

# High Frequency Chip Ceramic Inductor MCI Series



## ► Features

- Particular ceramic material and coil structure provide high frequency application range up to 10GHz.
- High Q at high frequency
- Small size and low profile.
- Available in various sizes.
- Excellent solderability and heat resistance.

## ► 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

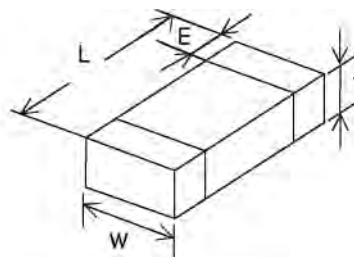
**MCI 1608 HQ 39N J H B —**  
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 8

- 1 Series type : MCI—High Frequency Chip Ceramic Inductor
- 2 Chip size(mm) : Length x Width
- 3 HQ — High Q Value
- 4 Inductance (nH): N means decimal point  
Ex.: 39nH → 39N
- 5 Tolerance : S=±0.3nH, J=±5% , K=±10%
- 6 Mark : H-1/8 Mark, M-1/4 Mark, N-No Mark
- 7 Soldering : Green Parts: A—Soldering Lead-Free, B—Lead-Free for whole chip
- 8 Packaging : P—Embossed paper tape, 7" reel  
E—Embossed plastic tape, 7" reel  
N—Embossed anti-static electricity tape, 7" reel  
T—Embossed anti-static electricity tape, 13" 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



# High Frequency Chip Ceramic Inductor–MCI Series

## Specifications

Series	Inductance (nH)	Q Min.	Test Freq (MHz)	Q(Typical) Frequency (MHz)						SRF (MHz)		DCR ( $\Omega$ )		Rated Current Max.(mA)
				100	300	500	800	1000	1800	Min.	Typ.	Max.	Typ.	
<b>1005 (EIA 0402)</b>														
MCI1005HQ1N0S_	1.0	8	100	10	16	21	26	30	36	10000	18000	0.12	-	300
MCI1005HQ1N2S_	1.2	8	100	10	18	23	26	31	44	10000	17000	0.12	-	300
MCI1005HQ1N5S_	1.5	8	100	11	20	25	30	35	51	6000	11000	0.13	-	300
MCI1005HQ1N8S_	1.8	8	100	11	20	25	30	35	48	6000	11000	0.14	-	300
MCI1005HQ2N2S_	2.2	8	100	10	18	23	28	32	45	6000	8700	0.16	-	300
MCI1005HQ2N7S_	2.7	8	100	10	17	21	25	30	40	6000	7800	0.17	-	300
MCI1005HQ3N3S_	3.3	8	100	10	17	22	27	31	41	6000	6400	0.19	-	300
MCI1005HQ3N9S_	3.9	8	100	10	16	19	24	26	35	4000	5800	0.22	-	300
MCI1005HQ4N7S_	4.7	8	100	10	15	19	23	26	35	4000	5100	0.24	-	300
MCI1005HQ5N6S_	5.6	8	100	10	15	20	25	26	35	4000	4700	0.27	-	300
MCI1005HQ6N8J_	6.8	8	100	10	15	19	23	26	35	3900	4200	0.32	-	250
MCI1005HQ8N2J_	8.2	8	100	10	18	22	26	29	35	3600	3800	0.37	-	250
MCI1005HQ10NJ_	10	8	100	10	15	18	21	23	25	3200	3200	0.42	-	250
MCI1005HQ12NJ_	12	8	100	10	15	18	22	23	24	2700	2900	0.50	-	250
MCI1005HQ15NJ_	15	8	100	10	15	19	22	24	23	2300	2500	0.55	-	250
MCI1005HQ18NJ_	18	8	100	10	16	20	24	25	23	2100	2400	0.65	-	200
MCI1005HQ22NJ_	22	8	100	10	18	22	25	26	18	1900	2200	0.80	-	200
MCI1005HQ27NJ_	27	8	100	10	18	22	25	25	16	1600	2000	0.90	-	200
MCI1005HQ33NJ_	33	8	100	10	16	19	21	20	-	1300	1800	1.00	-	200
MCI1005HQ39NJ_	39	8	100	10	18	21	23	20	-	1200	1600	1.20	-	150
MCI1005HQ47NJ_	47	8	100	10	16	18	18	15	-	1000	1500	1.30	-	150
MCI1005HQ56NJ_	56	8	100	11	18	21	17	14	-	750	1300	1.40	-	150
MCI1005HQ68NJ_	68	8	100	11	16	18	17	12	-	750	1250	1.80	-	150
MCI1005HQ82NJ_	82	8	100	11	17	19	15	8	-	600	1100	2.20	-	100
MCI1005HQR10J_	100	8	100	11	16	17	10	2	-	600	1000	2.60	-	100
<b>1608 (EIA 0603)</b>														
MCI1608HQ1N0S_	1.0	8	100	15	30	43	54	63	55	10000	15000	0.05	0.015	300
MCI1608HQ1N2S_	1.2	8	100	14	26	38	48	55	55	10000	14000	0.05	0.015	300
MCI1608HQ1N5S_	1.5	8	100	11	21	28	35	40	55	6000	13000	0.10	0.03	300
MCI1608HQ1N8S_	1.8	8	100	10	18	24	31	35	55	6000	11000	0.10	0.06	300
MCI1608HQ2N2S_	2.2	8	100	14	26	35	44	40	55	6000	10000	0.10	0.06	300
MCI1608HQ2N7S_	2.7	10	100	12	22	29	37	45	55	6000	7000	0.10	0.06	300
MCI1608HQ3N3S_	3.3	10	100	16	30	40	51	47	55	4000	5900	0.12	0.06	300
MCI1608HQ3N9S_	3.9	10	100	11	20	25	31	35	51	3500	4500	0.14	0.07	300
MCI1608HQ4N7S_	4.7	10	100	11	20	26	33	35	55	3500	4500	0.16	0.08	300
MCI1608HQ5N6S_	5.6	10	100	15	27	36	44	46	64	3500	4000	0.18	0.09	300
MCI1608HQ6N8J_	6.8	10	100	15	29	38	44	47	65	3000	3600	0.22	0.11	300
MCI1608HQ8N2J_	8.2	10	100	13	24	31	37	41	45	3000	3500	0.24	0.13	300
MCI1608HQ10NJ_	10	12	100	15	27	34	40	47	40	2800	3000	0.26	0.16	300
MCI1608HQ12NJ_	12	12	100	12	21	27	30	49	24	2000	2500	0.28	0.17	300
MCI1608HQ15NJ_	15	12	100	15	23	30	34	36	22	2000	2200	0.32	0.20	300
MCI1608HQ18NJ_	18	12	100	15	22	28	31	31	11	1800	2000	0.35	0.21	300
MCI1608HQ22NJ_	22	12	100	17	28	34	37	36	-	1800	1900	0.40	0.25	300
MCI1608HQ27NJ_	27	12	100	15	25	31	32	30	-	1500	1700	0.45	0.28	300
MCI1608HQ33NJ_	33	12	100	15	24	28	28	24	-	1200	1500	0.55	0.35	300

