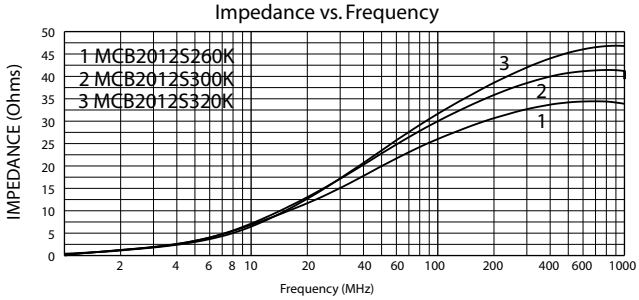
MCB2012S - 070K & 110K



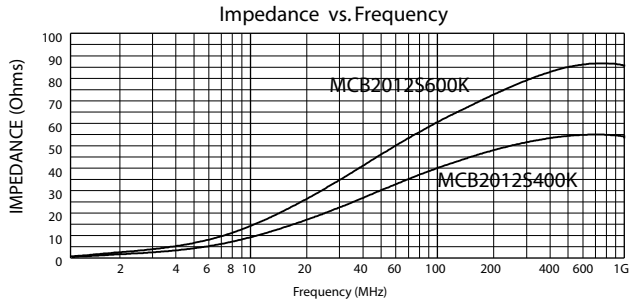
MCB2012S - 170K



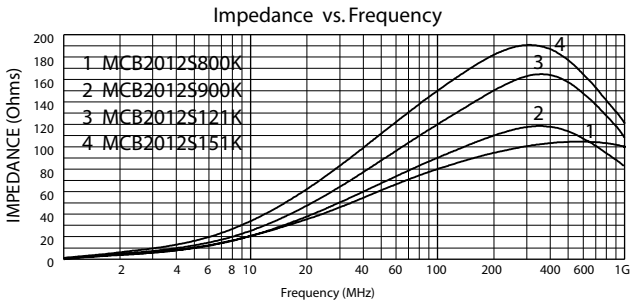
MCB2012S - 260K, 300K & 320K



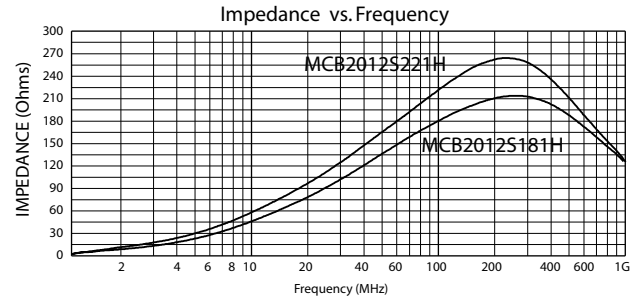
MCB2012S - 400K & 600K



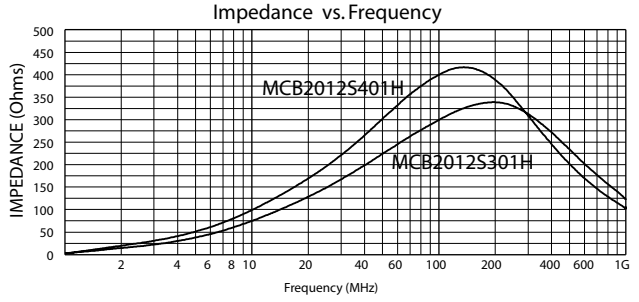
MCB2012S - 800K, 900K, 121K & 151K



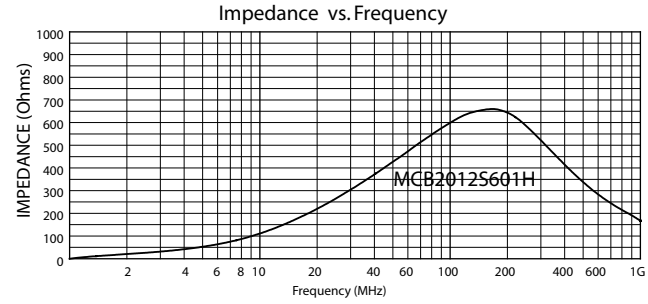
MCB2012S - 181H & 221H



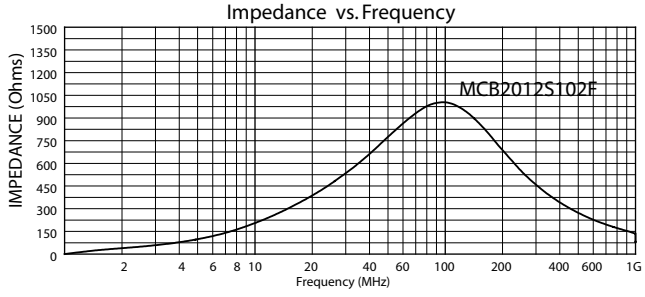
MCB2012S-301H & 401H



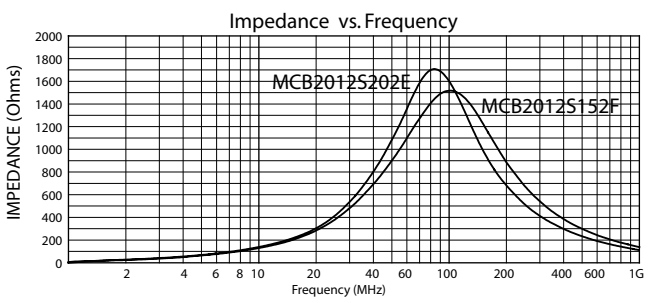
MCB2012S-601H



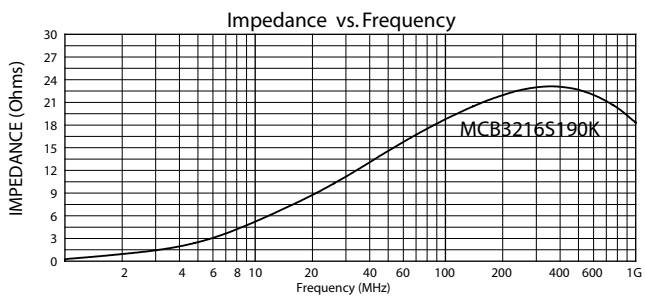
MCB2012S102F



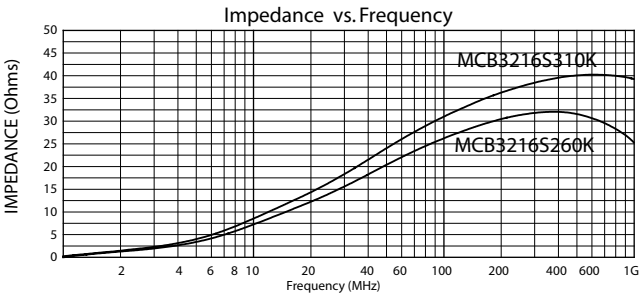
MCB2012S-152F & 202E



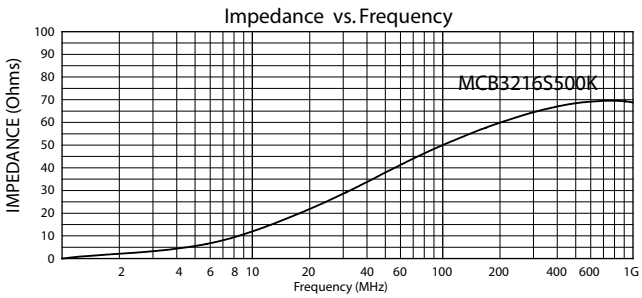
MCB3216S190K



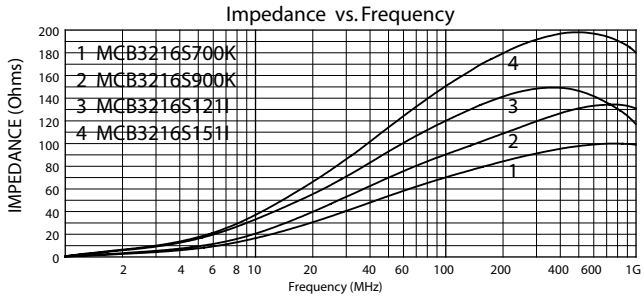
MCB3216S-260K & 310K



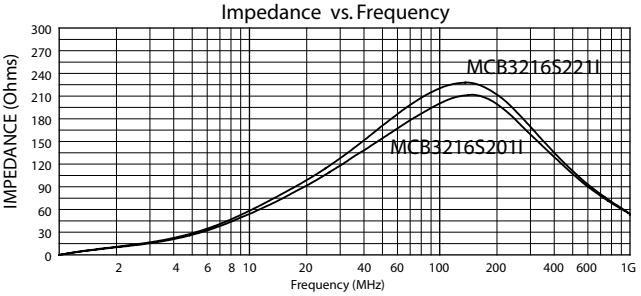
MCB3216S500K



MCB3216S-700K, 900K, 121I & 151I



MCB3216S-201I & 221I



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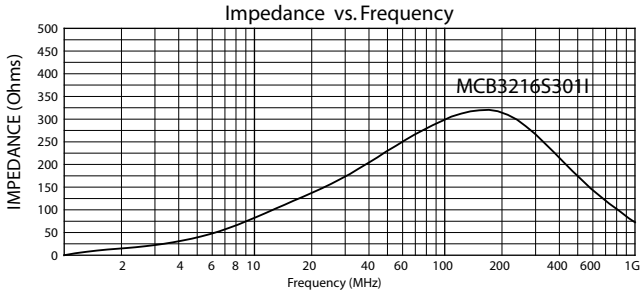
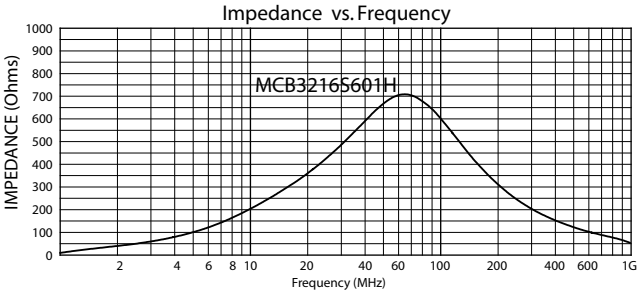
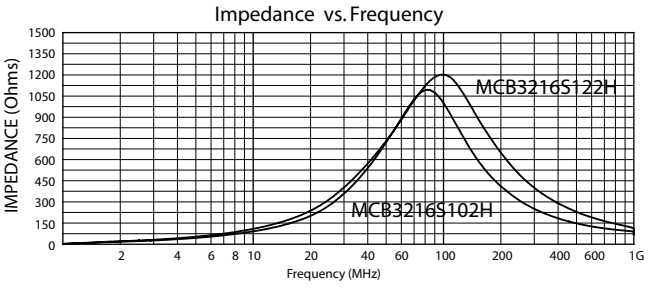


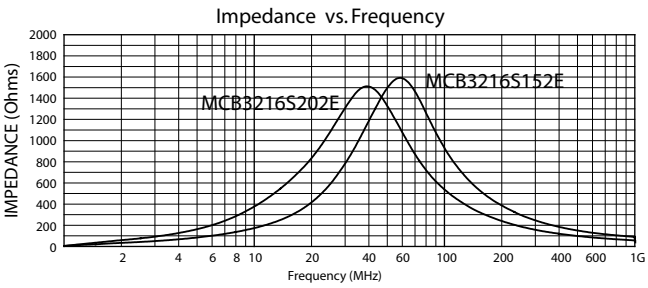
MCB3216S-601H



MCB3216S-102H & 122H



MCB3216S152E & 202E



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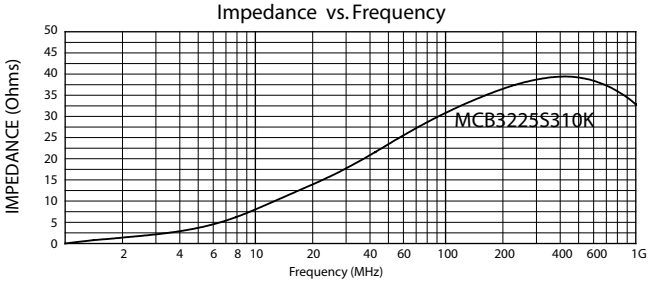
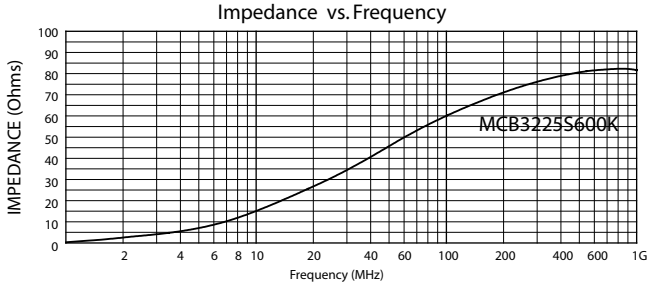


MCB3225S600K



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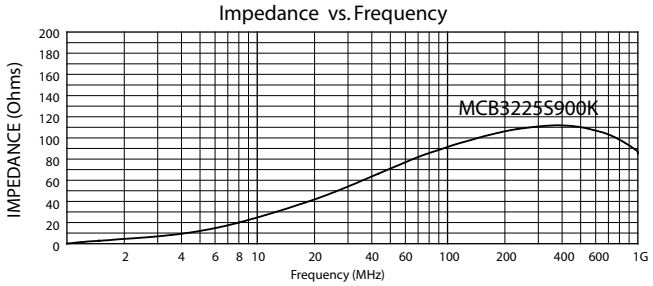

