

# Chip Inductor; CIL Series General Type



## Feature

- Magnetic shielding eliminates crosstalk, thus permitting higher mounting density.
- Excellent solderability and high heat resistance for either flow or reflow soldering.
- Monolithic structure for high reliability.

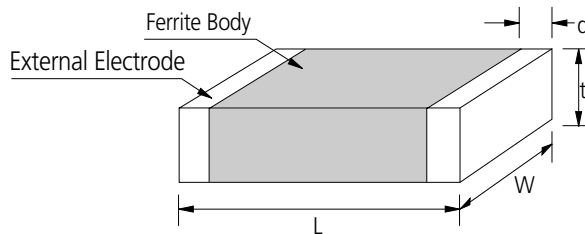
## Application

- Resonance circuits, PLL circuits, Noise suppression, etc.

As it has ferrite body and 100 % Ag internal conductor, the CIL series Inductors have excellent Q characteristics and free of cross talk.

Operating Temp	-55~+125°C
Storage Temp	-10~+40°C

## Dimensions



Unit : mm

SIZE CODE	L	W	T	d
05	1.0±0.05	0.5±0.05	0.5±0.05	0.25±0.1
10	1.6±0.15	0.8±0.15	0.8±0.15	0.3±0.2
21	2.0±0.2	1.25±0.2	0.85±0.2 1.25±0.2	0.5+0.2,-0.3
31	3.2±0.2	1.6±0.2	0.6±0.2 1.1±0.2	0.5+0.2,-0.3

## Part Numbering

**CI**   **L**   **10**   **Y**   **5R6**   **K**   **N**   **C**  
 (1)   (2)   (3)   (4)   (5)   (6)   (7)   (8)

- (1) Chip Inductor
- (2) L:General Type
- (3) Dimension
- (4) Material code(N, J, Y, S)
- (5) Inductance(R10:0.1μH, 5R6:5.6μH, 100:10μH)
- (6) Tolerance(K: ±10%, M: ±20%)
- (7) Thickness option(N:Standard, A:Thinner than standard, B:Thicker than standard)
- (8) Packaging(C:paper tape, E:embossed tape)

**CIL 1005(0402) Type**

Part No.	Thickness (mm)	Inductance ( $\mu\text{H}$ )	Q Min.	L, Q test frequency (MHZ)	SRF (MHZ) Min.	DC resistance ( $\Omega$ ) Max.	Rated current (mA) Max.
CIL 05J 2R2 □	0.5±0.05	2.2±20%, 10%	20	10	40	1.70	10