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				100	300	500	800	1000	1800	Min.	Typ.	Max.	Typ.	
<b>1608 (EIA 0603)</b>														
MCI1608HQ39NJ_	39	12	100	14	26	31	28	23	-	1100	1300	0.60	0.38	300
MCI1608HQ47NJ_	47	12	100	17	27	31	28	24	-	900	1300	0.70	0.45	300
MCI1608HQ56NJ_	56	12	100	19	30	34	26	16	-	900	1200	0.75	0.50	300
MCI1608HQ68NJ_	68	12	100	17	27	30	20	7	-	700	1000	0.85	0.55	300
MCI1608HQ82NJ_	82	12	100	16	26	29	18	-	-	600	1000	0.95	0.60	300
MCI1608HQR10J_	100	12	100	18	26	24	3	-	-	600	800	1.00	0.65	300
MCI1608HQR12J_	120	8	50	17	24	21	-	-	-	500	800	1.20	0.68	300
MCI1608HQR15J_	150	8	50	19	25	20	-	-	-	500	700	1.20	0.73	300
MCI1608HQR18J_	180	8	50	18	22	13	-	-	-	400	600	1.30	0.85	300
MCI1608HQR22J_	220	8	50	18	21	-	-	-	-	400	500	1.50	0.95	300
<b>2012 (EIA 0805)</b>														
MCI2012HQ1N5S_	1.5	10	100	16	32	43	55	67	93	4000	7000	0.10	0.02	300
MCI2012HQ1N8S_	1.8	10	100	16	40	56	55	59	90	4000	7000	0.10	0.02	300
MCI2012HQ2N2S_	2.2	10	100	16	29	40	51	58	84	4000	7000	0.10	0.03	300
MCI2012HQ2N7S_	2.7	12	100	16	32	43	55	60	83	4000	6500	0.10	0.03	300
MCI2012HQ3N3S_	3.3	12	100	19	39	52	65	70	96	4000	5500	0.13	0.04	300
MCI2012HQ3N9S_	3.9	12	100	19	39	52	65	75	91	3000	4400	0.15	0.05	300
MCI2012HQ4N7S_	4.7	12	100	19	40	53	65	70	76	3000	3500	0.20	0.05	300
MCI2012HQ5N6S_	5.6	15	100	19	40	53	62	70	66	3000	3500	0.23	0.05	300
MCI2012HQ6N8J_	6.8	15	100	19	35	44	55	60	61	2500	3300	0.25	0.06	300
MCI2012HQ8N2J_	8.2	15	100	19	35	45	53	60	41	2000	2600	0.28	0.07	300
MCI2012HQ10NJ_	10	15	100	20	41	53	60	60	36	2000	2300	0.30	0.09	300
MCI2012HQ12NJ_	12	15	100	20	28	36	40	45	15	1500	2000	0.35	0.10	300
MCI2012HQ15NJ_	15	15	100	20	37	46	48	45	9	1500	1800	0.40	0.11	300
MCI2012HQ18NJ_	18	15	100	20	42	52	54	45	2	1300	1700	0.45	0.13	300
MCI2012HQ22NJ_	22	18	100	20	33	40	38	31	-	1200	1400	0.50	0.16	300
MCI2012HQ27NJ_	27	18	100	20	37	44	38	29	-	1000	1300	0.55	0.17	300
MCI2012HQ33NJ_	33	18	100	20	32	36	28	15	-	1000	1200	0.60	0.19	300
MCI2012HQ39NJ_	39	18	100	20	32	36	21	12	-	800	1100	0.65	0.25	300
MCI2012HQ47NJ_	47	18	100	21	31	33	17	12	-	800	1000	0.70	0.26	300
MCI2012HQ56NJ_	56	18	100	21	31	31	12	9	-	700	900	0.75	0.28	300
MCI2012HQ68NJ_	68	18	100	21	31	30	9	-	-	600	800	0.80	0.33	300
MCI2012HQ82NJ_	82	18	100	22	31	26	4	-	-	500	700	0.90	0.37	300
MCI2012HQR10J_	100	18	100	22	30	22	16	-	-	500	700	0.90	0.40	300
MCI2012HQR12J_	120	13	50	22	27	17	20	-	-	400	600	0.95	0.43	300
MCI2012HQR15J_	150	13	50	22	27	9	-	-	-	300	600	1.00	0.46	300
MCI2012HQR18J_	180	13	50	21	21	8	-	-	-	300	500	1.10	0.50	300
MCI2012HQR22J_	220	12	50	20	20	4	-	-	-	300	500	1.20	0.75	300
MCI2012HQR27J_	270	12	50	24	17	17	-	-	-	200	400	1.30	0.85	300
MCI2012HQR33J_	330	12	50	24	10	-	-	-	-	200	380	1.05	0.90	300

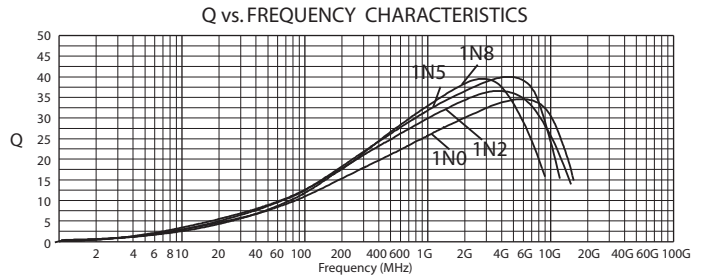
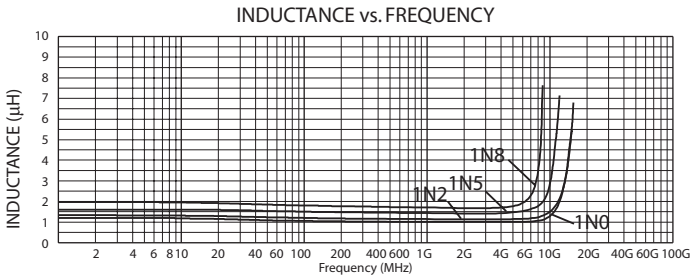
## General Technical Data

Operating temperature range	-55°C ~ +125°C
Storage condition	-40°C ~ +85°C, 70% RH Max
Soldering method	Reflow or Wave Soldering

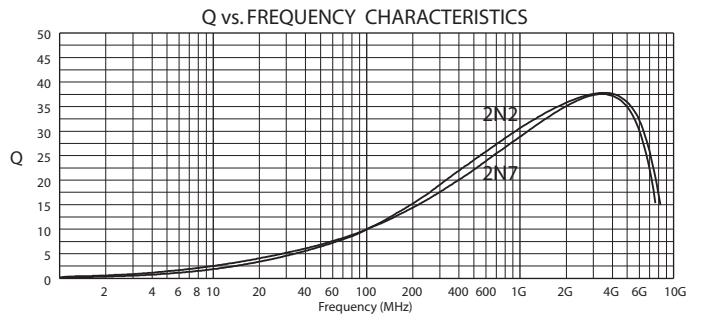
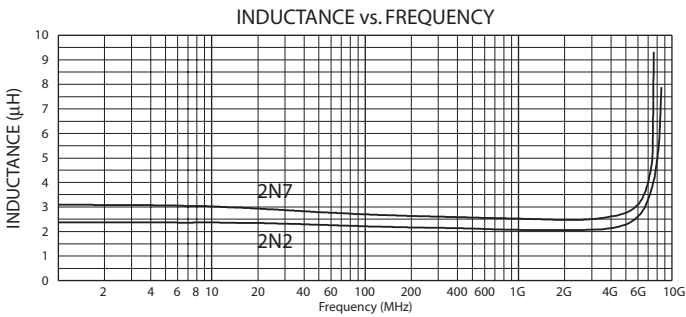
# High Frequency Chip Ceramic Inductor-MCI Series