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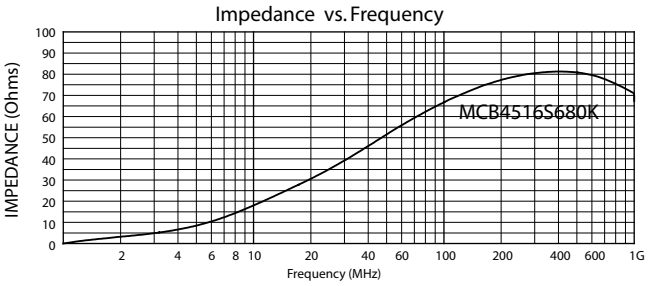
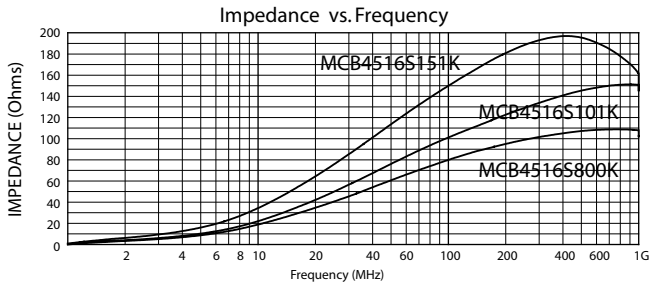
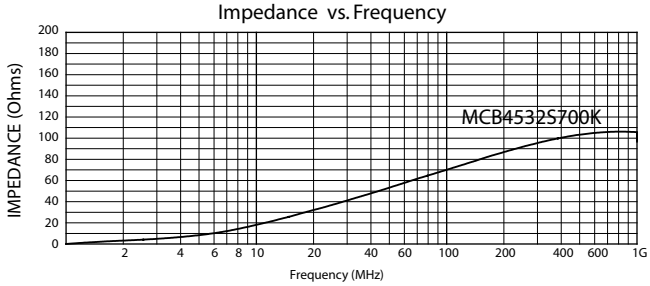


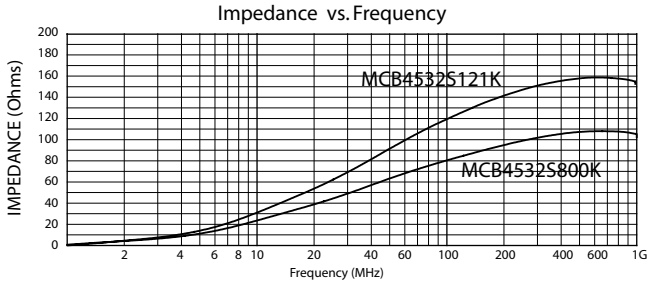
MCB4516S-800K,101K & 151K



MCB4532S700K



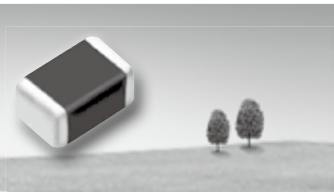
MCB4532S-800K & 121K



▶ *Package*

Size (EIA)	1005 (0402)	1608 (0603)	2012 (0805)	3216 (1206)	3225 (1210)	4516 (1806)	4532 (1812)
Standard packing Quantity (pcs/reel)	10,000	4,000	4,000	3,000	2,000	2,000	1,000

Chip Ferrite Bead For High Speed
MCB-H Series



RoHS

Features

- Monolithic inorganic material construction
- Closed magnetic circuit avoids crosstalk
- SMD Type & suitable for reflow and wave soldering
- Available in various sizes
- Excellent solderability and heat resistance
- High reliability
- With a sharp and high frequency impedance characteristics which can effectively filter high frequency noise without attenuating high frequency signal

Applications

Filtering between analog and digital circuitry, clock generation circuitry, I/O interconnects, isolation between RF noisy circuits and logic devices susceptible to functional degradation, power supply filtering to prevent conducted RF energy from corrupting the power generation circuitry. Sharp impedance characteristics can effectively minimize attenuation, high frequency EMI prevention of LCD monitor, PDA, Computers, Computer Peripherals, Cellular Equipment, Digital TV, Digital Cameras, Audio/Visual Equipment, DVD, Wireless Communication Devices, MP3.

How to Order

MCB	1608	H	12	1	E	B	—
1	2	3	4	5	6	7	8

1. Series type
2. Size (mm): Length x Width
3. Material Code
4. Impedance (Ω)/±25%
5. Fixed Decimal Point

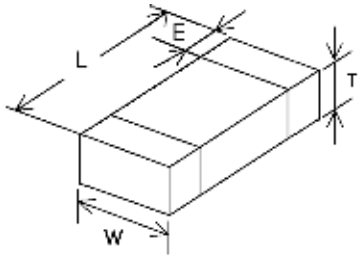
ex.: 60Ω→ 600; 120Ω→ 121

6. Rated Current :
   A =50mA, B=80mA, C=100mA, D=150mA, E=200mA, F=300mA,
   G=400mA, H=500mA, I=600mA, J=700mA, K=800mA
7. Soldering: Green Parts: B—Lead-Free for whole chip
8. Packaging: P—Embossed paper tape, 7" reel
   E—Embossed plastic tape, 7" reel

Dimensions

Unit:mm

Size (EIA)	1005 (0402)	1608 (0603)	2012 (0805)
L	1.00±0.10	1.60±0.15	2.00±0.20
W	0.50±0.10	0.80±0.15	1.25±0.20
T	0.50±0.10	0.80±0.15	0.90±0.20
E	0.25±0.10	0.30±0.20	0.50±0.30



Specifications

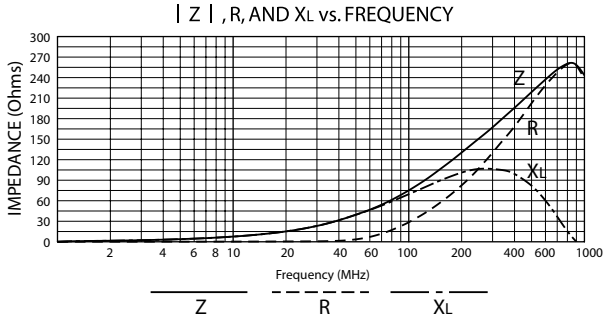
Part Number	Impedance (Ω) +/-25%	Test Freq. (MHz)	DCR (Ω) Max	Rated Current (mA)
1005 (EIA 0402)				
MCB1005H750FBP	75	100	0.40	300
1608 (EIA 0603)				
MCB1608H200HBP	20	100	0.25	500
MCB1608H600HBP	60	100	0.25	500
MCB1608H750EBP	75	100	0.35	200
MCB1608H800HBP	80	100	0.35	500
MCB1608H121EBP	120	100	0.45	200
MCB1608H241EBP	240	100	0.45	200
MCB1608H301EBP	300	100	0.45	200
MCB1608H601EBP	600	100	0.50	200
MCB1608H102EBP	1000	100	0.60	200
2012 (EIA 0805)				
MCB2012H121EBP	120	100	0.25	200
MCB2012H151EBP	150	100	0.25	200
MCB2012H221EBP	220	100	0.25	200
MCB2012H301EBP	300	100	0.25	200
MCB2012H471EBP	470	100	0.35	200
MCB2012H601EBP	600	100	0.35	200

General Technical Data

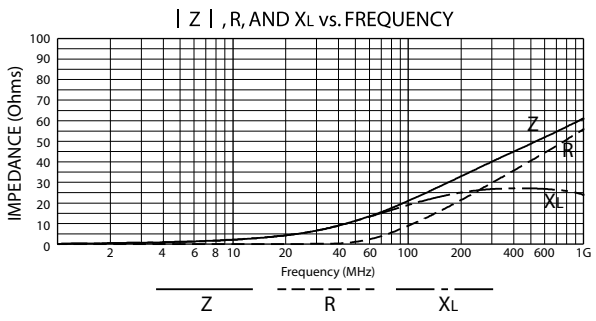
Operating Temperature Range	-55°C ~ +125°C
Storage Condition	Less than 40°C and 70% RH
Soldering Method	Reflow or Wave Soldering

Impedance vs. Frequency

MCB1005H750F

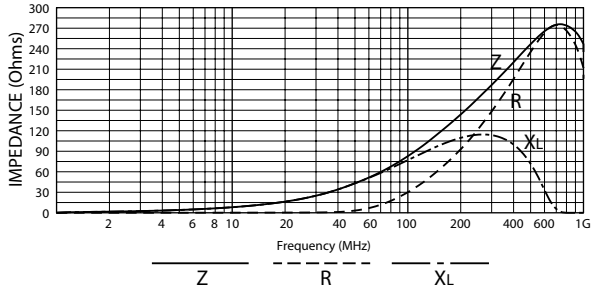


MCB1608H200H



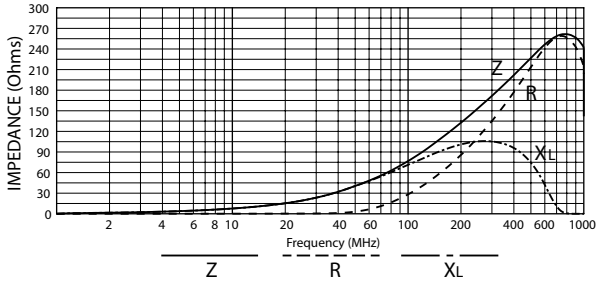
MCB1608H600H

| Z |, R, AND X_L vs. FREQUENCY



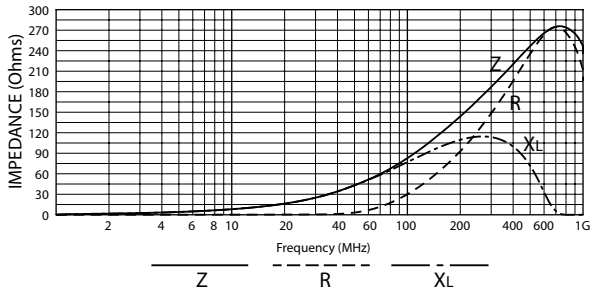
MCB1608H750E

| Z |, R, AND X_L vs. FREQUENCY



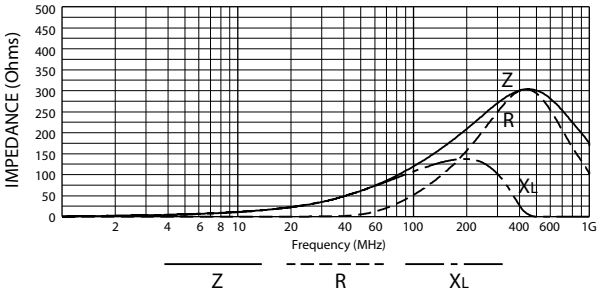
MCB1608H800H

| Z |, R, AND X_L vs. FREQUENCY



MCB1608H121E

| Z |, R, AND X_L vs. FREQUENCY



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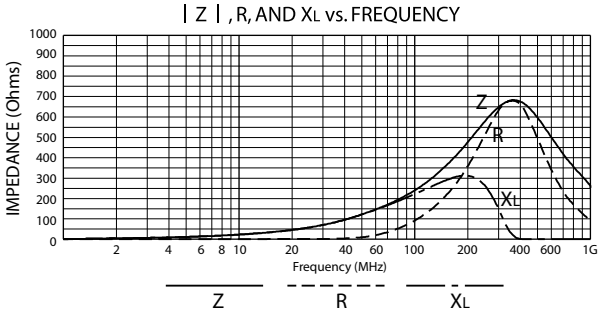

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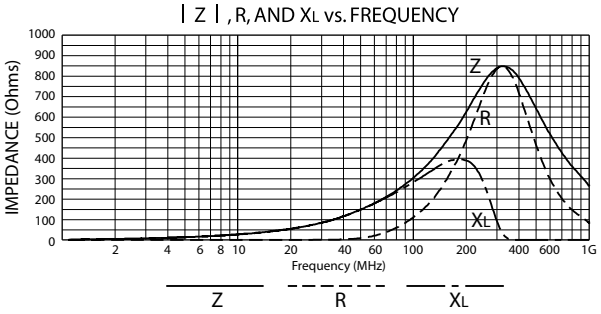

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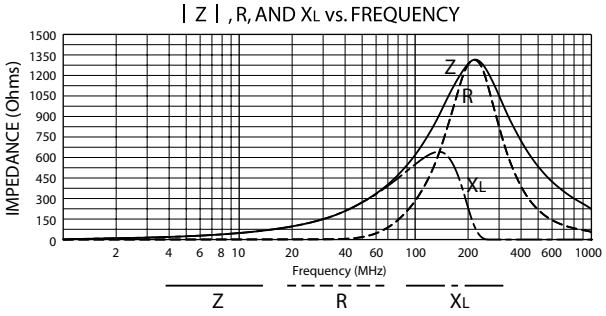

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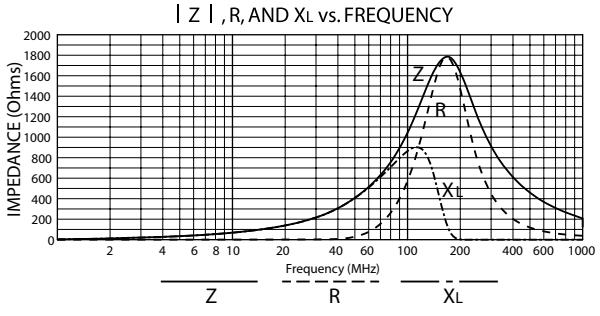

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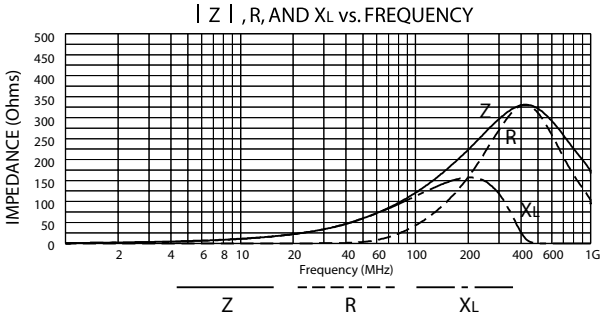

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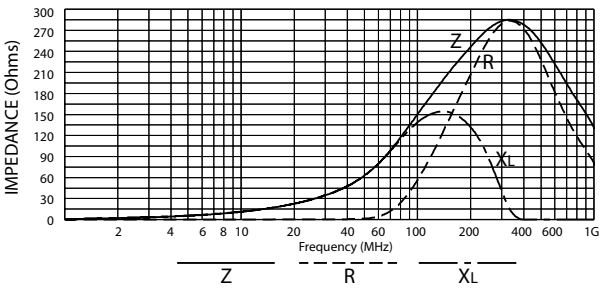