**CIL 1608(0603) Type**

Part No.	Thickness (mm)	Inductance ( $\mu\text{H}$ )	Q Min.	L, Q test frequency (MHZ)	SRF (MHZ) Min.	DC resistance ( $\Omega$ ) Max.	Rated current (mA) Max.
CIL 10N 47N □	0.80±0.15	0.047±20%, 10%	10	50	260	0.30	50
CIL 10N 56N □	0.80±0.15	0.056±20%, 10%	10	50	260	0.30	50
CIL 10N 68N □	0.80±0.15	0.068±20%, 10%	10	50	250	0.30	50
CIL 10N 82N □	0.80±0.15	0.082±20%, 10%	10	50	245	0.30	50
CIL 10N R10 □	0.80±0.15	0.10±20%, 10%	15	25	240	0.50	50
CIL 10N R12 □	0.80±0.15	0.12±20%, 10%	15	25	205	0.50	50
CIL 10N R15 □	0.80±0.15	0.15±20%, 10%	15	25	180	0.60	50
CIL 10N R18 □	0.80±0.15	0.18±20%, 10%	15	25	165	0.60	50
CIL 10N R22 □	0.80±0.15	0.22±20%, 10%	15	25	150	0.80	50
CIL 10N R27 □	0.80±0.15	0.27±20%, 10%	15	25	136	0.80	50
CIL 10N R33 □	0.80±0.15	0.33±20%, 10%	15	25	125	0.85	35
CIL 10N R39 □	0.80±0.15	0.39±20%, 10%	15	25	110	1.00	35
CIL 10N R47 □	0.80±0.15	0.47±20%, 10%	15	25	105	1.35	35
CIL 10N R56 □	0.80±0.15	0.56±20%, 10%	15	25	95	1.55	35
CIL 10N R68 □	0.80±0.15	0.68±20%, 10%	15	25	80	1.70	35
CIL 10N R82 □	0.80±0.15	0.82±20%, 10%	15	25	75	2.10	35
CIL 10J 1R0 □	0.80±0.15	1.0±20%, 10%	35	10	70	0.60	25
CIL 10J 1R2 □	0.80±0.15	1.2±20%, 10%	35	10	60	0.80	25
CIL 10J 1R5 □	0.80±0.15	1.5±20%, 10%	35	10	55	0.80	25
CIL 10J 1R8 □	0.80±0.15	1.8±20%, 10%	35	10	50	0.95	25
CIL 10J 2R2 □	0.80±0.15	2.2±20%, 10%	35	10	45	1.15	15
CIL 10J 2R7 □	0.80±0.15	2.7±20%, 10%	35	10	40	1.35	15
CIL 10J 3R3 □	0.80±0.15	3.3±20%, 10%	35	10	38	1.55	15
CIL 10J 3R9 □	0.80±0.15	3.9±20%, 10%	35	10	36	1.70	15
CIL 10J 4R7 □	0.80±0.15	4.7±20%, 10%	35	10	33	2.10	15
CIL 10Y 5R6 □	0.80±0.15	5.6±20%, 10%	35	4	22	1.55	5
CIL 10Y 6R8 □	0.80±0.15	6.8±20%, 10%	35	4	20	1.70	5
CIL 10Y 8R2 □	0.80±0.15	8.2±20%, 10%	35	4	18	2.10	5
CIL 10Y 100 □	0.80±0.15	10.0±20%, 10%	35	2	17	2.55	5
CIL 10Y 120 □	0.80±0.15	12.0±20%, 10%	35	2	15	2.75	5
CIL 10S 150 □	0.80±0.15	15.0±20%, 10%	20	1	14	1.70	1
CIL 10S 180 □	0.80±0.15	18.0±20%, 10%	20	1	13	1.85	1
CIL 10S 220 □	0.80±0.15	22.0±20%, 10%	20	1	11	2.10	1
CIL 10S 270 □	0.80±0.15	27.0±20%, 10%	20	1	10	2.75	1
CIL 10S 330 □	0.80±0.15	33.0±20%, 10%	20	0.4	9	2.95	1

