

Chip Ferrite Inductors - Features

Features

- Magnetic shield eliminates crosstalk, perfect for high density surface mount applications.
- Highly reliable in wide temperature and humidity range.
- Superior "Q" characteristics in wide frequency.
- Terminal electrode has excellent solder heat resistance for soldering.

Applications

- Prevention of electromagnetic interference in high frequency (100MHz - 1000MHz) applications.

Ordering Information

FI - A 2012 - 681 K J T
 (1) (2) (3) (4) (5) (6) (7)

(1) Series

(2) Material

A: Low Inductance
 B: Medium Inductance
 C: High Inductance

(3) Size Dimensions

The first two digits: length (mm)
 The last two digits: width (mm)

(4) Inductance

The first two digits are significant
 The last digit is the number of zeros following.

(5) Tolerance

J: $\pm 5\%$
 K: $\pm 10\%$
 M: $\pm 20\%$

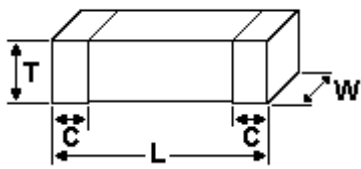
(6) Termination

J: Nickel barrier

(7) Packing

B: Bulk pack
 T: Tape and Reel - $\phi 178\text{mm}$ (7 inches)
 L: Tape and Reel - $\phi 254\text{mm}$ (10 inches)

Shape and Dimensions - Unit: mm (inches)

| | Type | L | W | T | C(max.) |
|--|--------------------|-------------------------------------|--------------------------------------|--------------------------------------|---------------|
|  | FI- \square 1608 | 1.6 ± 0.15 (.063 \pm .006) | 0.8 ± 0.15 (.031 \pm .006) | 0.8 ± 0.15 (.031 \pm .006) | 0.5 (.019) |
| | FI- \square 2012 | 2.0 ± 0.20 (.079 \pm .008) | 1.25 ± 0.20 (.049 \pm .008) | 1.25 ± 0.20 (.049 \pm .008) | 0.6 (.024) |
| | FI- \square 3216 | 3.2 ± 0.20 (.126 \pm .008) | 1.6 ± 0.20 (.063 \pm .008) | 1.3 ± 0.20 (.051 \pm .008) | 0.7 (.028) |

Chip Ferrite Inductors - 0603 Specifications

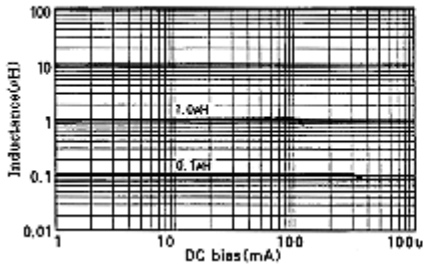
0603 is the U.S. inches equivalent for the 1608 millimeter series.