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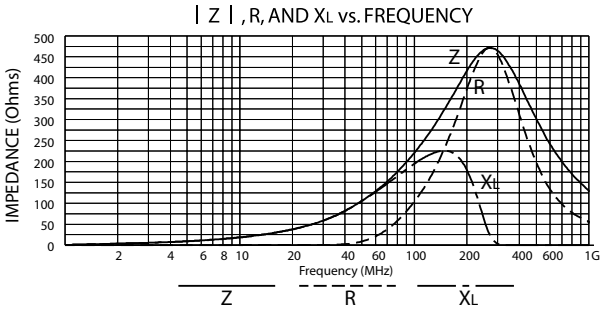

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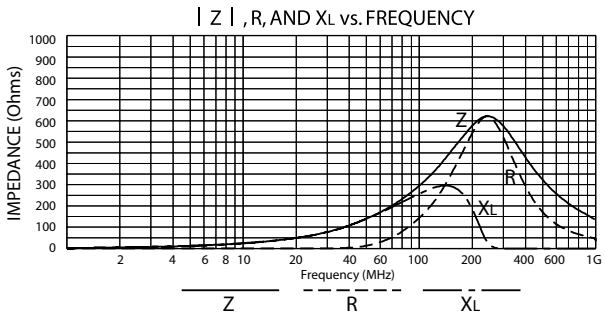

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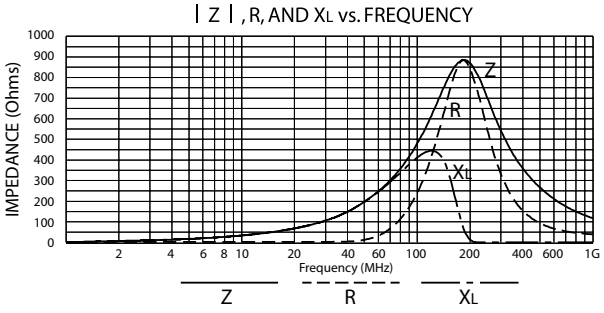

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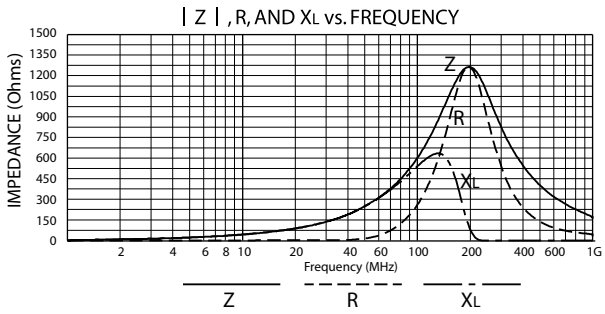


▶ *Package*

Size (EIA)	1005 (0402)	1608 (0603)	2012 (0805)
Standard packing quantity (pcs/reel)	10,000	4,000	4,000

High Current Chip Ferrite Bead
MHC Series

RoHS

Features

- Combination of high frequency noise suppression with capability of handing high current
- The current rating up to 6 Amps with low DCR

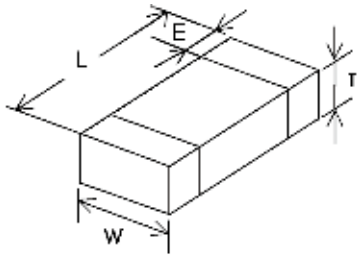
Applications

- High current DC power lines
- Circuits where a stable ground in unavailable

How to Order

MHC	1608	S	12	1	P	B	—
1	2	3	4	5	6	7	8

1 Series type
2 Chip size(mm) : Length x Width
3 Material Code
4 Impedance (Ω)/±25%
5 Fixed Decimal Point ☐ ex.: 60Ω→ 600; 120Ω→ 121
6 Rated Current:
L =1000mA, M=1500mA, N=2000mA, P=2500mA
Q=3000mA, R=4000mA, U=5000mA, W=6000mA
7 Soldering: Green Parts: B—Lead-Free for whole chip
8 Packaging: P—Embossed paper tape, 7" reel
E—Embossed plastic tape, 7" reel



Dimensions

Unit:mm

Size (EIA)	1005 (0402)	1608 (0603)	2012 (0805)	3216 (1206)	3225 (1210)	4516 (1806)	4532 (1812)
L	1.00±0.10	1.60±0.15	2.00±0.20	3.20±0.20	3.20±0.20	4.50±0.25	4.50±0.25
W	0.50±0.10	0.80±0.15	1.25±0.20	1.60±0.20	2.50±0.20	1.60±0.20	3.20±0.25
T	0.50±0.10	0.80±0.15	0.90±0.20	1.10±0.20	1.30±0.20	1.60±0.20	1.50±0.25
E	0.25±0.10	0.30±0.20	0.50±0.30	0.50±0.30	0.50±0.30	0.60±0.40	0.60±0.40

Specifications

Part Number	Impedance (Ω) +/- 25%	Test Freq. (MHz)	DCR (Ω) Max.	Rated Current (mA)
1005 (EIA 0402)				
MHC1005S100NBP	10	100	0.09	2000
MHC1005S300NBP	30	100	0.09	2000
MHC1005S600LBP	60	100	0.20	1000
MHC1005S121MBP	120	100	0.15	1500
1608 (EIA 0603)				
MHC1608S300QBP	30	100	0.040	3000
MHC1608S600QBP	60	100	0.040	3000
MHC1608S800QBP	80	100	0.040	3000
MHC1608S121PBP	120	100	0.070	2500
MHC1608S221NBP	220	100	0.090	2000
MHC1608S301NBP	300	100	0.090	2000
MHC1608S471LBP	470	100	0.200	1000
MHC1608S601LBP	600	100	0.200	1000
2012 (EIA 0805)				
MHC2012S110WBP	11	100	0.015	6000
MHC2012S310WBP	31	100	0.015	6000
MHC2012S400RBP	40	100	0.030	4000
MHC2012S600QBP	60	100	0.040	3000
MHC2012S800UBP	80	100	0.020	5000
MHC2012S900UBP	90	100	0.020	5000
MHC2012S121UBP	120	100	0.020	5000
MHC2012S221QBP	220	100	0.040	3000
MHC2012S251QBP	250	100	0.040	3000
MHC2012S301NBP	300	100	0.090	2000
MHC2012S331NBP	330	100	0.090	2000
MHC2012S601NBP	600	100	0.090	2000
3216 (EIA 1206)				
MHC3216S300WBE	30	100	0.015	6000
MHC3216S500WBE	50	100	0.015	6000
MHC3216S600QBE	60	100	0.040	3000
MHC3216S750QBE	75	100	0.040	3000
MHC3216S800RBE	80	100	0.030	4000
MHC3216S900QBE	90	100	0.040	3000
MHC3216S121WBE	120	100	0.015	6000
MHC3216S151NBE	150	100	0.090	2000
MHC3216S501PBE	500	100	0.070	2500
MHC3216S601PBE	600	100	0.070	2500
MHC3216S122LBE	1200	100	0.200	1000
3225 (EIA 1210)				
MHC3225S600MBE	60	100	0.150	1500
MHC3225S102NBE	1000	50	0.090	2000
4516 (EIA 1806)				
MHC4516S600WBE	60	100	0.015	6000
MHC4516S471NBE	470	100	0.090	2000
MHC4516S851MBE	850	100	0.150	1500
4532 (EIA 1812)				
MHC4532S800WBE	80	100	0.015	6000
MHC4532S121WBE	120	100	0.015	6000
MHC4532S601QBE	600	50	0.040	3000
MHC4532S681QBE	680	50	0.040	3000
MHC4532S132QBE	1300	60	0.040	3000

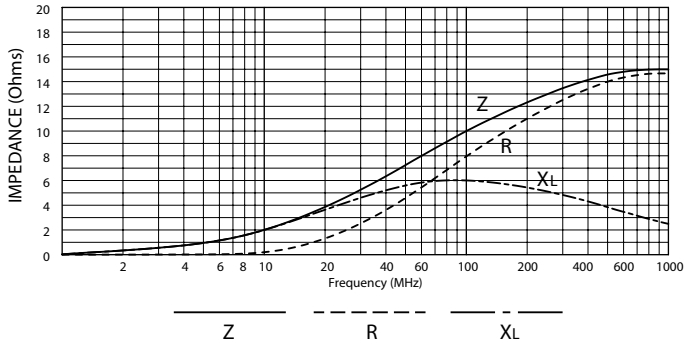
General Technical Data

Operating Temperature Range	-55°C ~ +125°C
Storage Condition	Less than 40°C and 70% RH
Soldering Method	Reflow or Wave Soldering

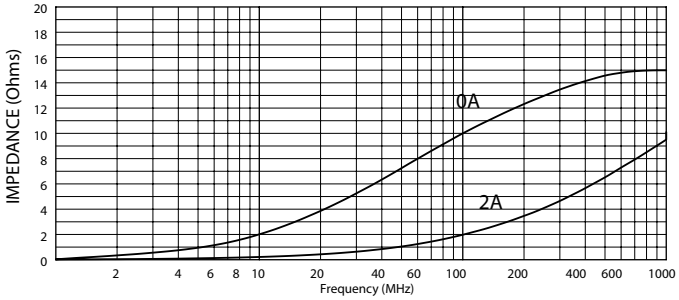
Impedance vs. Frequency

MHC 1005S100N

| Z |, R, AND X_L vs. FREQUENCY



Impedance Under DC Bias vs. FREQUENCY



MHC 1005S300N

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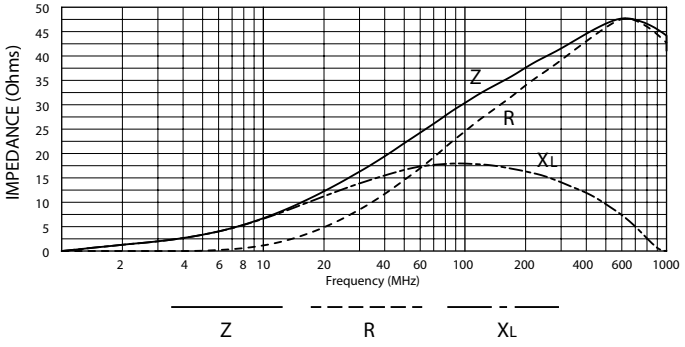
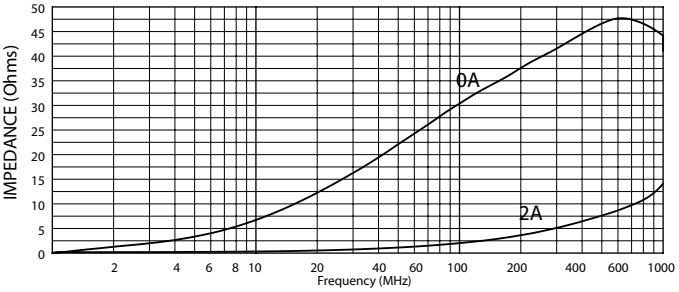


Impedance Under DC Bias vs. FREQUENCY



MHC 1005S600L

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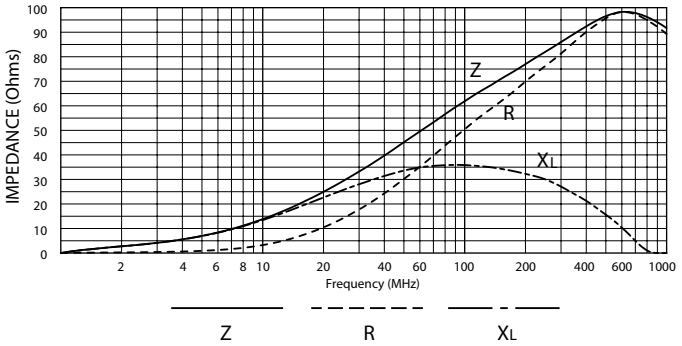
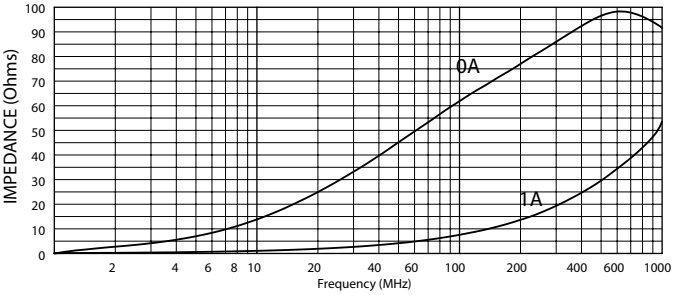
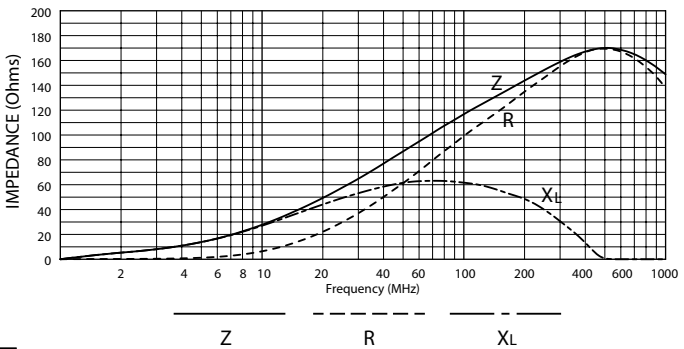