□: Tolerance (K: ±10%, M: ±20%)

\* Test equipment: Agilent 4291B+16193A

**CIL 2012(0805) Type**

Part No.	Thickness (mm)	Inductance ( $\mu$ H)	Q Min.	L, Q test frequency (MHZ)	SRF (MHZ) Min.	DC resistance ( $\Omega$ ) Max.	Rated current (mA) Max.
CIL 21N 47N □	0.85±0.2	0.047±20%, 10%	15	50	320	0.20	300
CIL 21N 68N □	0.85±0.2	0.068±20%, 10%	15	50	280	0.20	300
CIL 21N 82N □	0.85±0.2	0.082±20%, 10%	15	50	255	0.20	300
CIL 21N R10 □	0.85±0.2	0.10±20%, 10%	20	25	235	0.20	250
CIL 21N R12 □	0.85±0.2	0.12±20%, 10%	20	25	220	0.20	250
CIL 21N R15 □	0.85±0.2	0.15±20%, 10%	20	25	200	0.25	250
CIL 21N R18 □	0.85±0.2	0.18±20%, 10%	20	25	185	0.25	250
CIL 21N R22 □	0.85±0.2	0.22±20%, 10%	20	25	170	0.30	250
CIL 21N R27 □	0.85±0.2	0.27±20%, 10%	20	25	150	0.30	250
CIL 21N R33 □	0.85±0.2	0.33±20%, 10%	20	25	145	0.30	250
CIL 21N R39 □	0.85±0.2	0.39±20%, 10%	25	25	135	0.40	200
CIL 21N R47 □	1.25±0.2	0.47±20%, 10%	25	25	125	0.40	200
CIL 21N R56 □	1.25±0.2	0.56±20%, 10%	25	25	115	0.50	150
CIL 21N R68 □	1.25±0.2	0.68±20%, 10%	25	25	105	0.50	150
CIL 21N R82 □	1.25±0.2	0.82±20%, 10%	25	25	100	0.60	150
CIL 21J 1R0 □	0.85±0.2	1.0±20%, 10%	45	10	75	0.30	50
CIL 21J 1R2 □	0.85±0.2	1.2±20%, 10%	45	10	65	0.40	50
CIL 21J 1R5 □	0.85±0.2	1.5±20%, 10%	45	10	60	0.40	50
CIL 21J 1R8 □	0.85±0.2	1.8±20%, 10%	45	10	55	0.40	50
CIL 21J 2R2 □	0.85±0.2	2.2±20%, 10%	45	10	50	0.50	30
CIL 21J 2R7 □	1.25±0.2	2.7±20%, 10%	45	10	45	0.60	30
CIL 21J 3R3 □	1.25±0.2	3.3±20%, 10%	45	10	41	0.60	30
CIL 21J 3R9 □	1.25±0.2	3.9±20%, 10%	45	10	38	0.80	30
CIL 21J 4R7 □	1.25±0.2	4.7±20%, 10%	45	10	35	0.90	30
CIL 21Y 5R6 □	1.25±0.2	5.6±20%, 10%	50	4	32	0.50	25
CIL 21Y 6R8 □	1.25±0.2	6.8±20%, 10%	50	4	29	0.60	15
CIL 21Y 8R2 □	1.25±0.2	8.2±20%, 10%	50	4	26	0.70	15
CIL 21Y 100 □	1.25±0.2	10.0±20%, 10%	50	2	24	0.80	15
CIL 21Y 120 □	1.25±0.2	12.0±20%, 10%	50	2	22	0.90	15
CIL 21S 150 □	1.25±0.2	15.0±20%, 10%	30	1	19	0.80	5
CIL 21S 180 □	1.25±0.2	18.0±20%, 10%	30	1	18	0.90	5
CIL 21S 220 □	1.25±0.2	22.0±20%, 10%	30	1	16	1.10	5
CIL 21S 270 □	1.25±0.2	27.0±20%, 10%	30	1	14	1.15	5
CIL 21S 330 □	1.25±0.2	33.0±20%, 10%	30	0.4	13	1.25	5