## Characteristics

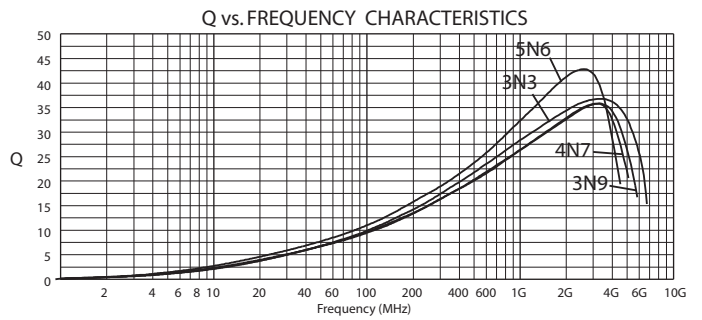
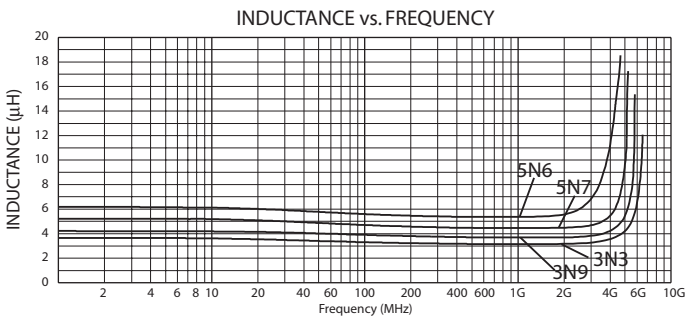
**MCI1005HQ 1N0, 1N2, 1N5 & 1N8**



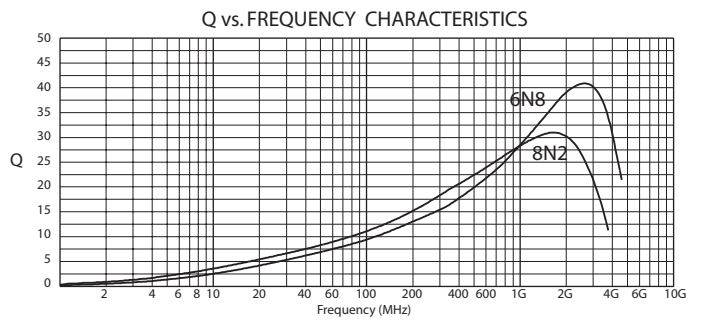
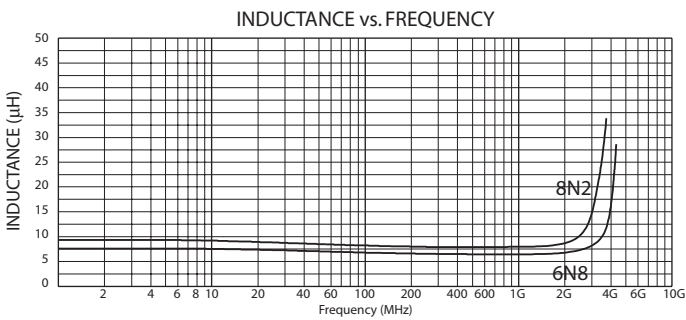
**MCI1005HQ 2N2 & 2N7**



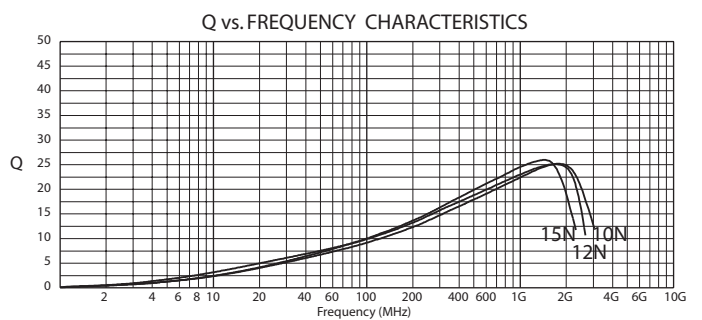
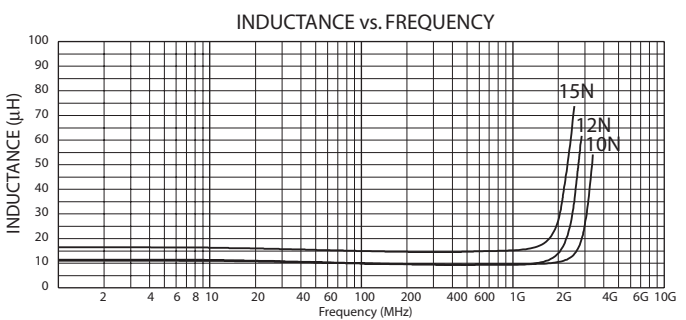
**MCI1005HQ 3N3, 3N9, 4N7 & 5N6**



**MCI1005HQ 6N8 & 8N2**



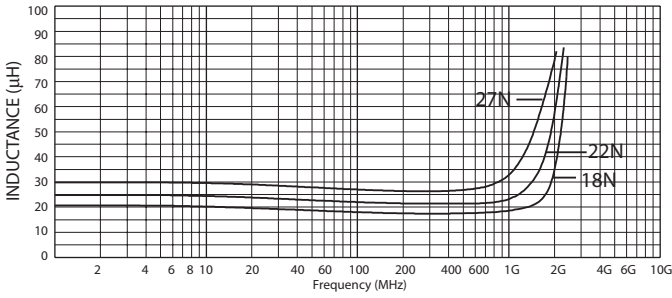
**MCI1005HQ 10N, 12N & 15N**



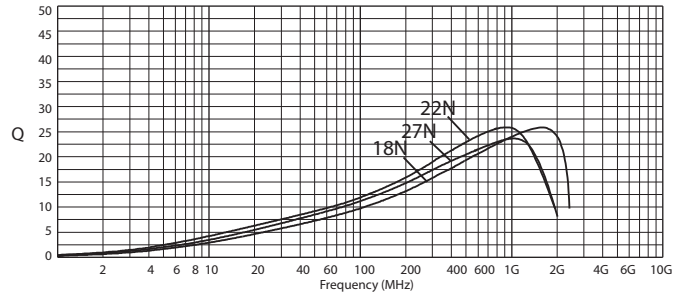
# High Frequency Chip Ceramic Inductor—MCI Series