Impedance Under DC Bias vs. FREQUENCY

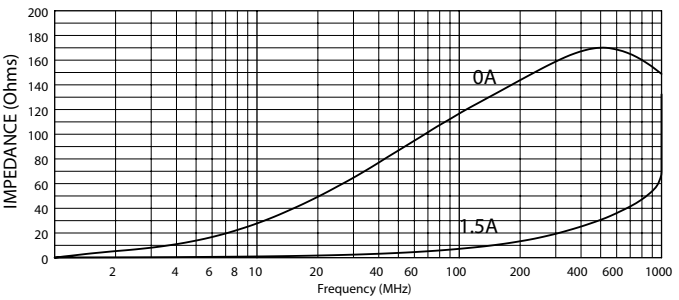


MHC 1005S121M

| Z |, R, AND X_L vs. FREQUENCY



Impedance Under DC Bias vs. FREQUENCY



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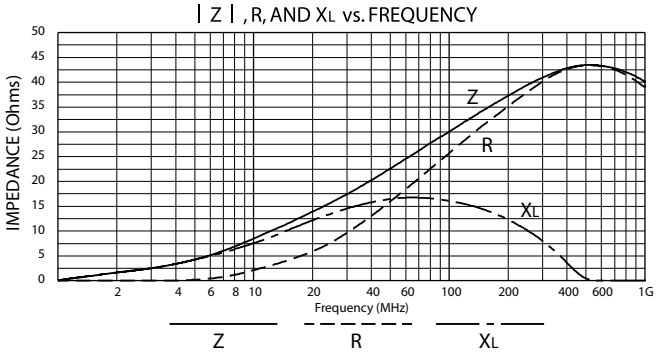

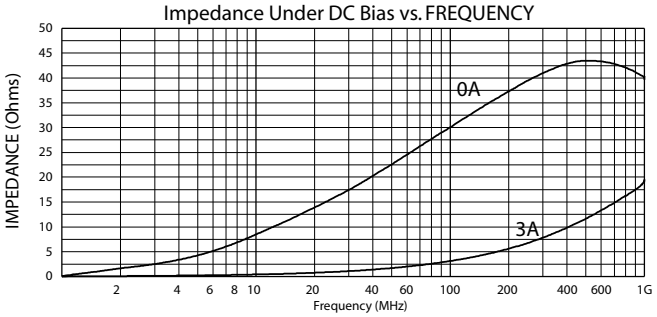

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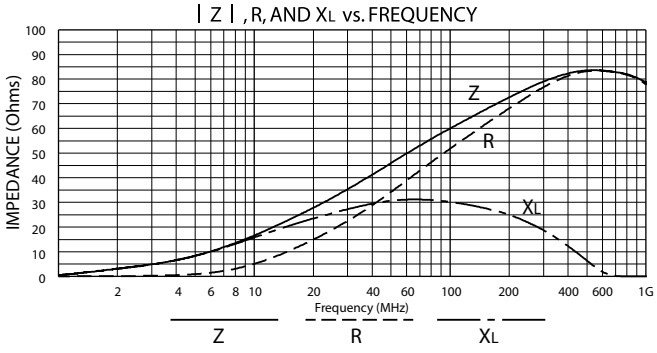

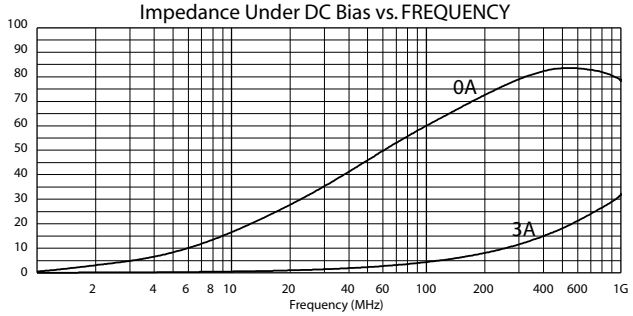

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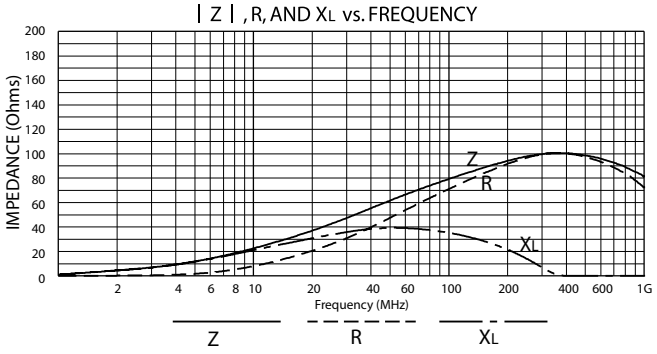

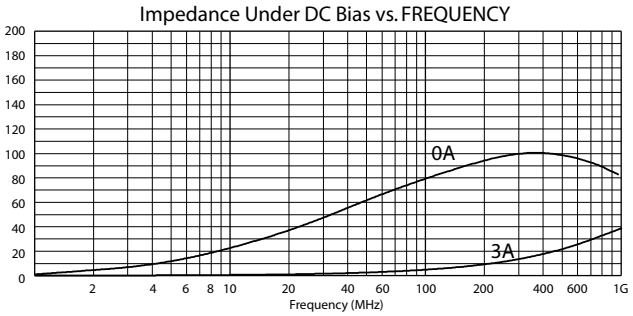

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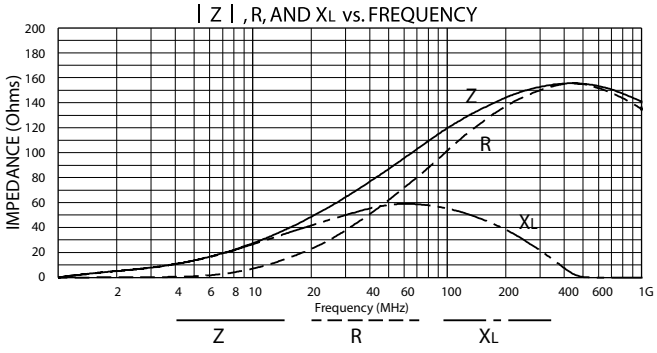

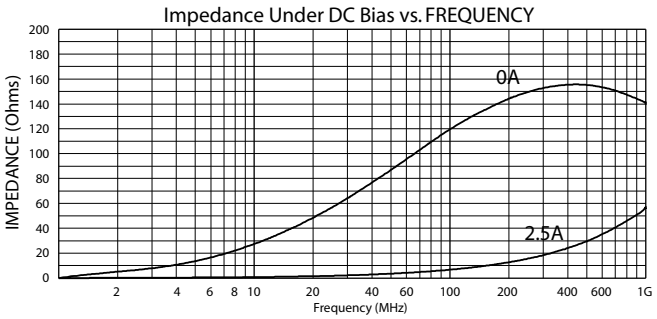

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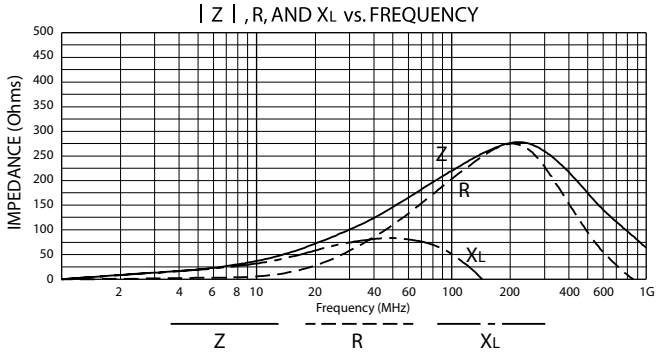

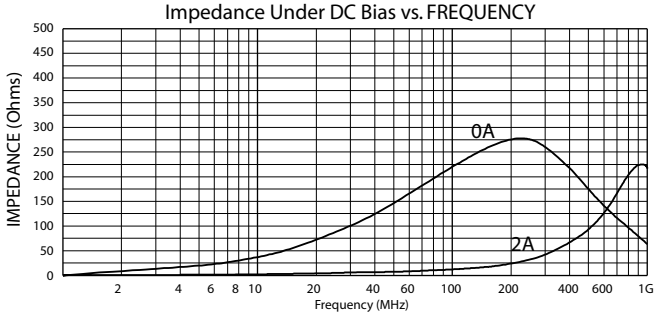

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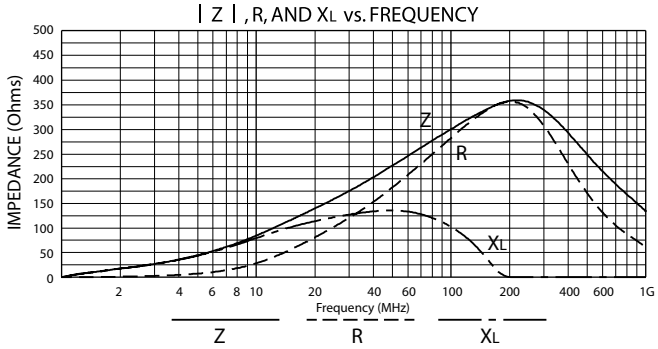

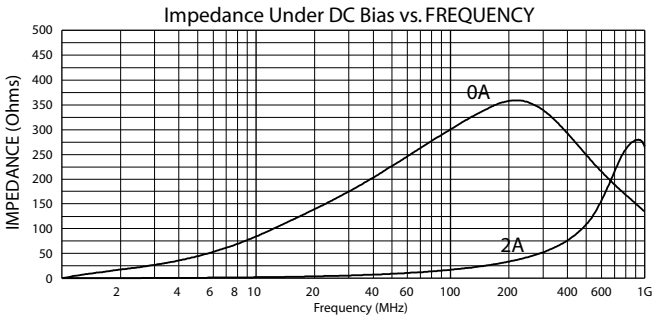

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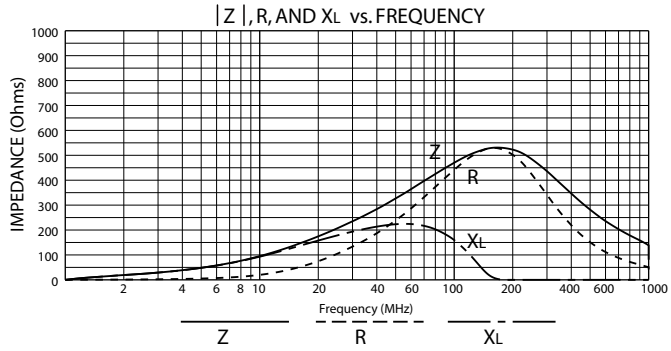

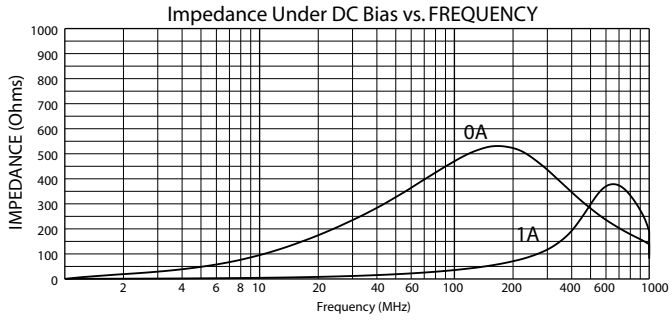

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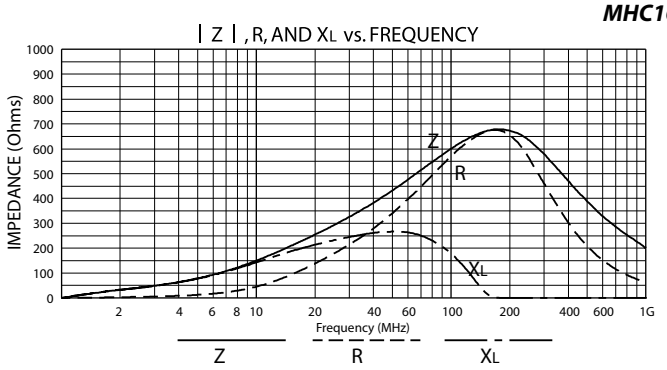

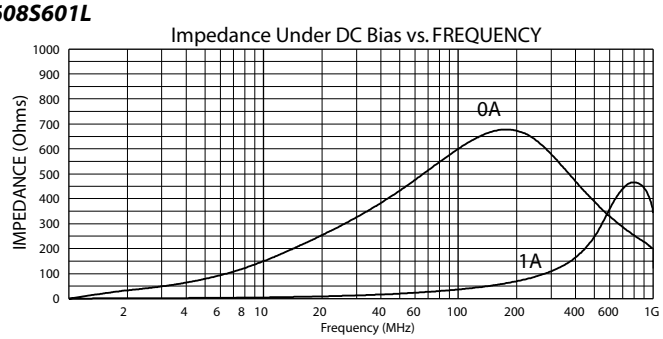

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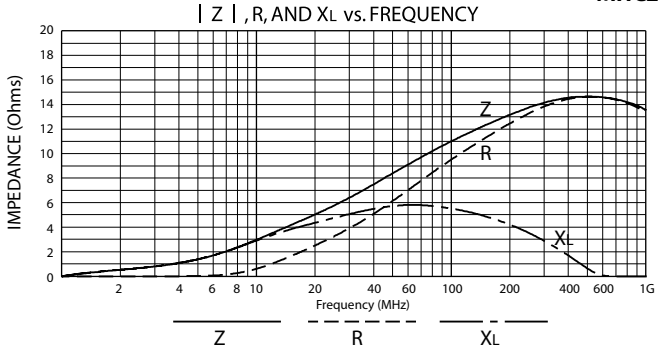

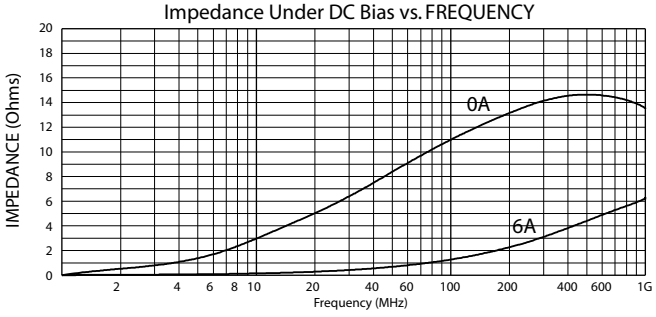

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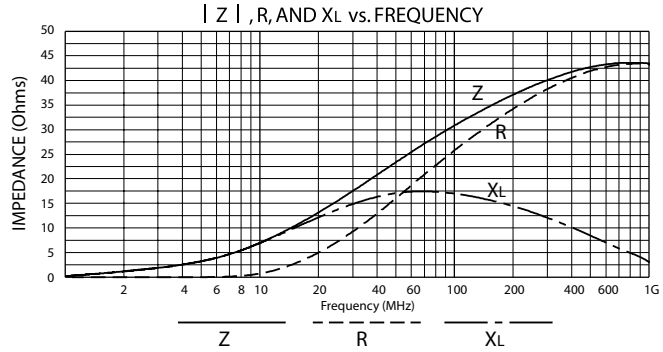