| Part Number | Inductance | | Q | | L.Q. Test Frequency | Self-Resonant Frequency (MHz) | | DC Resistance (m ohms) | | Rated DC Current (mA) |
|--------------|---------------|-----------------------------|-----|------|---------------------|-------------------------------|------|------------------------|------|-----------------------|
| | μH | Tolerance | Min | Typ. | (MHz) | Min | Typ. | Max | Typ. | Max |
| FI-A1608-270 | 0.027 | $\pm 10\%/\pm 20\%$ | 10 | 45 | 50 | 260 | 350 | 90 | 60 | 200 |
| FI-A1608-470 | 0.047 | $\pm 10\%/\pm 20\%$ | 10 | 45 | 50 | 260 | 320 | 150 | 100 | 200 |
| FI-A1608-560 | 0.056 | $\pm 10\%/\pm 20\%$ | 10 | 45 | 50 | 255 | 300 | 200 | 90 | 200 |
| FI-A1608-680 | 0.068 | $\pm 10\%/\pm 20\%$ | 10 | 45 | 50 | 250 | 290 | 200 | 90 | 200 |
| FI-A1608-820 | 0.082 | $\pm 10\%/\pm 20\%$ | 10 | 45 | 50 | 245 | 280 | 250 | 120 | 200 |
| FI-A1608-101 | 0.10 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 15 | 30 | 25 | 240 | 270 | 250 | 140 | 200 |
| FI-A1608-121 | 0.12 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 15 | 30 | 25 | 205 | 260 | 300 | 150 | 200 |
| FI-A1608-151 | 0.15 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 15 | 30 | 25 | 180 | 250 | 350 | 180 | 200 |
| FI-A1608-181 | 0.18 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 15 | 30 | 25 | 165 | 220 | 400 | 190 | 200 |
| FI-A1608-221 | 0.22 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 15 | 30 | 25 | 150 | 200 | 400 | 190 | 200 |
| FI-A1608-271 | 0.27 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 15 | 30 | 25 | 136 | 190 | 500 | 270 | 200 |
| FI-A1608-331 | 0.33 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 15 | 30 | 25 | 125 | 180 | 550 | 280 | 150 |
| FI-A1608-391 | 0.39 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 15 | 30 | 25 | 110 | 170 | 600 | 300 | 150 |
| FI-A1608-471 | 0.47 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 15 | 30 | 25 | 105 | 160 | 700 | 390 | 150 |
| FI-A1608-561 | 0.56 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 15 | 30 | 25 | 95 | 150 | 900 | 500 | 150 |
| FI-A1608-681 | 0.68 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 15 | 30 | 25 | 80 | 140 | 900 | 500 | 150 |
| FI-A1608-821 | 0.82 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 15 | 30 | 25 | 75 | 130 | 1600 | 800 | 100 |
| FI-B1608-102 | 1.0 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 35 | 50 | 10 | 70 | 95 | 500 | 250 | 100 |
| FI-B1608-122 | 1.2 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 35 | 50 | 10 | 60 | 80 | 600 | 250 | 100 |
| FI-B1608-152 | 1.5 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 35 | 50 | 10 | 55 | 70 | 650 | 300 | 50 |
| FI-B1608-182 | 1.8 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 35 | 50 | 10 | 50 | 70 | 750 | 350 | 50 |
| FI-B1608-222 | 2.2 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 35 | 50 | 10 | 45 | 60 | 900 | 450 | 50 |
| FI-B1608-272 | 2.7 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 35 | 50 | 10 | 40 | 55 | 1000 | 605 | 50 |

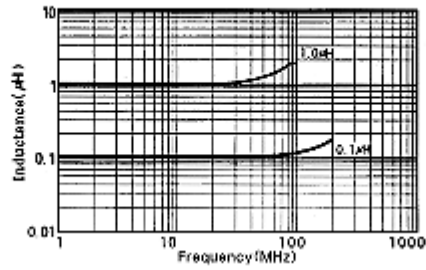
Chip Ferrite Inductors - 0603 Specifications - (continued)

0603 is the U.S. inches equivalent for the 1608 millimeter series.

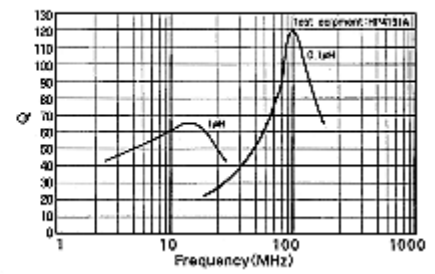
DC Bias Characteristics



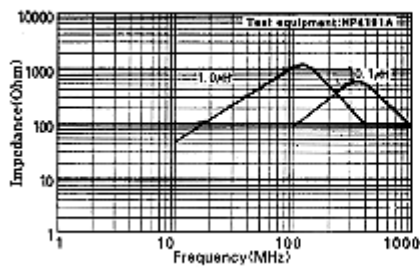
Inductance Characteristics



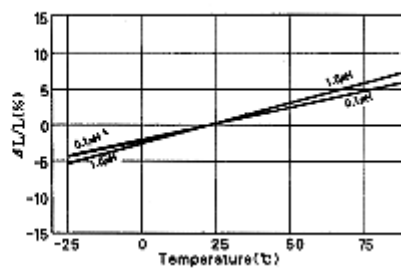
Q Characteristics



Impedance Characteristics



Temperature Characteristics



Chip Ferrite Inductors - 0805 Specifications

0805 is the U.S. inches equivalent for the 2012 millimeter series.