## MCI1005HQ 18N, 22N & 27N

INDUCTANCE vs. FREQUENCY

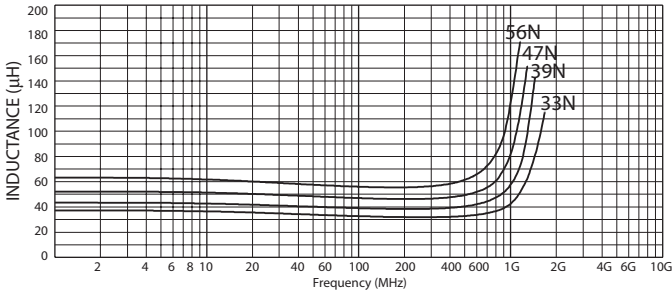


Q vs. FREQUENCY CHARACTERISTICS

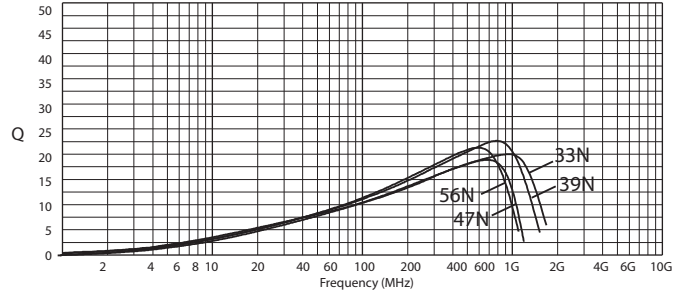


## MCI1005HQ 33N, 39N, 47N & 56N

INDUCTANCE vs. FREQUENCY

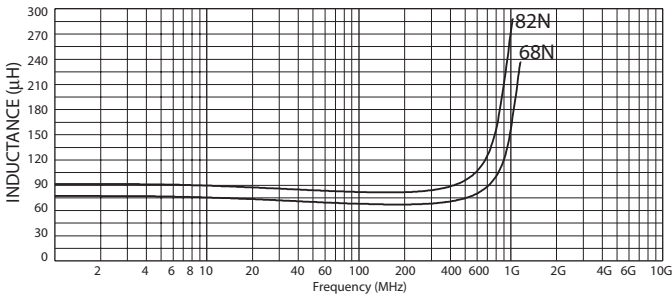


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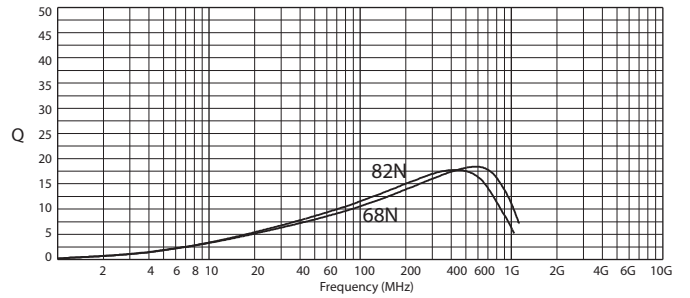


## MCI1005HQ 68N & 82N

INDUCTANCE vs. FREQUENCY

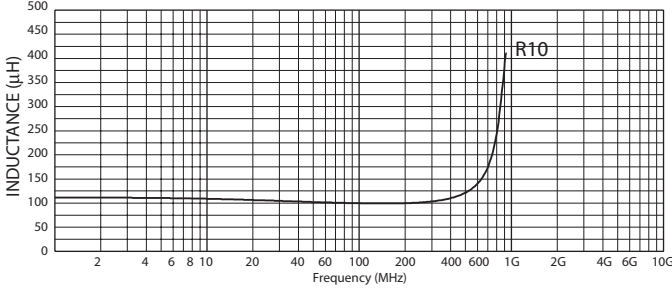


Q vs. FREQUENCY CHARACTERISTICS

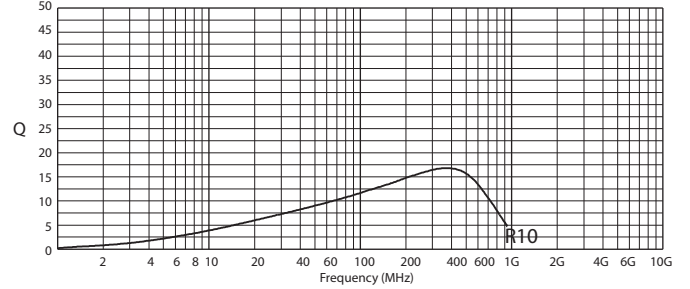


## MCI1005HQ R10

INDUCTANCE vs. FREQUENCY

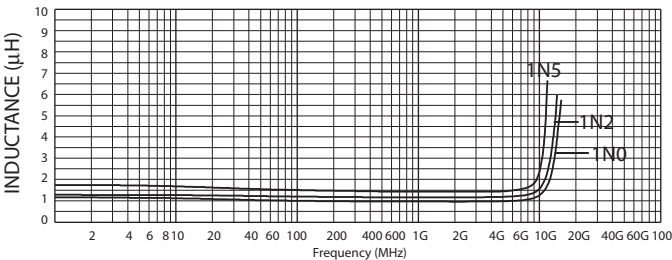


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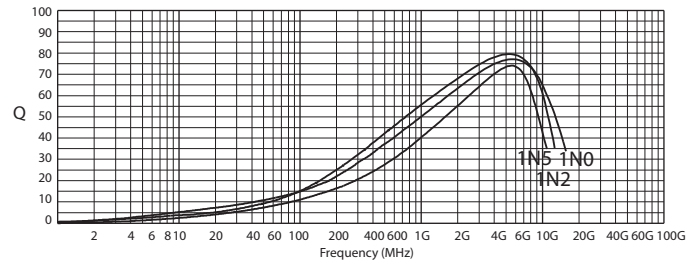


## MCI1608HQ 1N0, 1N2 & 1N5

INDUCTANCE vs. FREQUENCY

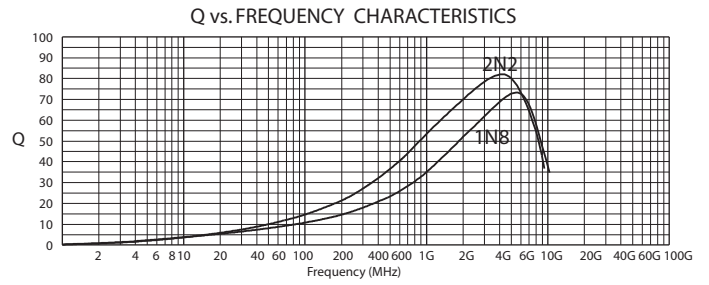
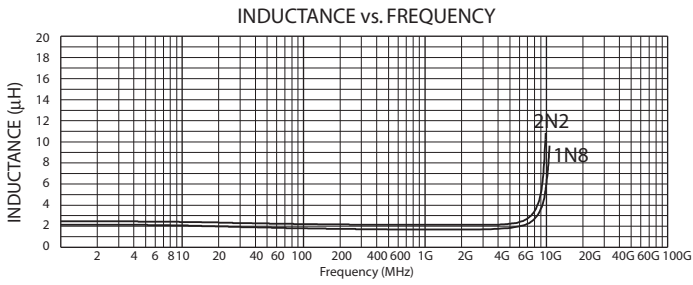


Q vs. FREQUENCY CHARACTERISTICS

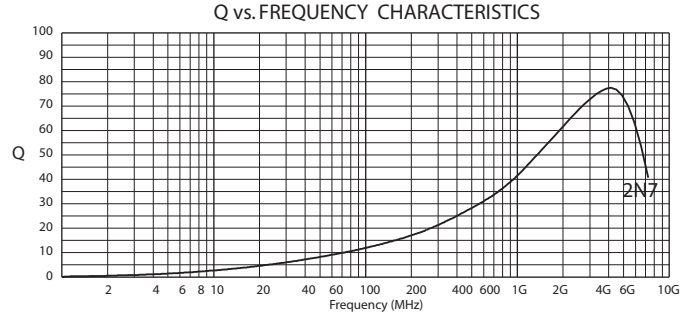
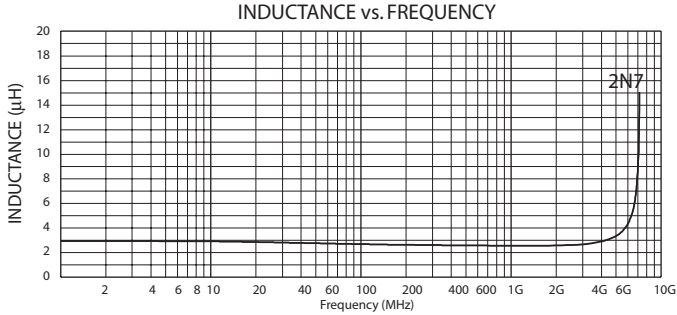