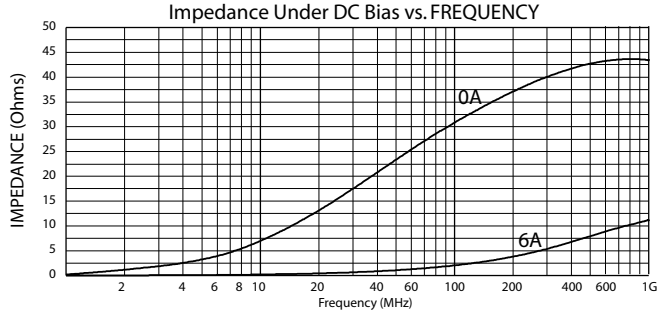

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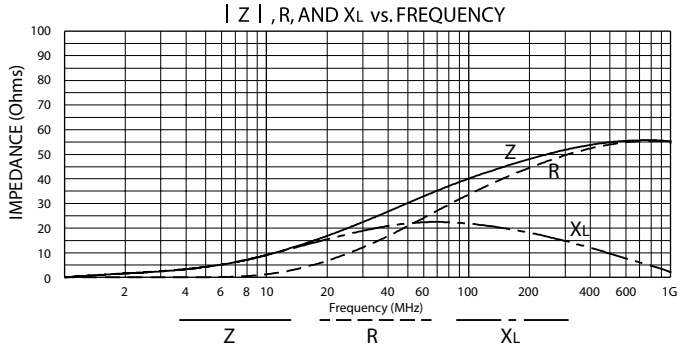

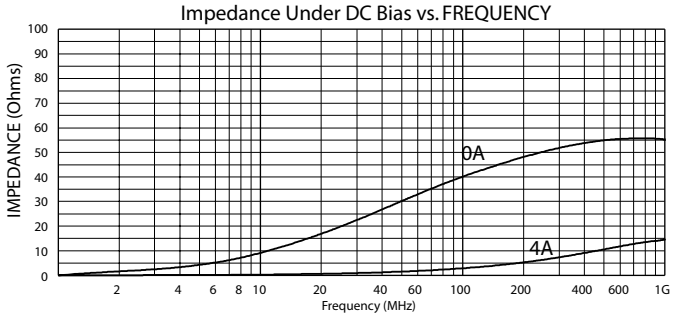

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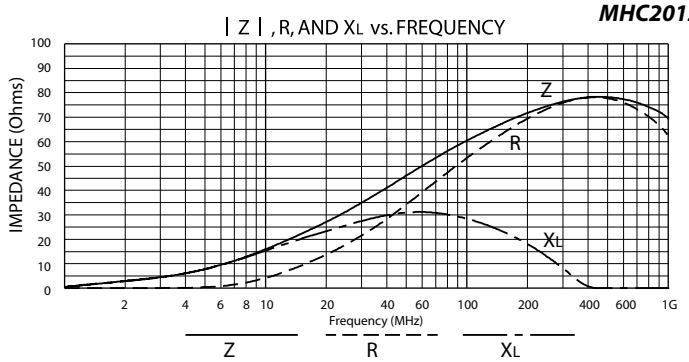

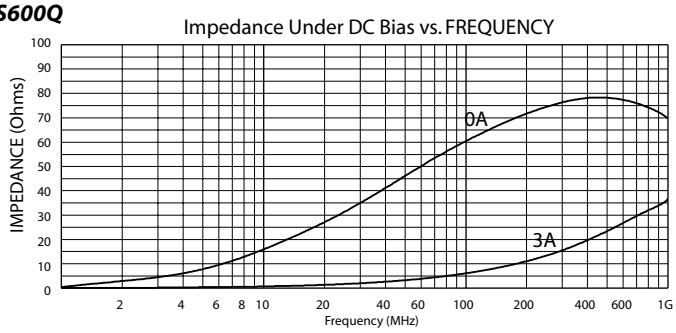

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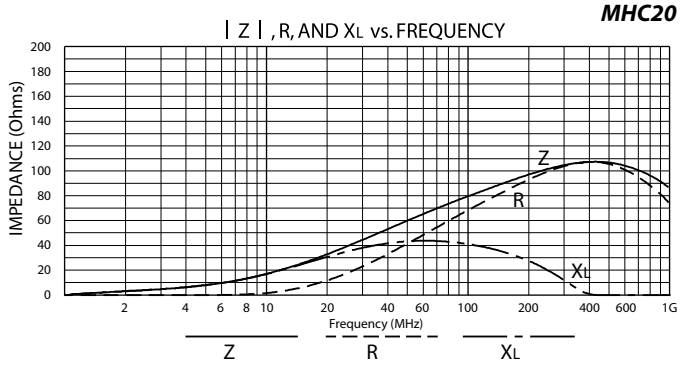
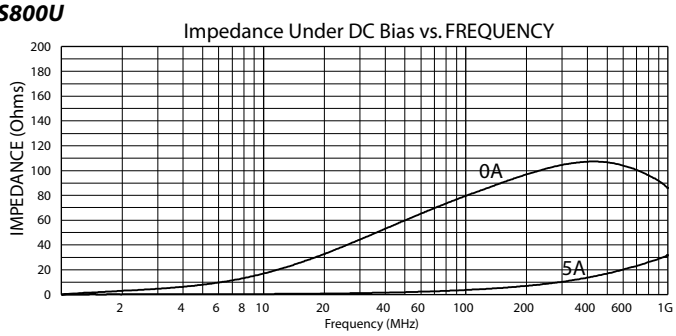
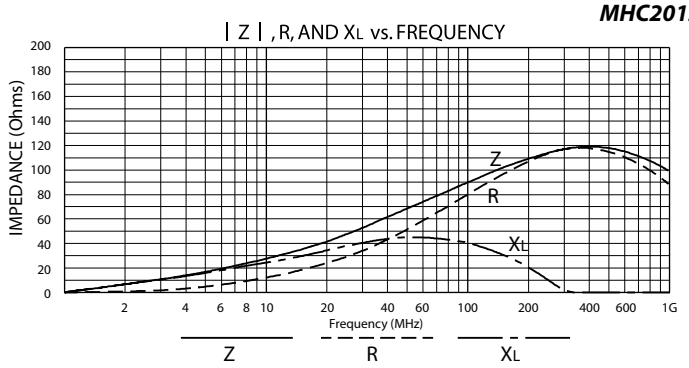
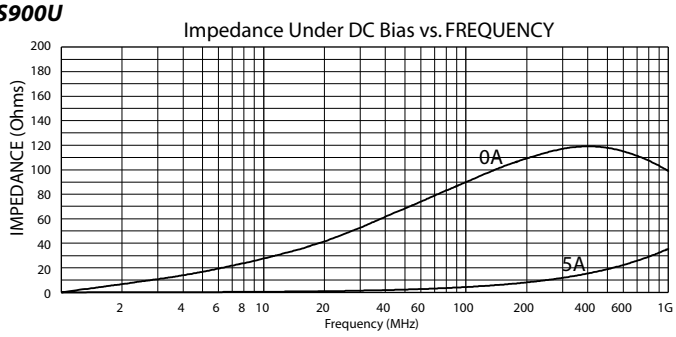


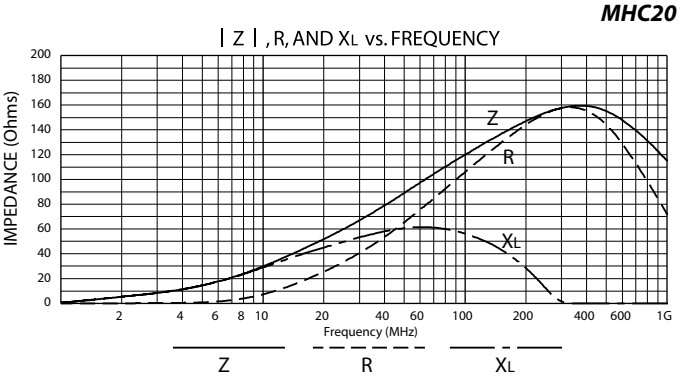


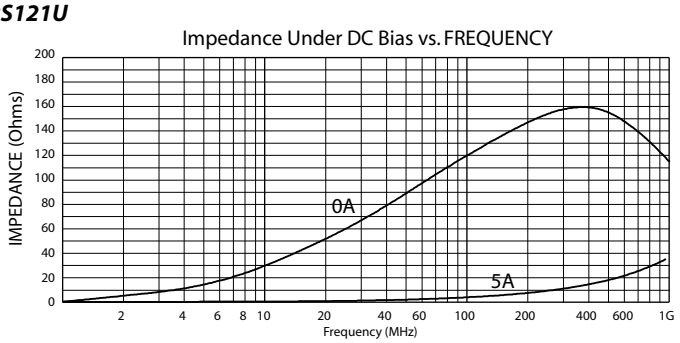
MHC2012S900U





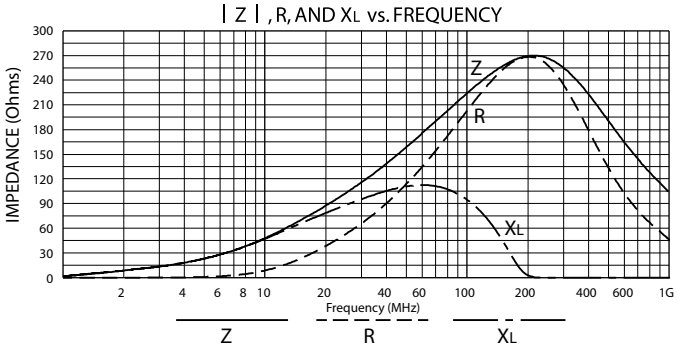
MHC2012S121U



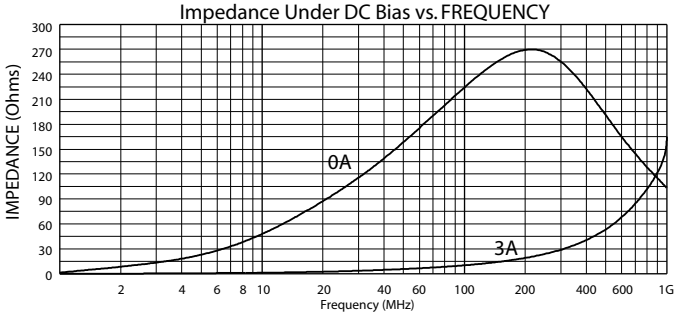


MHC2012S221Q

| Z |, R, AND X_L vs. FREQUENCY

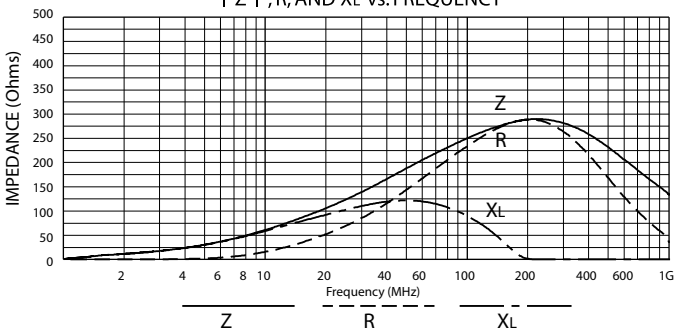


Impedance Under DC Bias vs. FREQUENCY

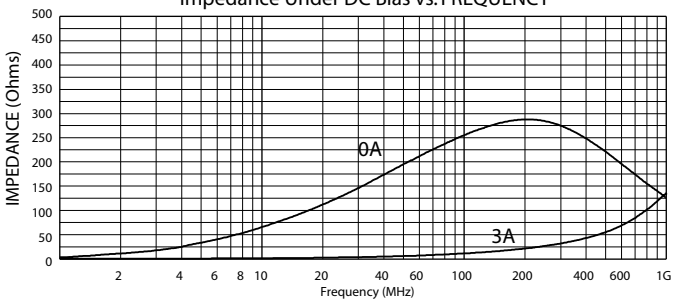


MHC2012S251Q

| Z |, R, AND X_L vs. FREQUENCY

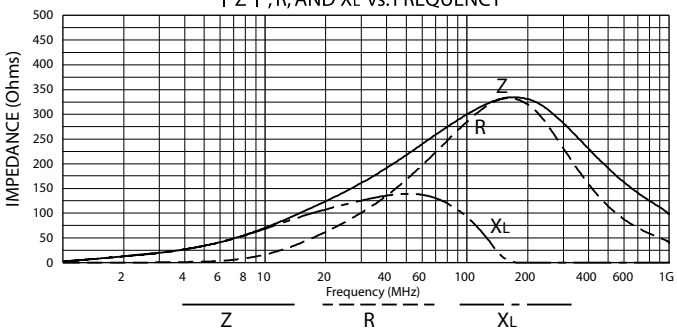


Impedance Under DC Bias vs. FREQUENCY

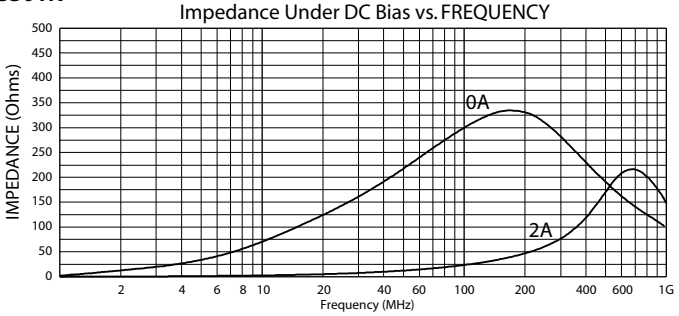


MHC 2012S301N

| Z |, R, AND X_L vs. FREQUENCY



Impedance Under DC Bias vs. FREQUENCY



MHC2012S331N

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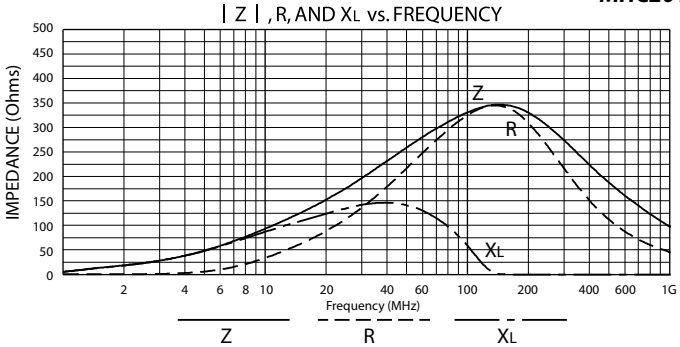
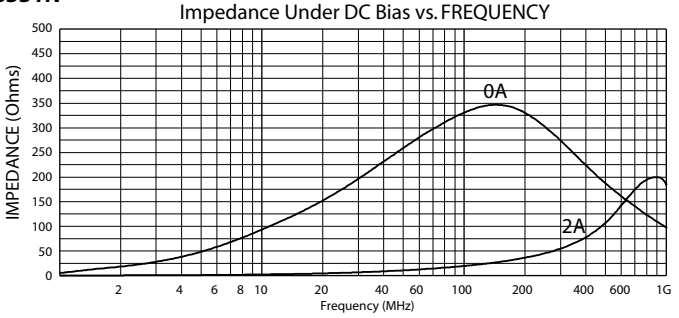