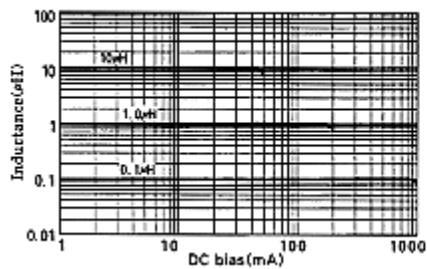
| Part Number | Inductance | | Q | | L.Q. Test Frequency | Self-Resonant Frequency (MHz) | | DC Resistance (m ohms) | | Rated DC Current (mA) |
|--------------|---------------|-----------------------------|-----|-----|---------------------|-------------------------------|-----|------------------------|-----|-----------------------|
| | μH | Tolerance | Min | Typ | (MHz) | Min | Typ | Max | Typ | Max |
| FI-A2012-470 | 0.047 | $\pm 10\%/\pm 20\%$ | 20 | 60 | 50 | 320 | 400 | 100 | 50 | 300 |
| FI-A2012-560 | 0.056 | $\pm 10\%/\pm 20\%$ | 20 | 60 | 50 | 300 | 380 | 150 | 80 | 300 |
| FI-A2012-680 | 0.068 | $\pm 10\%/\pm 20\%$ | 20 | 60 | 50 | 280 | 350 | 200 | 80 | 300 |
| FI-A2012-820 | 0.082 | $\pm 10\%/\pm 20\%$ | 20 | 60 | 50 | 255 | 320 | 200 | 80 | 300 |
| FI-A2012-101 | 0.10 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 25 | 50 | 25 | 235 | 300 | 200 | 90 | 250 |
| FI-A2012-121 | 0.12 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 25 | 50 | 25 | 220 | 280 | 200 | 65 | 250 |
| FI-A2012-151 | 0.15 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 25 | 50 | 25 | 200 | 250 | 200 | 60 | 250 |
| FI-A2012-181 | 0.18 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 25 | 50 | 25 | 185 | 230 | 200 | 100 | 250 |
| FI-A2012-221 | 0.22 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 25 | 50 | 25 | 170 | 220 | 250 | 100 | 250 |
| FI-A2012-271 | 0.27 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 25 | 50 | 25 | 150 | 200 | 300 | 150 | 250 |
| FI-A2012-331 | 0.33 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 25 | 50 | 25 | 145 | 180 | 300 | 150 | 250 |
| FI-A2012-391 | 0.39 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 30 | 50 | 25 | 135 | 170 | 400 | 190 | 200 |
| FI-A2012-471 | 0.47 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 30 | 50 | 25 | 125 | 160 | 400 | 190 | 200 |
| FI-A2012-561 | 0.56 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 30 | 50 | 25 | 115 | 150 | 400 | 280 | 150 |
| FI-A2012-681 | 0.68 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 30 | 50 | 25 | 105 | 135 | 500 | 300 | 150 |
| FI-A2012-821 | 0.82 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 30 | 50 | 25 | 100 | 125 | 600 | 350 | 150 |
| FI-B2012-102 | 1.0 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 45 | 75 | 10 | 75 | 105 | 300 | 120 | 100 |
| FI-B2012-122 | 1.2 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 45 | 75 | 10 | 65 | 95 | 400 | 140 | 100 |
| FI-B2012-152 | 1.5 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 45 | 75 | 10 | 60 | 85 | 400 | 140 | 100 |
| FI-B2012-182 | 1.8 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 45 | 75 | 10 | 55 | 75 | 400 | 160 | 100 |
| FI-B2012-222 | 2.2 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 45 | 80 | 10 | 50 | 70 | 400 | 200 | 50 |
| FI-B2012-272 | 2.7 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 45 | 80 | 10 | 45 | 65 | 500 | 250 | 50 |
| FI-B2012-332 | 3.3 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 45 | 80 | 10 | 40 | 55 | 500 | 270 | 50 |
| FI-B2012-392 | 3.9 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 45 | 80 | 10 | 38 | 50 | 1000 | 500 | 50 |
| FI-B2012-472 | 4.7 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 45 | 80 | 10 | 35 | 48 | 1400 | 700 | 50 |

Chip Ferrite Inductors - 0805 Specifications - (Continued)

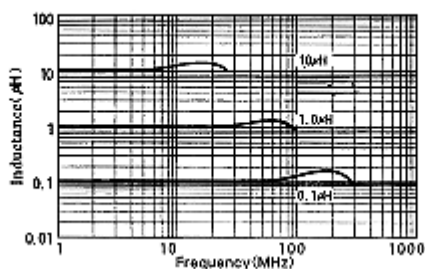
0805 is the U.S. inches equivalent for the 2012 millimeter series.