# High Frequency Chip Ceramic Inductor–MCI Series

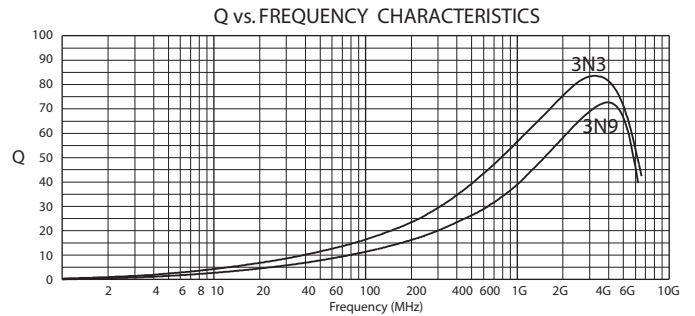
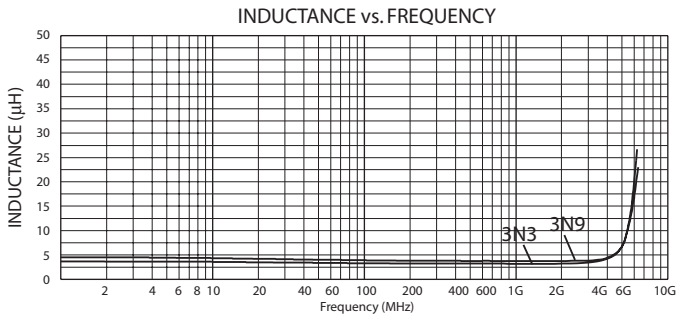
## MCI1608HQ 1N8 & 2N2



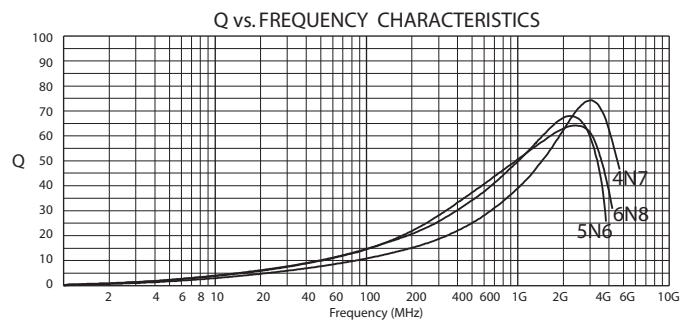
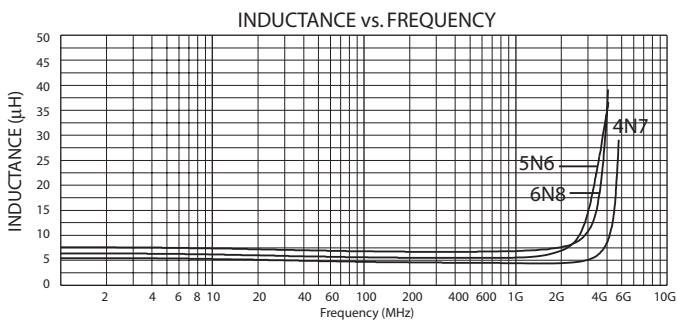
## MCI1608HQ 2N7



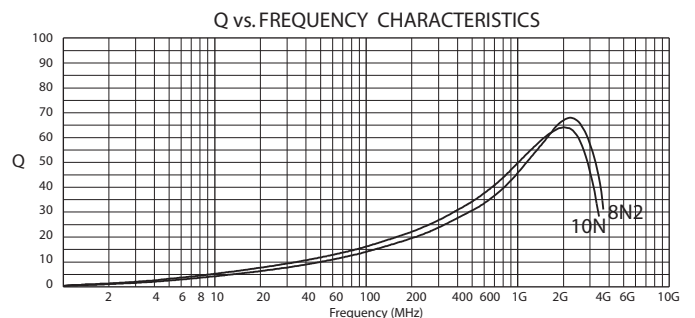
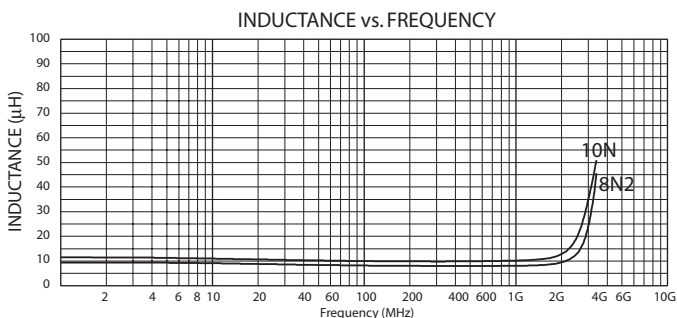
## MCI1608HQ 3N3 & 3N9



## MCI1608HQ 4N7, 5N6 & 6N8

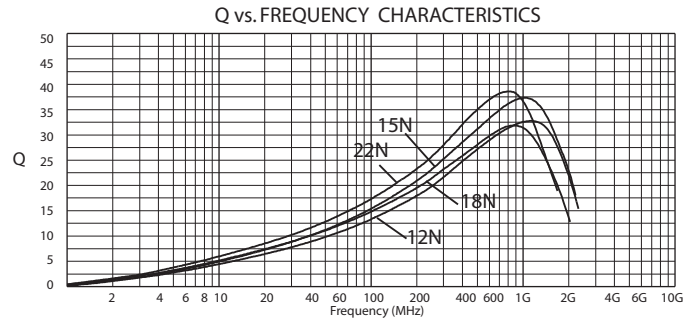
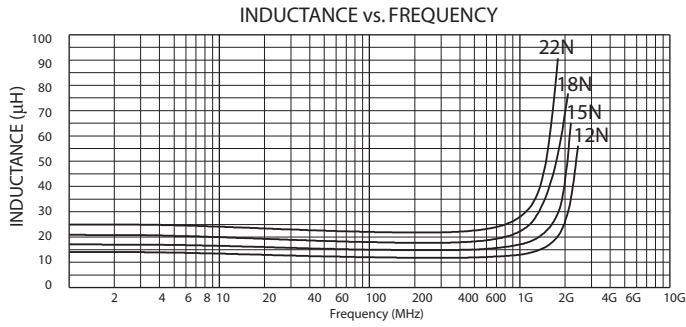


## MCI1608HQ 8N2 & 10N

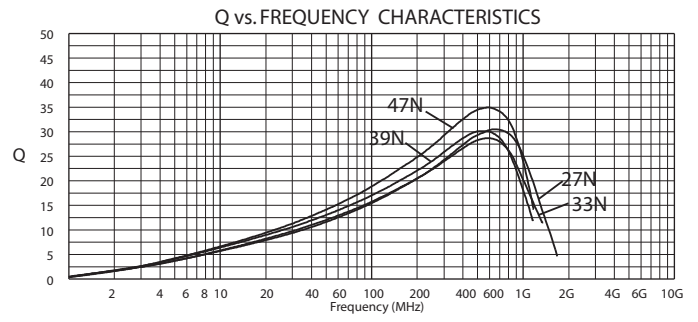
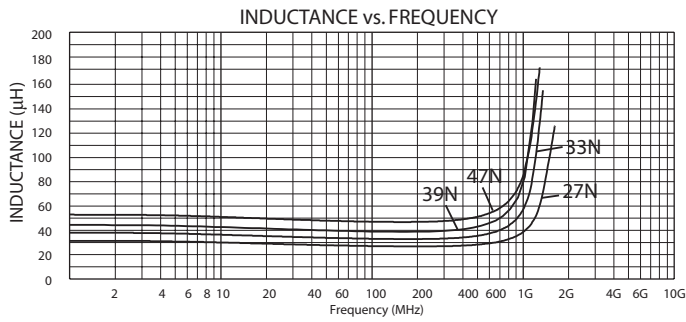