Impedance Under DC Bias vs. FREQUENCY



MHC2012S601N

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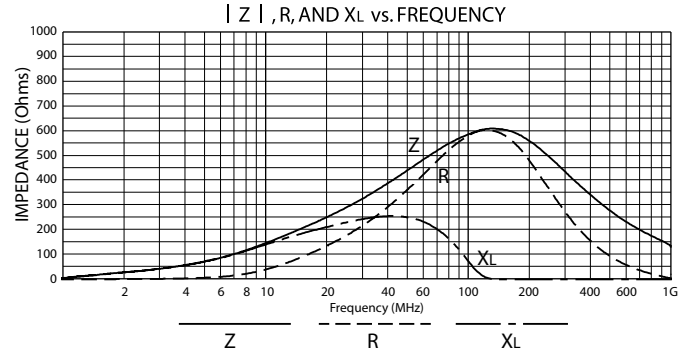
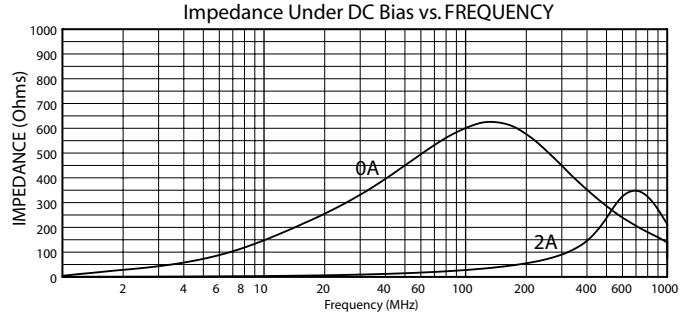
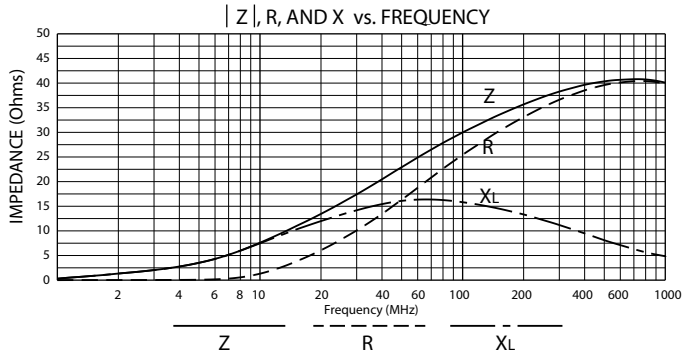


Impedance Under DC Bias vs. FREQUENCY

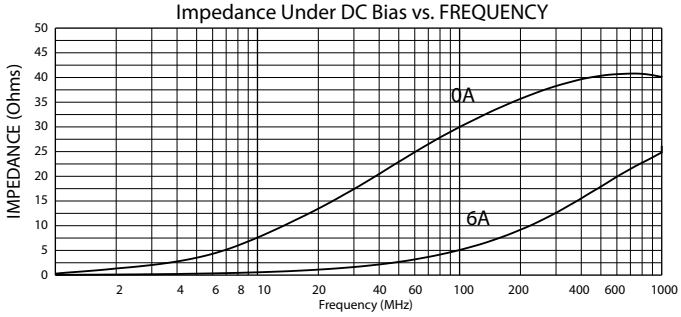


MHC3216S300W

| Z |, R, AND X vs. FREQUENCY

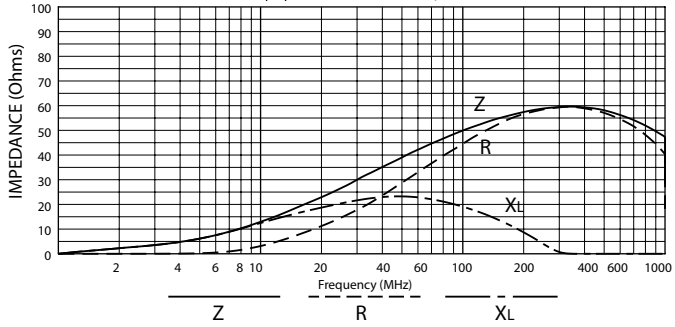


Impedance Under DC Bias vs. FREQUENCY

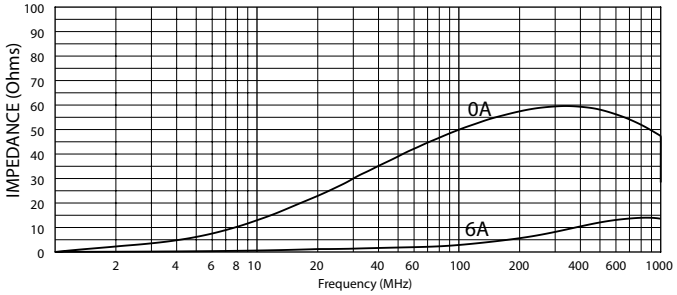


MHC3216S500W

| Z |, R, AND XL vs. FREQUENCY

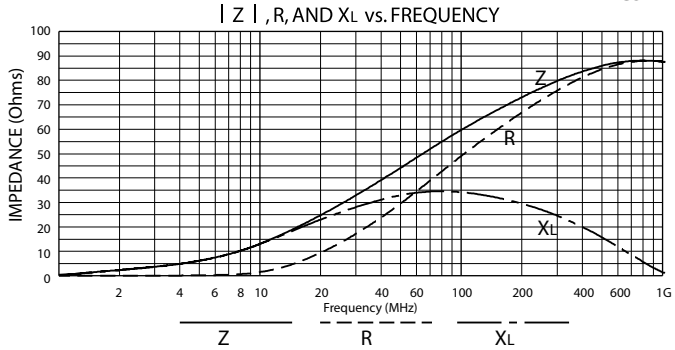


Impedance Under DC Bias vs. FREQUENCY



MHC3216S600QBE

| Z |, R, AND XL vs. FREQUENCY



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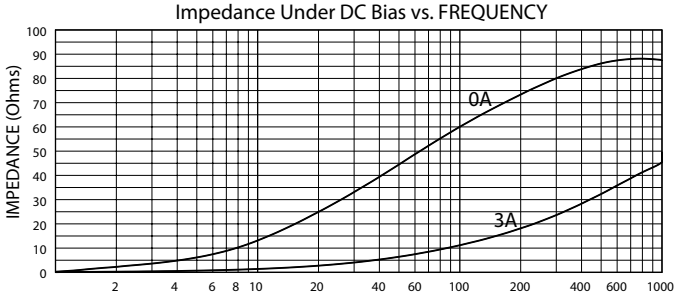

MHC3216S750Q

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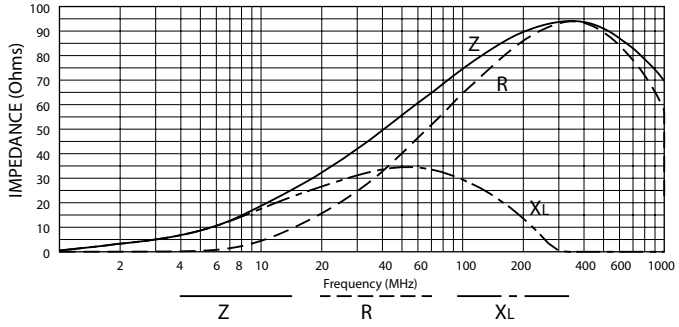

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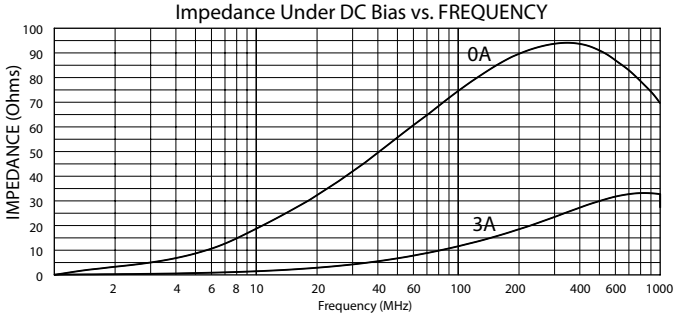

MHC3216S800R

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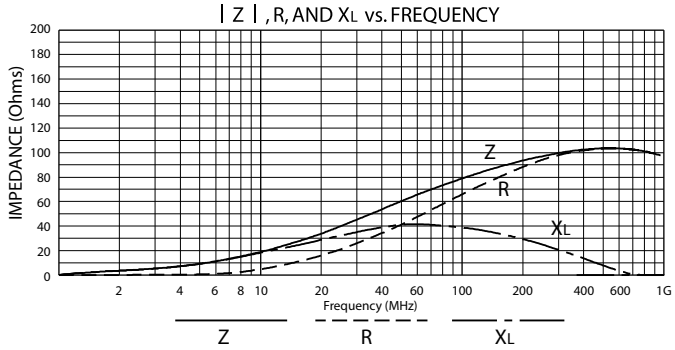

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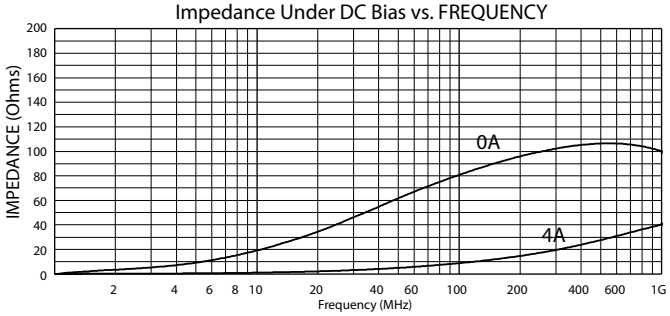
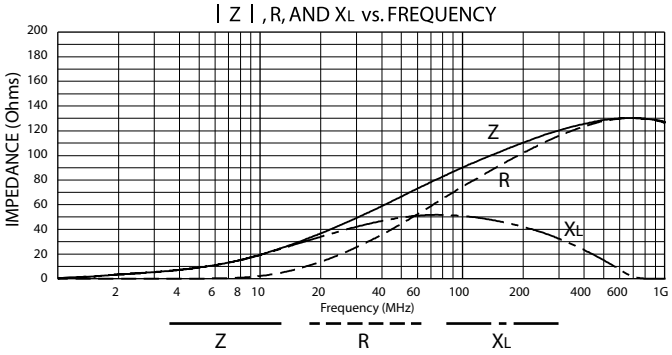


MHC3216S900Q

| Z |, R, AND X_L vs. FREQUENCY



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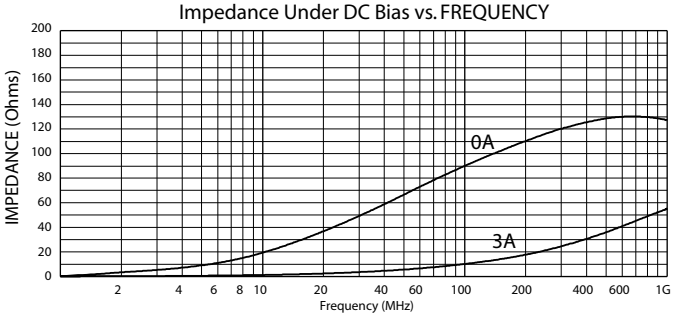
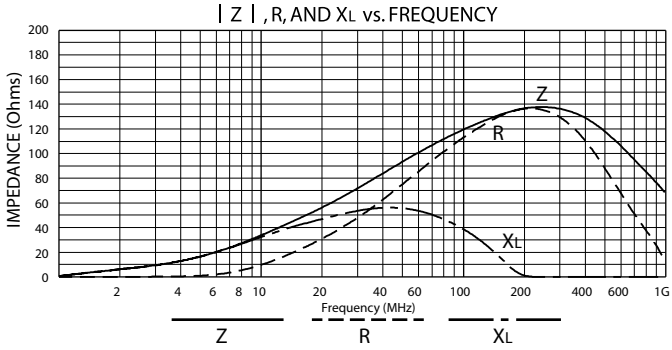