□: Tolerance (K: ±10%, M: ±20%)

※ Test equipment: Agilent 4291B+16193A

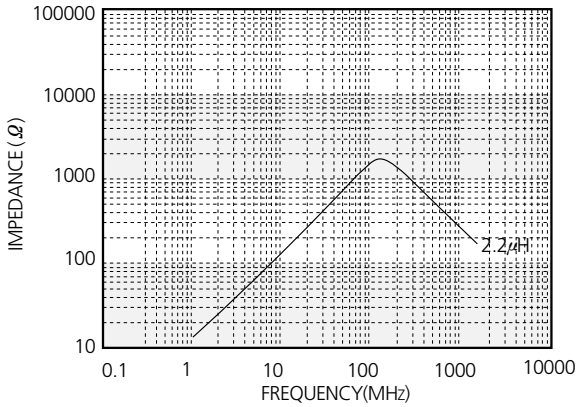
CIL 3216(1206) Type

Part No.	Thickness (mm)	Inductance ( $\mu$ H)	Q Min.	L, Q test frequency (MHZ)	SRF (MHZ) Min.	DC resistance ( $\Omega$ ) Max.	Rated current (mA) Max.
CIL 31N 47N□	0.6±0.2	0.047±20%, 10%	20	50	320	0.15	300
CIL 31N 68N□	0.6±0.2	0.068±20%, 10%	20	50	280	0.25	300
CIL 31N R10□	0.6±0.2	0.10±20%, 10%	20	25	235	0.25	250
CIL 31N R12□	0.6±0.2	0.12±20%, 10%	20	25	220	0.30	250
CIL 31N R15□	0.6±0.2	0.15±20%, 10%	20	25	200	0.30	250
CIL 31N R18□	0.6±0.2	0.18±20%, 10%	20	25	185	0.40	250
CIL 31N R22□	0.6±0.2	0.22±20%, 10%	20	25	170	0.40	250
CIL 31N R27□	0.6±0.2	0.27±20%, 10%	20	25	150	0.50	250
CIL 31N R33□	0.6±0.2	0.33±20%, 10%	20	25	145	0.60	250
CIL 31N R39□	1.1±0.2	0.39±20%, 10%	25	25	135	0.50	200
CIL 31N R47□	1.1±0.2	0.47±20%, 10%	25	25	125	0.60	200
CIL 31N R56□	1.1±0.2	0.56±20%, 10%	25	25	115	0.70	150
CIL 31N R68□	1.1±0.2	0.68±20%, 10%	25	25	105	0.80	150
CIL 31N R82□	1.1±0.2	0.82±20%, 10%	25	25	100	0.90	150
CIL 31J 1R0□	0.6±0.2	1.0±20%, 10%	45	10	75	0.40	100
CIL 31J 1R2□	0.6±0.2	1.2±20%, 10%	45	10	65	0.50	100
CIL 31J 1R5□	1.1±0.2	1.5±20%, 10%	45	10	60	0.50	50
CIL 31J 1R8□	1.1±0.2	1.8±20%, 10%	45	10	55	0.50	50
CIL 31J 2R2□	1.1±0.2	2.2±20%, 10%	45	10	50	0.60	50
CIL 31J 2R7□	1.1±0.2	2.7±20%, 10%	45	10	45	0.60	50
CIL 31J 3R3□	1.1±0.2	3.3±20%, 10%	45	10	41	0.70	50
CIL 31J 3R9□	1.1±0.2	3.9±20%, 10%	45	10	38	0.80	50
CIL 31J 4R7□	1.1±0.2	4.7±20%, 10%	45	10	35	0.90	50
CIL 31Y 5R6□	1.1±0.2	5.6±20%, 10%	50	4	32	0.70	25
CIL 31Y 6R8□	1.1±0.2	6.8±20%, 10%	50	4	29	0.80	25
CIL 31Y 8R2□	1.1±0.2	8.2±20%, 10%	50	4	26	0.90	25
CIL 31Y 100□	1.1±0.2	10.0±20%, 10%	50	2	24	1.00	25
CIL 31Y 120□	1.1±0.2	12.0±20%, 10%	50	2	22	1.05	15
CIL 31S 150□	1.1±0.2	15.0±20%, 10%	35	1	19	0.70	5
CIL 31S 180□	1.1±0.2	18.0±20%, 10%	35	1	18	0.70	5
CIL 31S 220□	1.1±0.2	22.0±20%, 10%	35	1	16	0.90	5
CIL 31S 270□	1.1±0.2	27.0±20%, 10%	35	1	14	0.90	5
CIL 31S 330□	1.1±0.2	33.0±20%, 10%	35	0.4	13	1.05	5

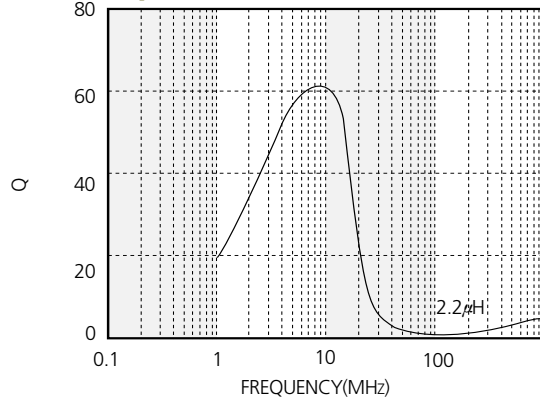
□: Tolerance (K: ±10%, M: ±20%)  
 ※ Test equipment: Agilent 4291B+16193A