# High Frequency Chip Ceramic Inductor–MCI Series

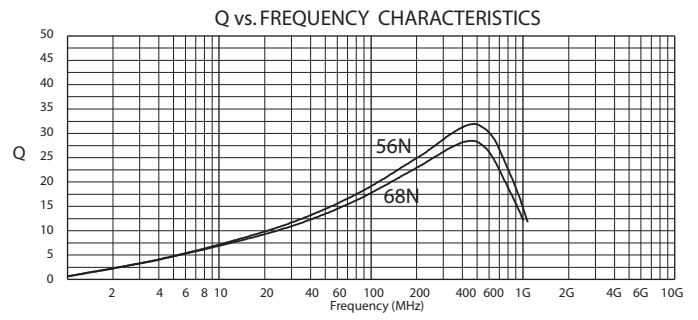
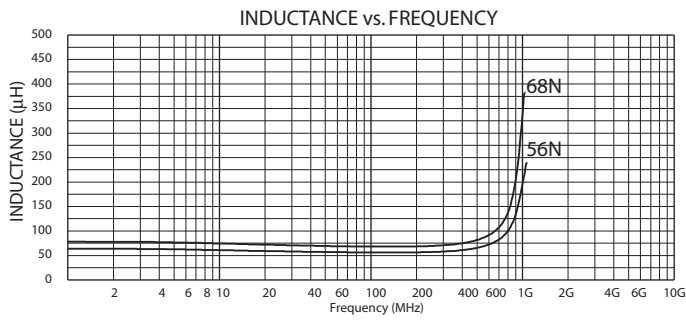
## MCI1608HQ 12N, 15N, 18N, & 22N



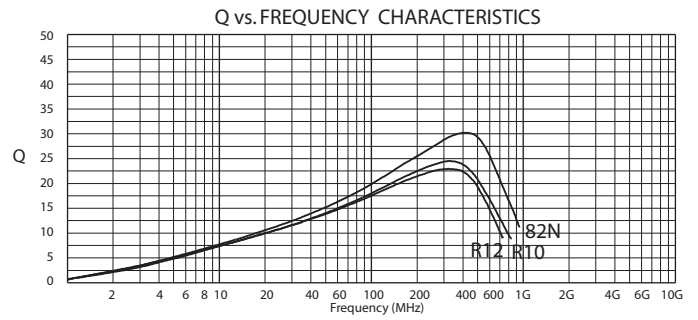
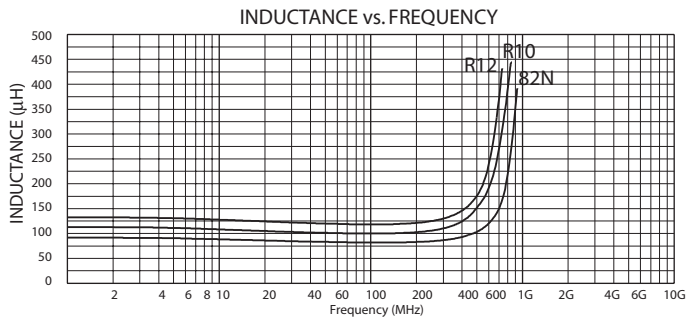
## MCI1608HQ 27N, 33N, 39N & 47N



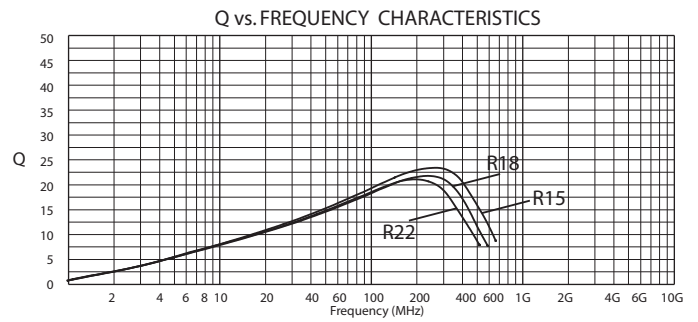
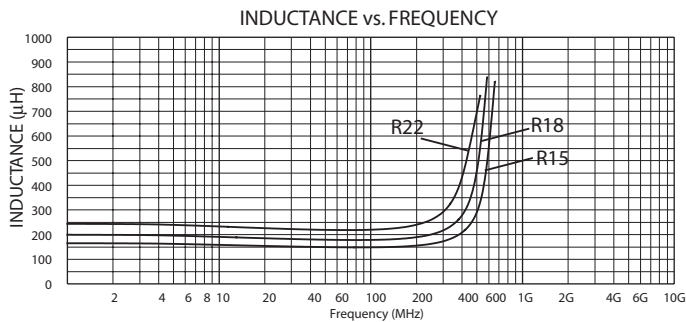
## MCI1608HQ 56N & 68N



## MCI1608HQ 82N, R10 & R12

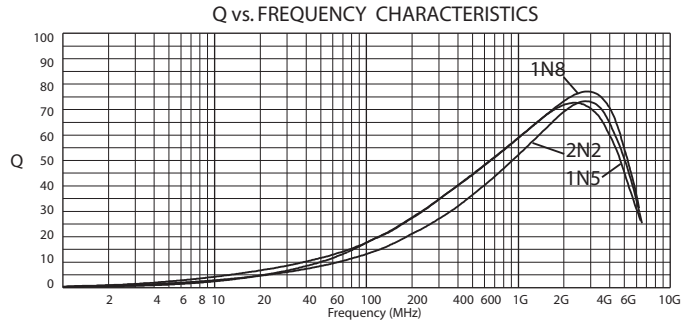
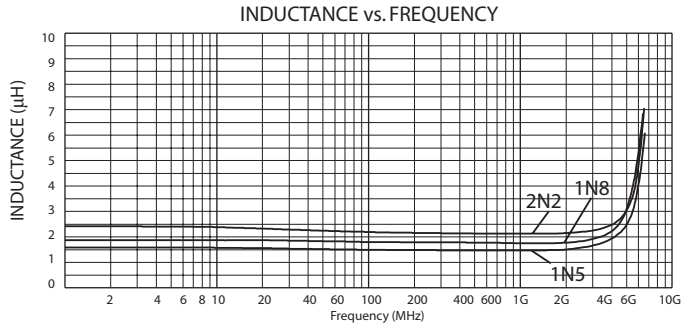


## MCI1608HQ R15, R18 & R22

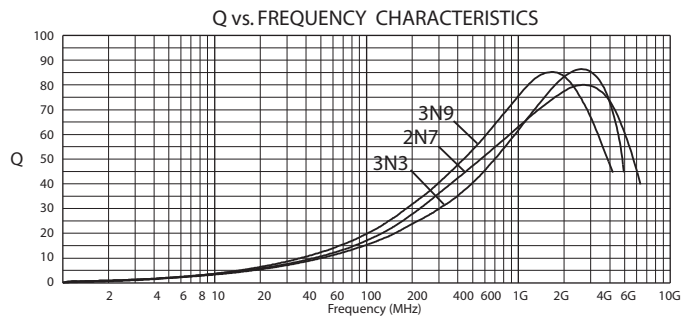
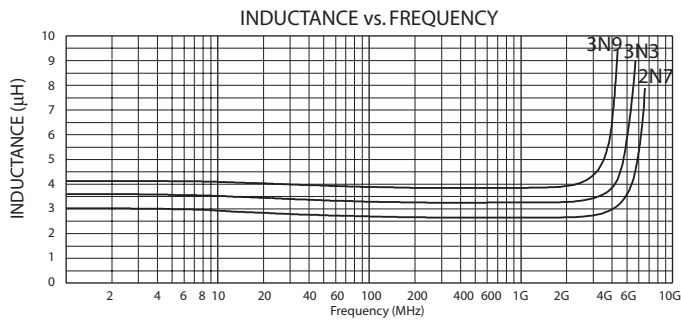