| Part Number | Inductance | | Q | | L.Q. Test Frequency | Self-Resonant Frequency (MHz) | | DC Resistance (m ohms) | | Rated DC Current (mA) |
|--------------|------------|---------------|-----|-----|---------------------|-------------------------------|-----|------------------------|-----|-----------------------|
| | μH | Tolerance | Min | Typ | (MHz) | Min | Typ | Max | Typ | Max |
| FI-C2012-562 | 5.6 | ±5%/±10%/±20% | 50 | 60 | 4 | 32 | 45 | 500 | 250 | 50 |
| FI-C2012-682 | 6.8 | ±5%/±10%/±20% | 50 | 60 | 4 | 29 | 40 | 600 | 330 | 25 |
| FI-C2012-822 | 8.2 | ±5%/±10%/±20% | 50 | 60 | 4 | 26 | 36 | 700 | 380 | 25 |
| FI-C2012-103 | 10.0 | ±5%/±10%/±20% | 50 | 60 | 2 | 24 | 33 | 800 | 450 | 25 |
| FI-C2012-123 | 12.0 | ±5%/±10%/±20% | 50 | 60 | 2 | 22 | 30 | 800 | 470 | 25 |
| FI-C2012-153 | 15.0 | ±5%/±10%/±20% | 30 | 40 | 1 | 19 | 27 | 1500 | 750 | 15 |
| FI-C2012-183 | 18.0 | ±5%/±10%/±20% | 30 | 40 | 1 | 18 | 25 | 1500 | 810 | 15 |
| FI-D2012-223 | 22.0 | ±5%/±10%/±20% | 30 | 40 | 1 | 16 | 22 | 700 | 350 | 5 |
| FI-D2012-273 | 27.0 | ±5%/±10%/±20% | 30 | 40 | 1 | 14 | 20 | 800 | 450 | 5 |
| FI-D2012-333 | 33.0 | ±5%/±10%/±20% | 30 | 40 | 0.4 | 13 | 18 | 1000 | 600 | 5 |

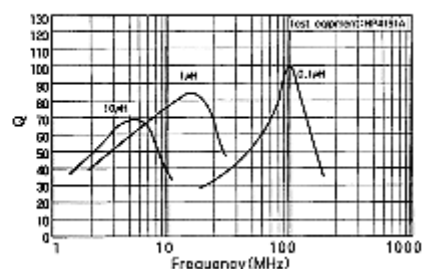
DC Bias Characteristics



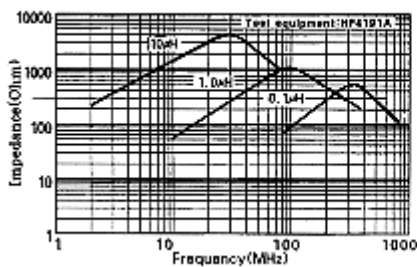
Inductance Characteristics



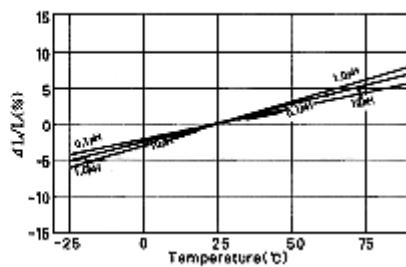
Q Characteristics



Impedance Characteristics



Temperature Characteristics



Chip Ferrite Inductors - 1206 Specifications

1206 is the U.S. inches equivalent for the 3216 millimeter series.