MHC3216S121W

| Z |, R, AND X_L vs. FREQUENCY



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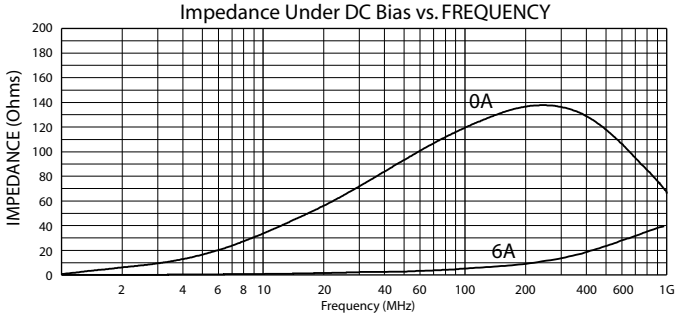
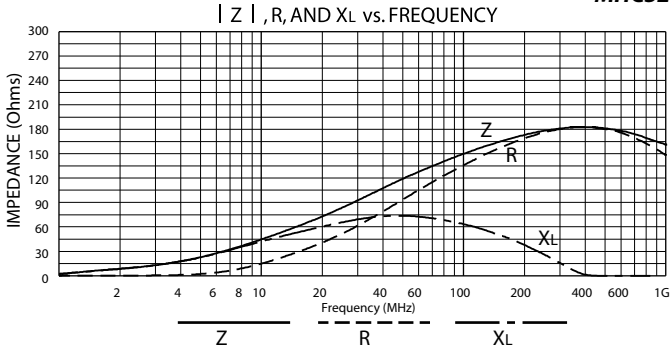
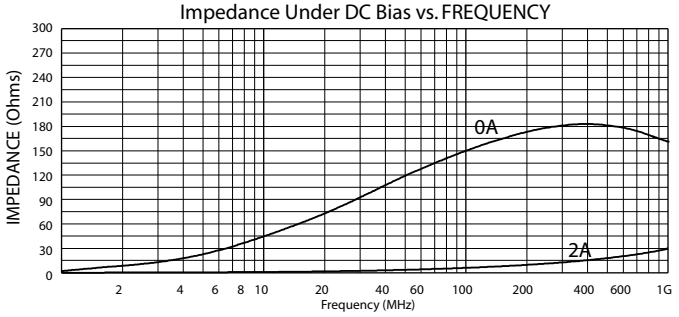