# High Frequency Chip Ceramic Inductor—MCI Series

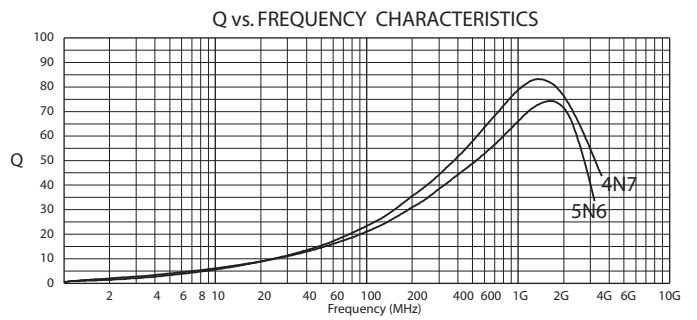
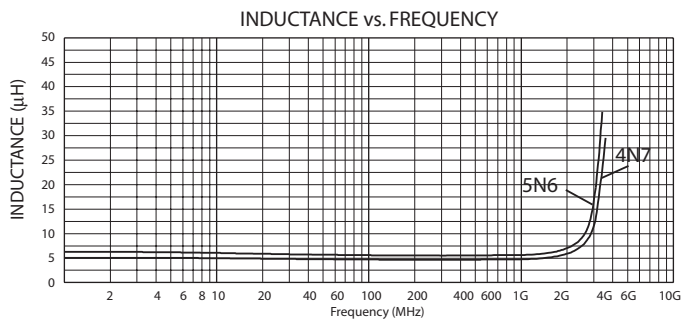
## MCI2012HQ 1N5, 1N8 & 2N2



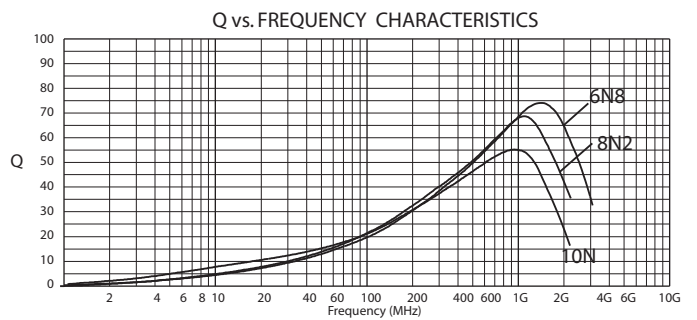
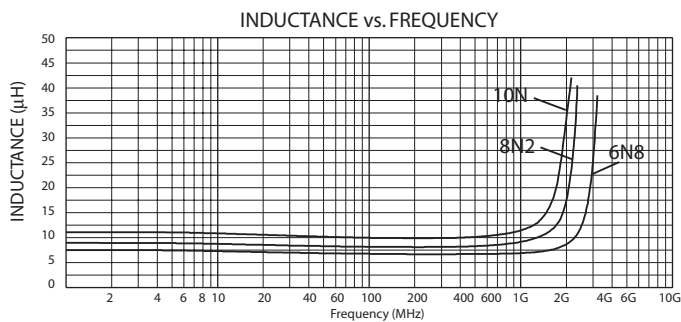
## MCI2012HQ 2N7, 3N3 & 3N9



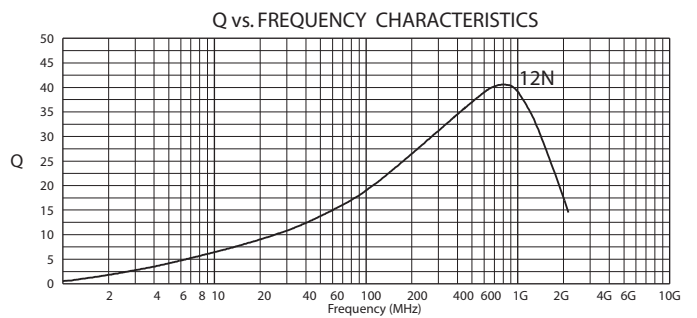
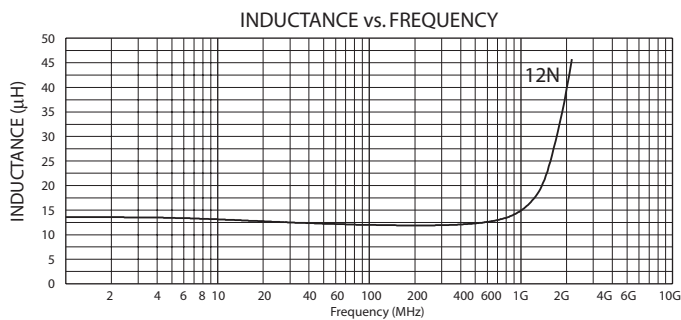
## MCI2012HQ 4N7 & 5N6



## MCI2012HQ 6N8, 8N2 & 10N



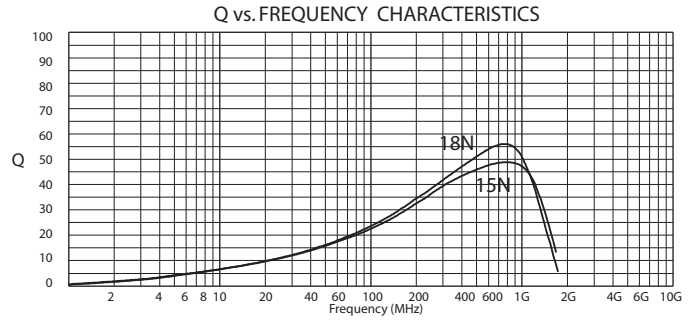
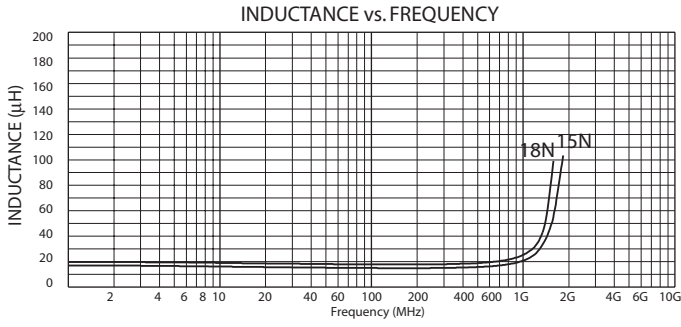
## MCI2012HQ 12N