**CIL 1005(0402) Type**

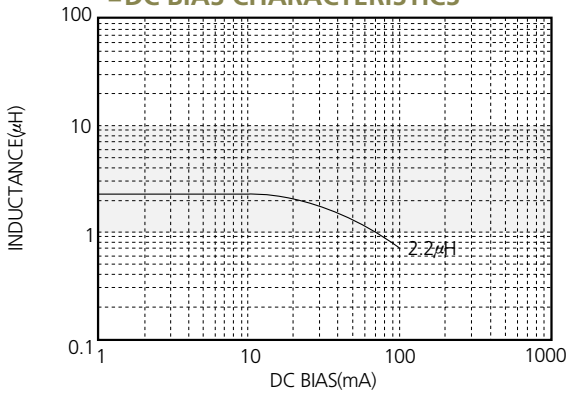
■ **IMPEDANCE CHARACTERISTICS**



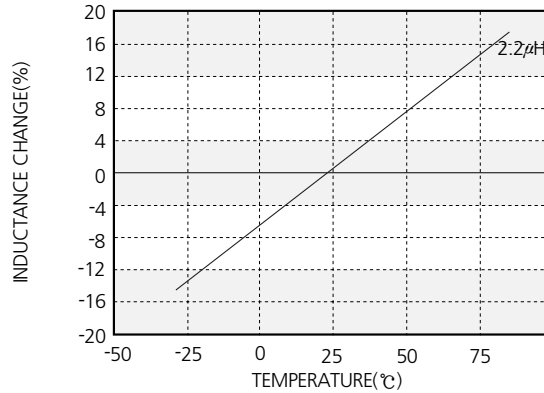
■ **Q CHARACTERISTICS**



■ **DC BIAS CHARACTERISTICS**

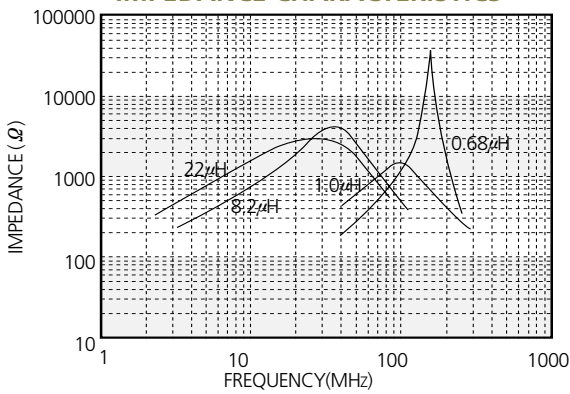


■ **TEMPERATURE CHARACTERISTICS**

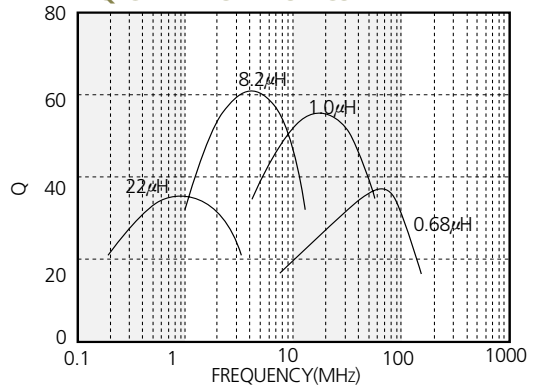


**CIL 1608(0603) Type**

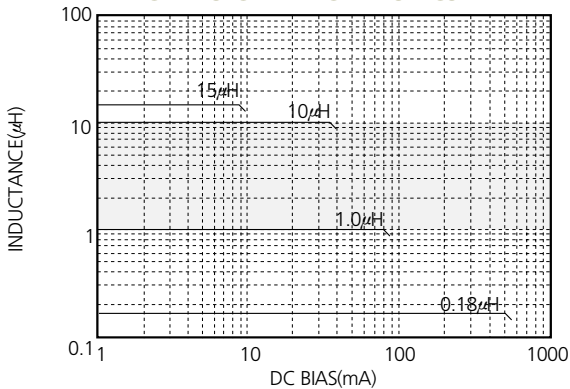
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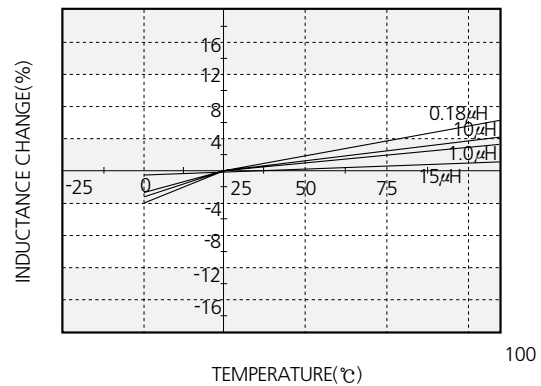
■ **Q CHARACTERISTICS**



■ **DC BIAS CHARACTERISTICS**

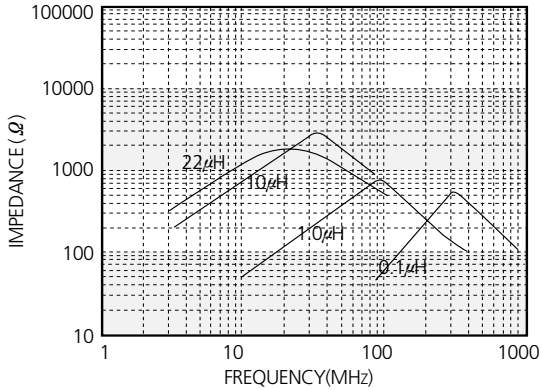


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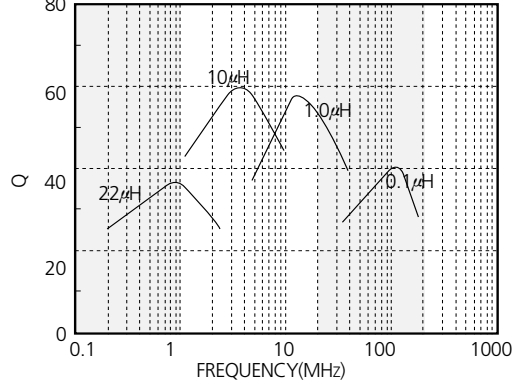