MHC3216S151N

| Z |, R, AND X_L vs. FREQUENCY

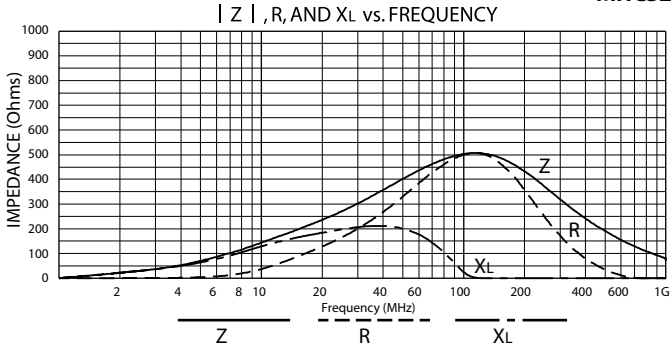


Impedance Under DC Bias vs. FREQUENCY

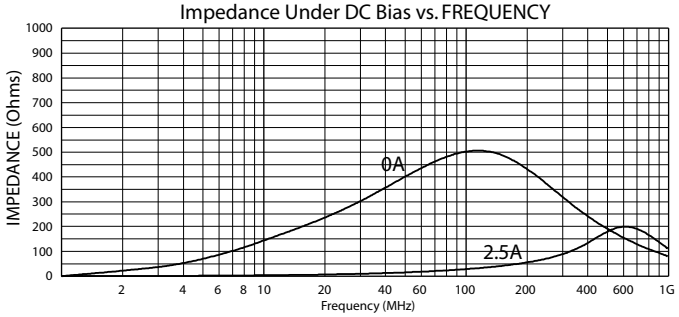


MHC3216S501P

| Z |, R, AND X_L vs. FREQUENCY

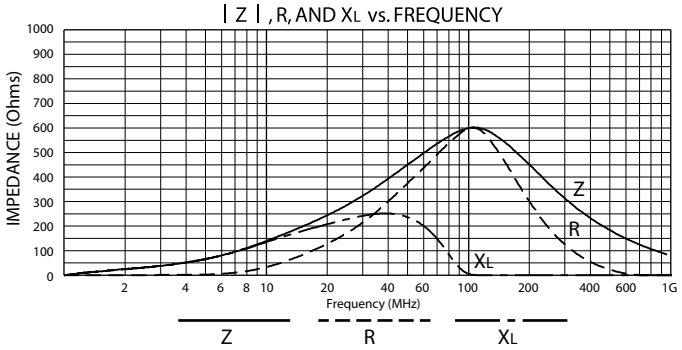


Impedance Under DC Bias vs. FREQUENCY

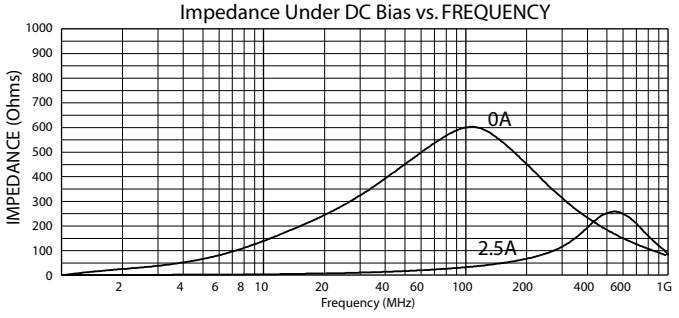


MHC3216S601P

| Z |, R, AND X_L vs. FREQUENCY

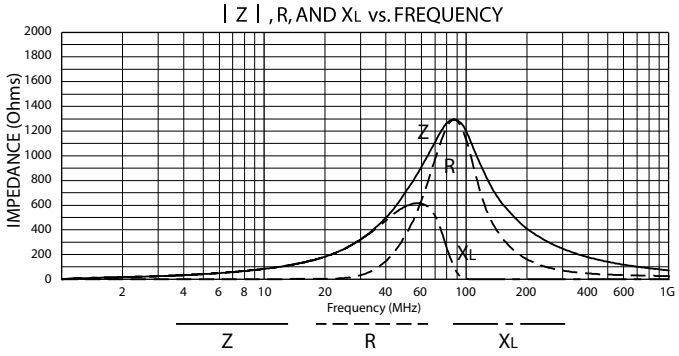


Impedance Under DC Bias vs. FREQUENCY

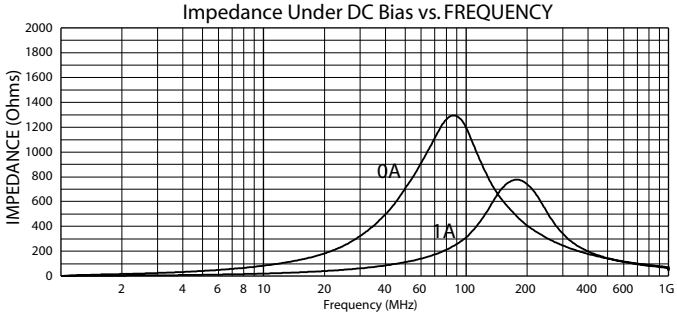


MHC3216S122L

| Z |, R, AND X_L vs. FREQUENCY

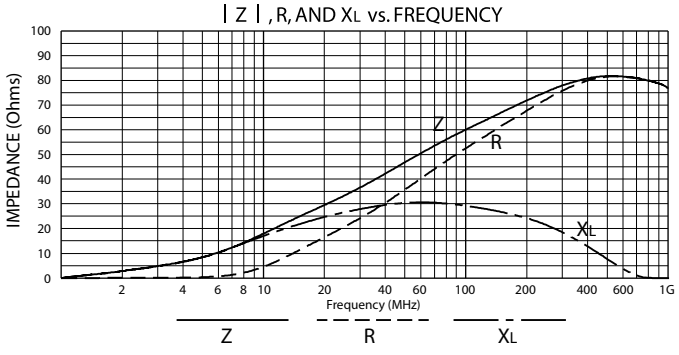


Impedance Under DC Bias vs. FREQUENCY

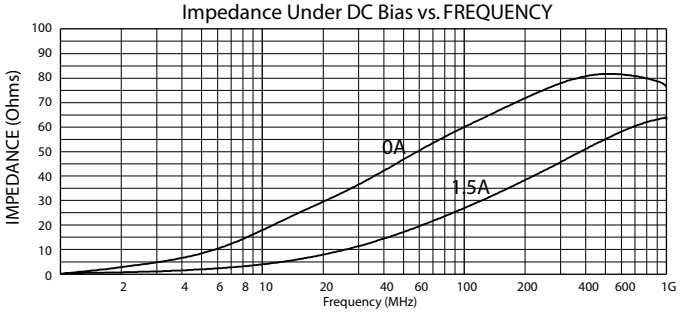


MHC3225S600M

| Z |, R, AND X_L vs. FREQUENCY

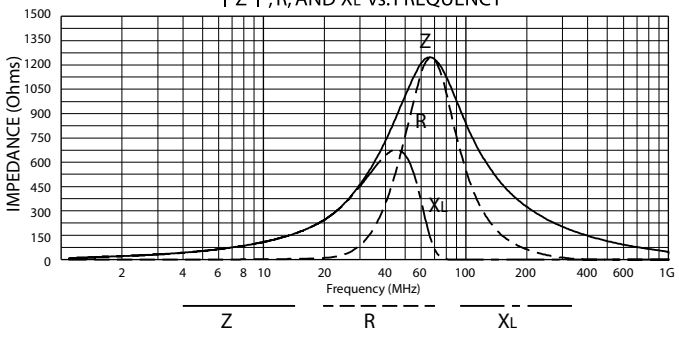


Impedance Under DC Bias vs. FREQUENCY

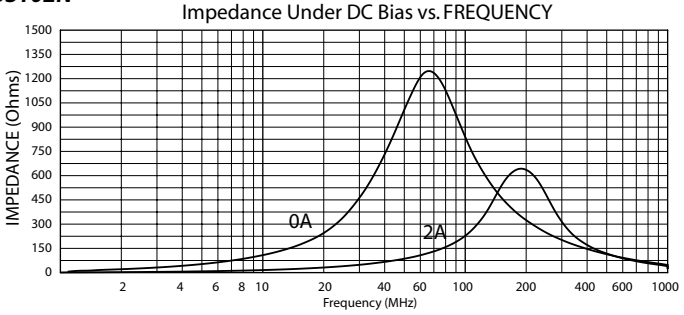


MHC3225S102N

| Z |, R, AND X_L vs. FREQUENCY

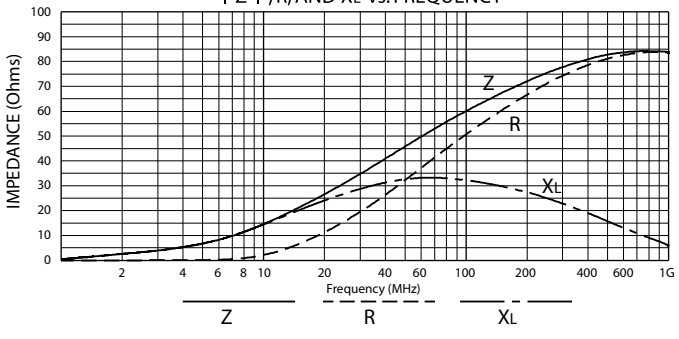


Impedance Under DC Bias vs. FREQUENCY

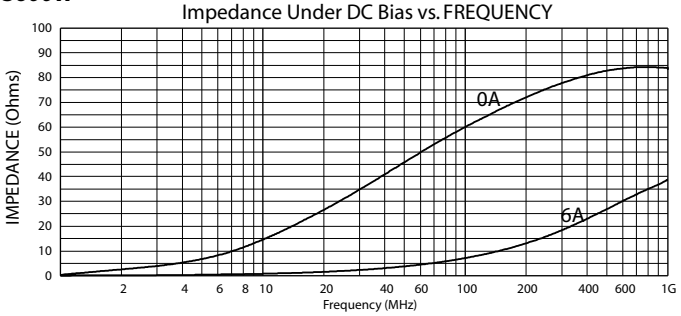


MHC4516S600W

| Z |, R, AND X_L vs. FREQUENCY

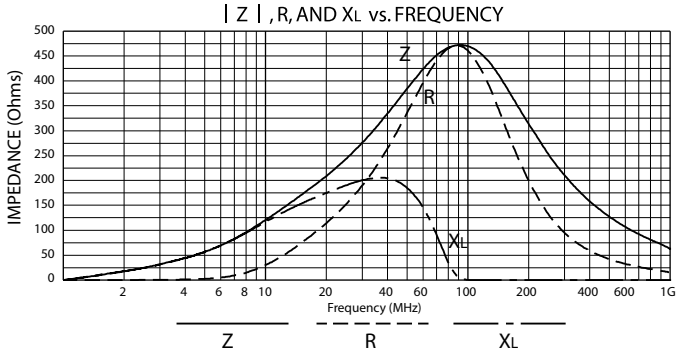


Impedance Under DC Bias vs. FREQUENCY

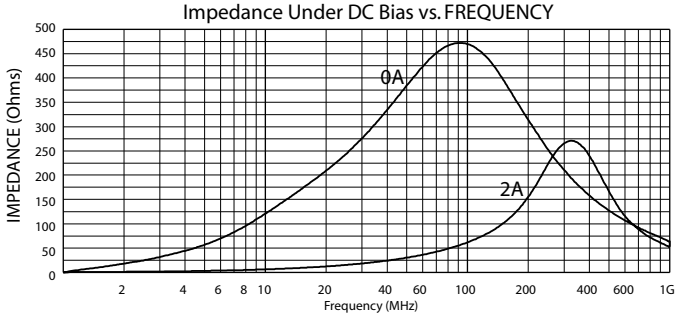


MHC4516S471N

| Z |, R, AND X_L vs. FREQUENCY

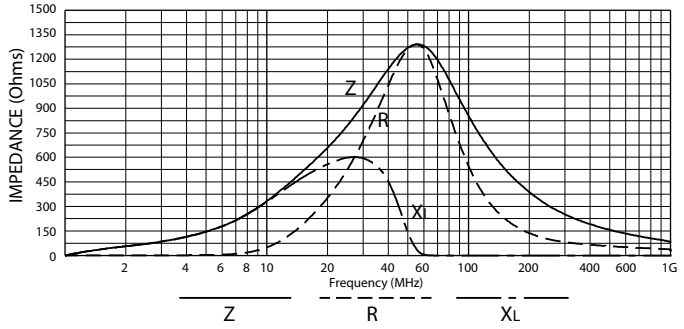


Impedance Under DC Bias vs. FREQUENCY

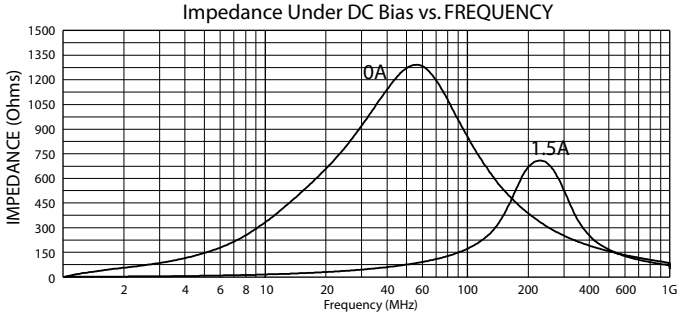


MHC4516S851M

| Z |, R, AND X_L vs. FREQUENCY

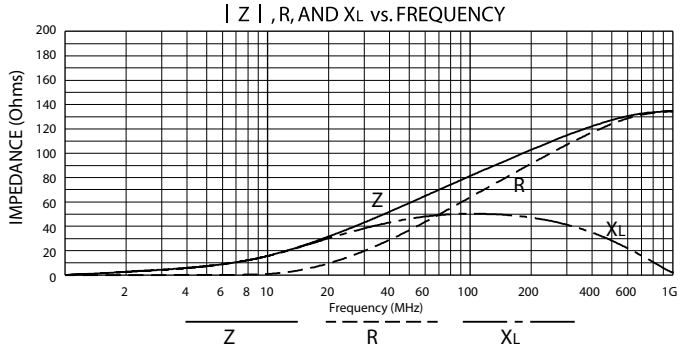


Impedance Under DC Bias vs. FREQUENCY

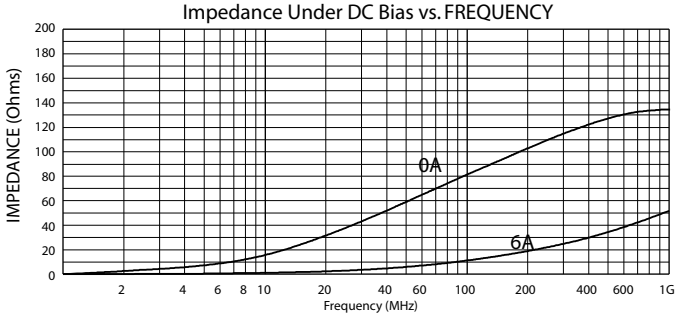


MHC4532S800W

| Z |, R, AND X_L vs. FREQUENCY

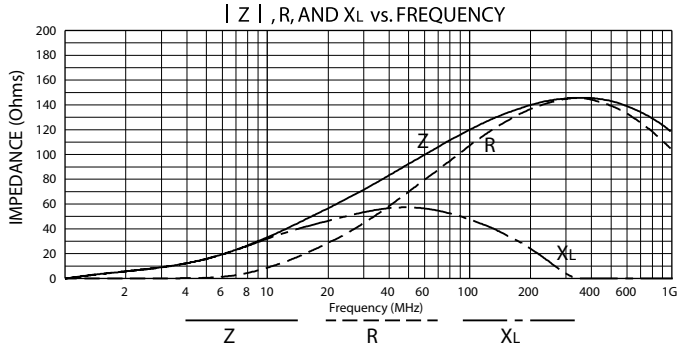


Impedance Under DC Bias vs. FREQUENCY

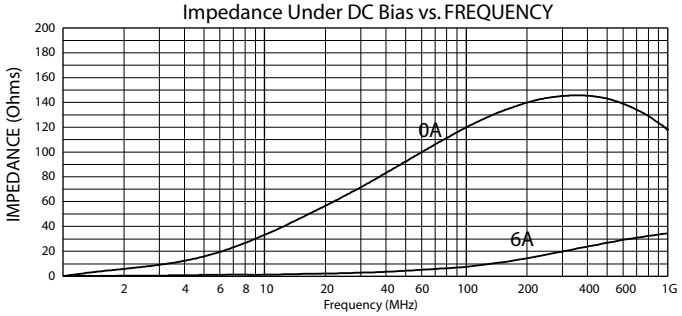


MHC4532S121W

| Z |, R, AND X_L vs. FREQUENCY

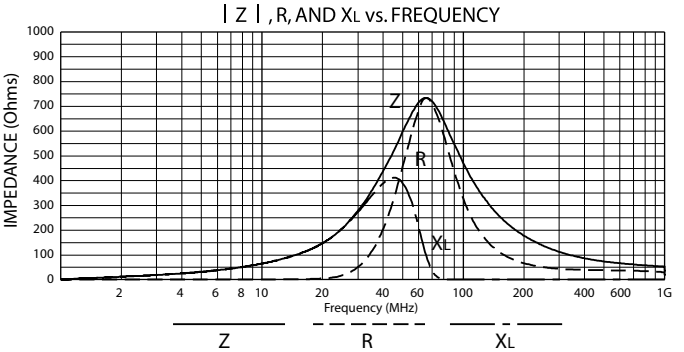


Impedance Under DC Bias vs. FREQUENCY

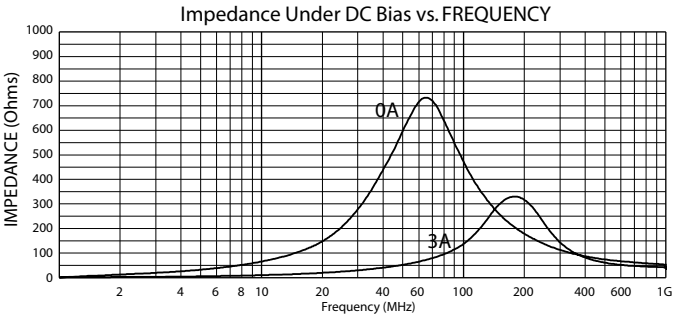


MHC4532S601Q

| Z |, R, AND X_L vs. FREQUENCY

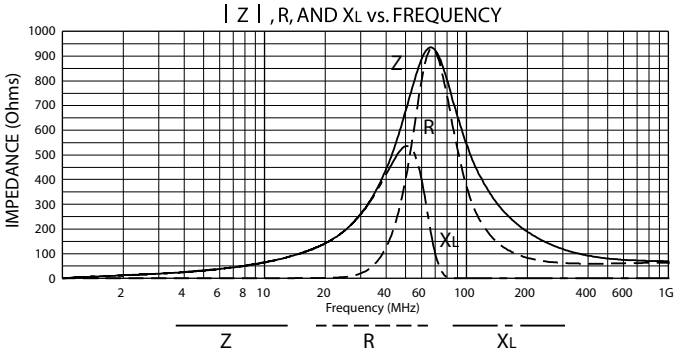


Impedance Under DC Bias vs. FREQUENCY

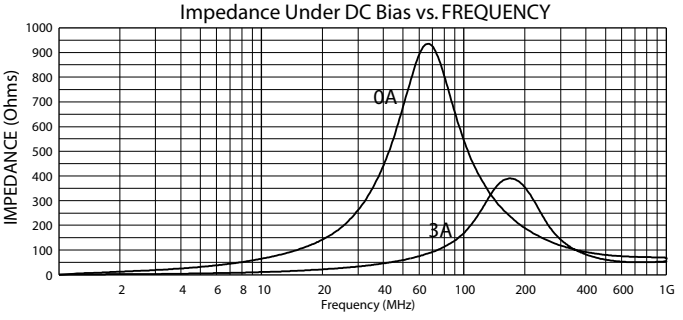


MHC4532S681Q

| Z |, R, AND X_L vs. FREQUENCY



Impedance Under DC Bias vs. FREQUENCY



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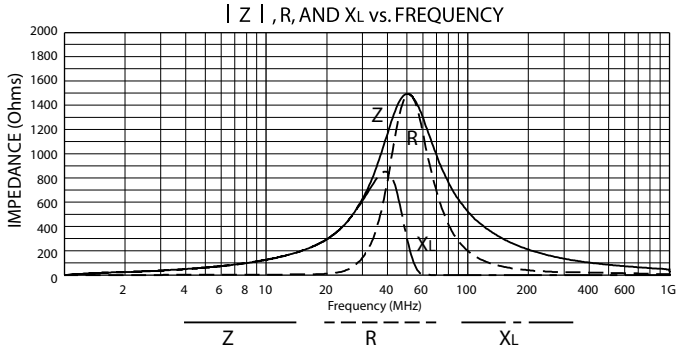

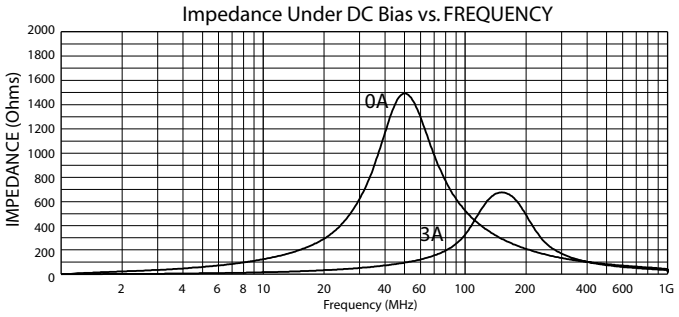

▶ *Package*

Size (EIA)	1005 (0402)	1608 (0603)	2012 (0805)	3216 (1206)	3225 (1210)	4516 (1806)	4532 (1812)
Standard packing Quantity (pcs/reel)	10,000	4,000	4,000	3,000	2,000	2,000	1,000

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Jan. 2012

EMI/EMC SOLUTION

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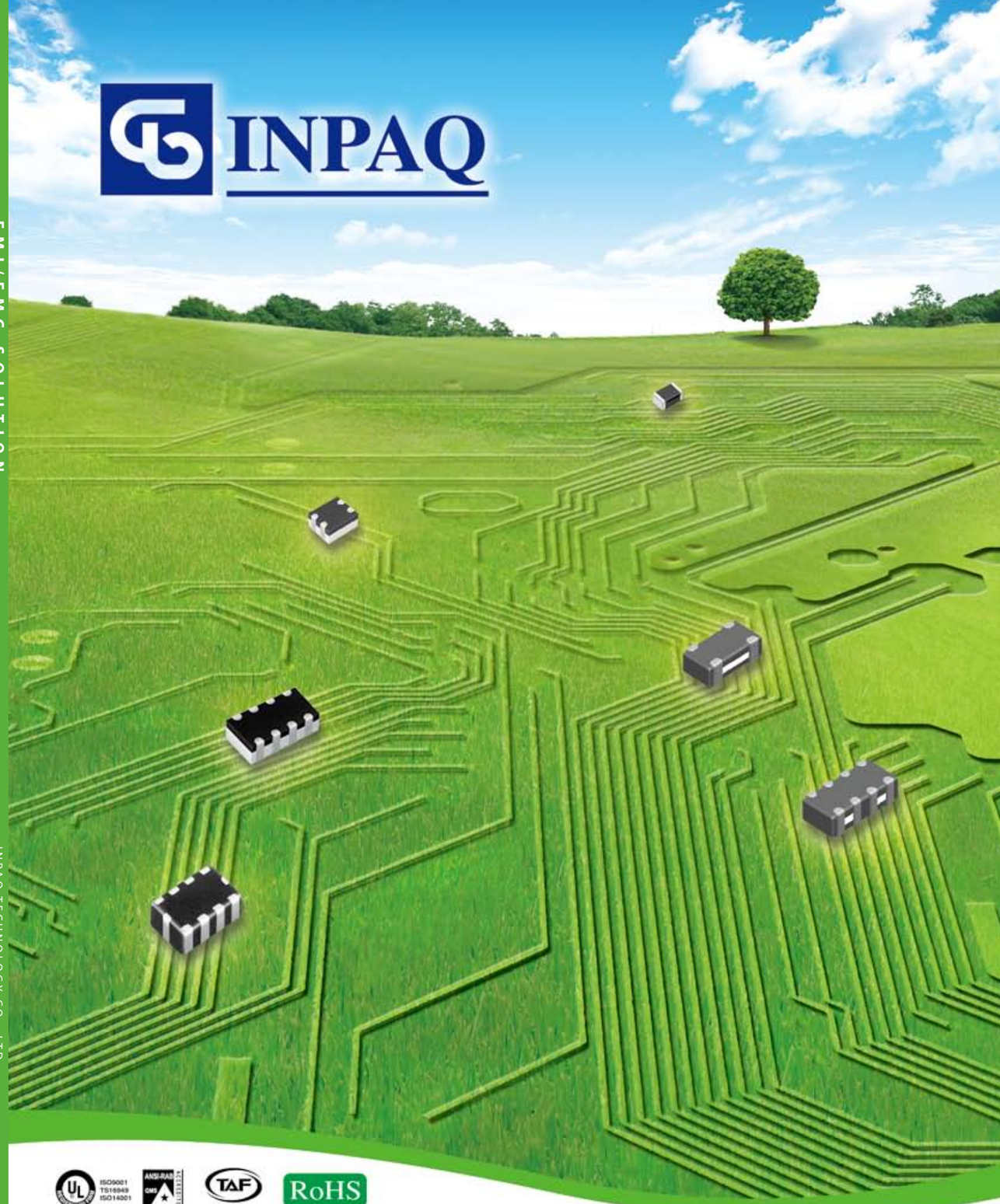

ISO9001 TS16949 ISO14001

RoHS

EMI/EMC Solution