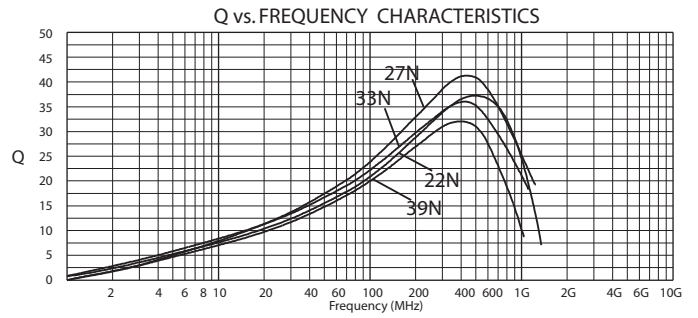
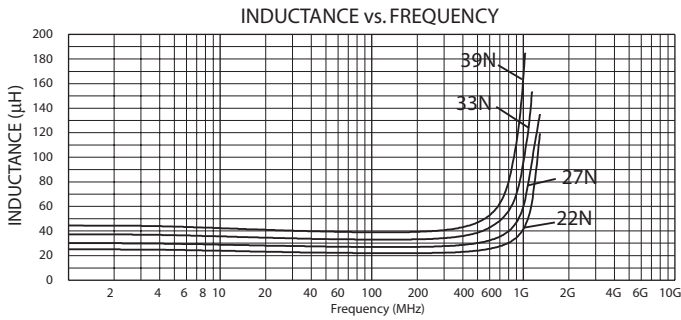


# High Frequency Chip Ceramic Inductor–MCI Series

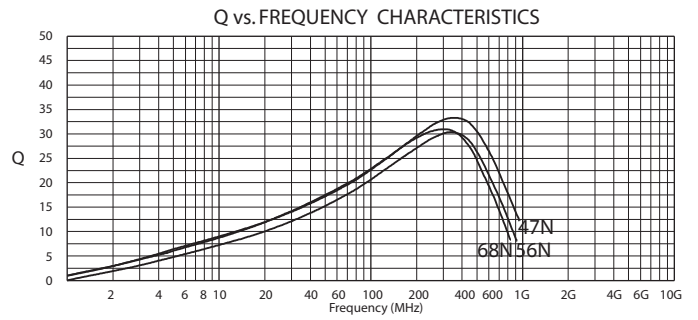
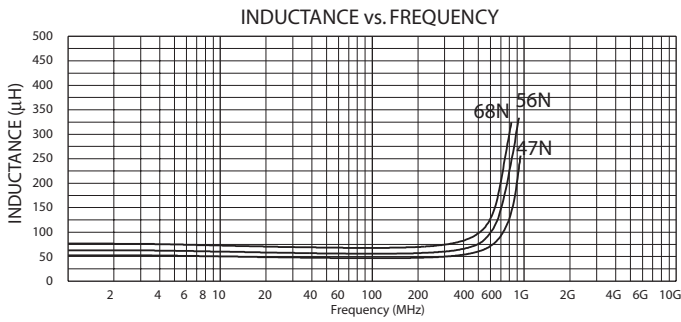
## MCI2012HQ 15N & 18N



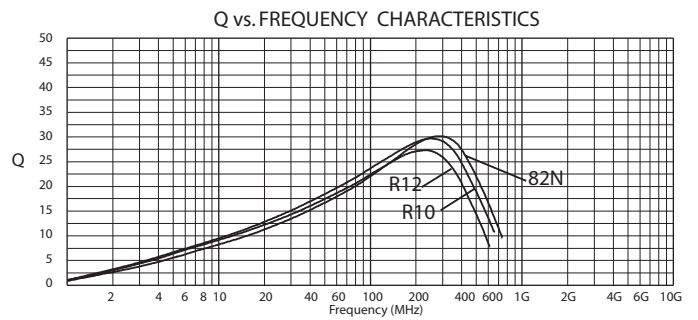
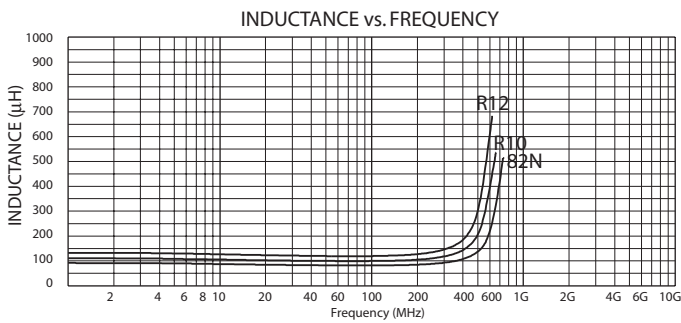
## MCI2012HQ 22N, 27N, 33N & 39N



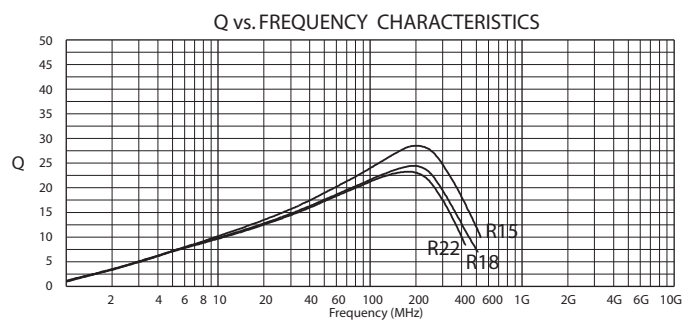
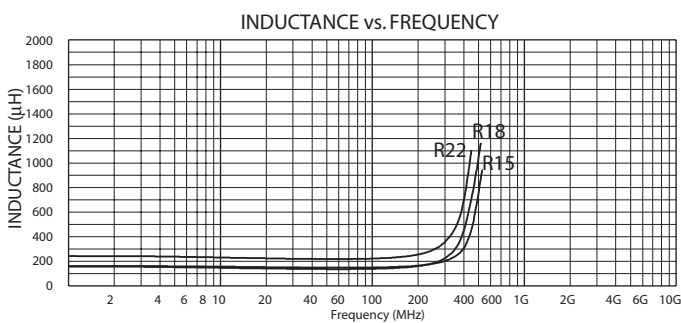
## MCI2012HQ 47N, 56N & 68N



## MCI2012HQ 82N, R10 & R12

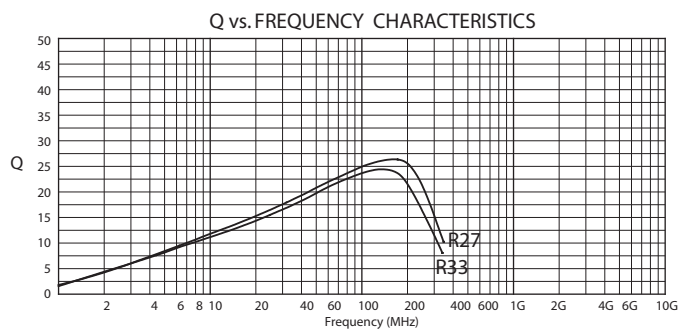
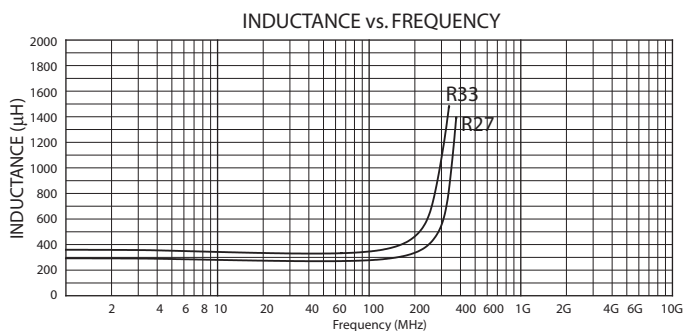


## MCI2012HQ R15, R18 & R22



# High Frequency Chip Ceramic Inductor–MCI Series

## MCI2012HQ R27 & R33



### Package

Standard packing quantity

SIZE (EIA)	1005 (0402)	1608 (0603)	2012 (0805)
Quantity (pcs/reel)	10,000	4,000	4,000