CIL 2012(0805) Type

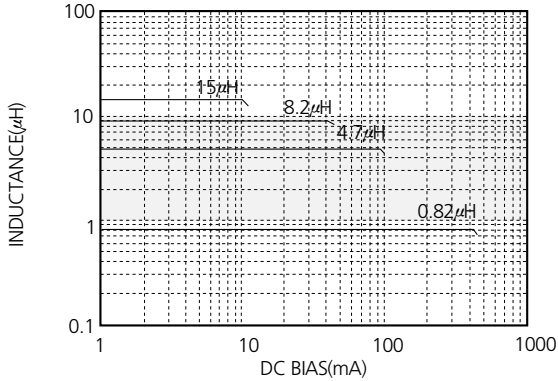
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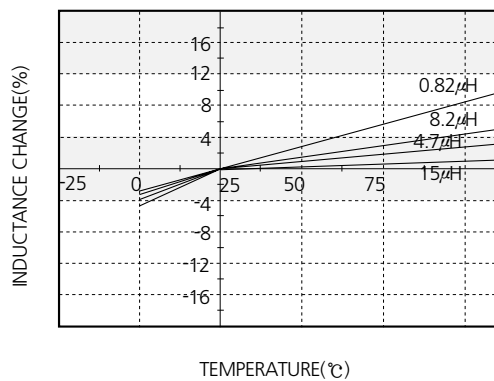
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■ DC BIAS CHARACTERISTICS

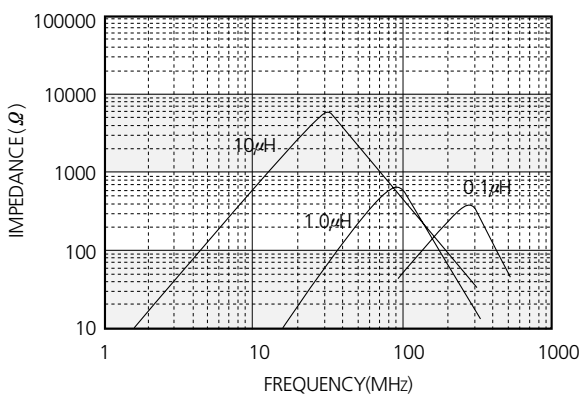


■ TEMPERATURE CHARACTERISTICS

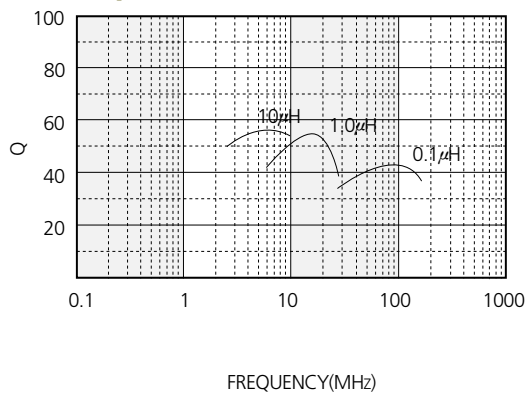


CIL 3216(1206) Type

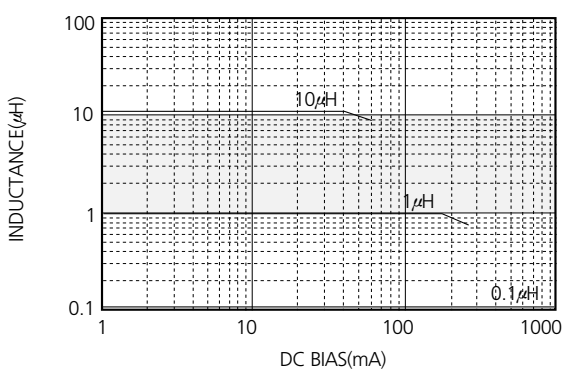
■ IMPEDANCE CHARACTERISTICS



■ Q CHARACTERISTICS



■ DC BIAS CHARACTERISTICS



■ TEMPERATURE CHARACTERISTICS