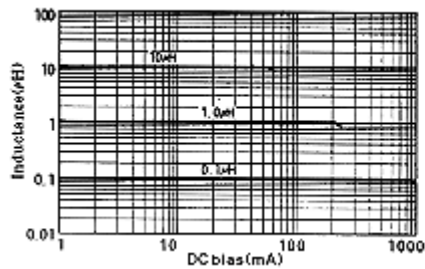
| Part Number | Inductance | | Q | | L.Q. Test Frequency | Self-Resonant Frequency (MHz) | | DC Resistance (m ohms) | | Rated DC Current (mA) |
|--------------|------------|-----------------------------|-----|-----|---------------------|-------------------------------|-----|------------------------|-----|-----------------------|
| | μ H | Tolerance | Min | Typ | (MHz) | Min | Typ | Max | Typ | Max |
| FI-A3216-470 | 0.047 | $\pm 10\%/\pm 20\%$ | 20 | 60 | 50 | 320 | 400 | 150 | 80 | 300 |
| FI-A3216-560 | 0.056 | $\pm 10\%/\pm 20\%$ | 20 | 60 | 50 | 300 | 360 | 150 | 80 | 300 |
| FI-A3216-680 | 0.068 | $\pm 10\%/\pm 20\%$ | 20 | 60 | 50 | 280 | 330 | 150 | 100 | 300 |
| FI-A3216-820 | 0.082 | $\pm 10\%/\pm 20\%$ | 20 | 50 | 50 | 255 | 300 | 150 | 100 | 300 |
| FI-A3216-101 | 0.10 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 25 | 25 | 25 | 235 | 280 | 200 | 100 | 250 |
| FI-A3216-121 | 0.12 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 25 | 50 | 25 | 220 | 260 | 200 | 100 | 250 |
| FI-A3216-151 | 0.15 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 25 | 50 | 25 | 200 | 240 | 200 | 100 | 250 |
| FI-A3215-181 | 0.18 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 25 | 50 | 25 | 185 | 220 | 200 | 100 | 250 |
| FI-A3216-221 | 0.22 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 25 | 50 | 25 | 170 | 200 | 250 | 120 | 250 |
| FI-A3216-271 | 0.27 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 25 | 50 | 25 | 150 | 180 | 250 | 120 | 250 |
| FI-A3216-331 | 0.33 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 25 | 50 | 25 | 145 | 170 | 300 | 130 | 250 |
| FI-A3216-391 | 0.39 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 30 | 50 | 25 | 135 | 160 | 300 | 150 | 200 |
| FI-A3216-471 | 0.47 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 30 | 50 | 25 | 125 | 145 | 300 | 150 | 200 |
| FI-A3216-561 | 0.56 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 30 | 50 | 25 | 115 | 135 | 350 | 170 | 150 |
| FI-A3216-681 | 0.68 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 30 | 50 | 25 | 105 | 125 | 350 | 250 | 150 |
| FI-A3216-821 | 0.82 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 30 | 50 | 25 | 100 | 115 | 400 | 300 | 150 |
| FI-B3216-102 | 1.0 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 45 | 80 | 10 | 75 | 90 | 250 | 130 | 100 |
| FI-B3216-122 | 1.2 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 45 | 80 | 10 | 65 | 80 | 300 | 150 | 100 |
| FI-B3216-152 | 1.5 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 45 | 80 | 10 | 60 | 70 | 300 | 170 | 50 |
| FI-B3216-182 | 1.8 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 45 | 80 | 10 | 55 | 66 | 500 | 250 | 50 |
| FI-B3216-222 | 2.2 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 45 | 80 | 10 | 50 | 58 | 600 | 300 | 50 |
| FI-B3216-272 | 2.7 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 45 | 80 | 10 | 45 | 53 | 600 | 300 | 50 |
| FI-B3216-332 | 3.3 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 45 | 85 | 10 | 41 | 49 | 700 | 350 | 50 |
| FI-B3216-392 | 3.9 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 45 | 85 | 10 | 38 | 45 | 800 | 400 | 50 |
| FI-B3216-472 | 4.7 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 45 | 85 | 10 | 35 | 41 | 800 | 400 | 50 |

Chip Ferrite Inductors - 1206 Specifications - (Continued)

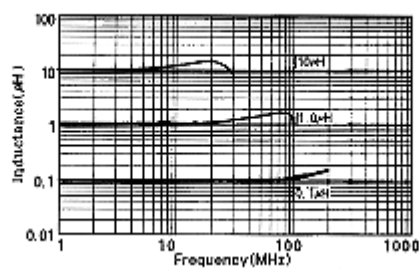
1206 is the U.S. inches equivalent for the 3216 millimeter series.

| Part Number | Inductance | | Q | | L.Q. Test Frequency | Self-Resonant Frequency (MHz) | | DC Resistance (m ohms) | | Rated DC Current (mA) |
|--------------|------------|-----------------------------|-----|-----|---------------------|-------------------------------|-----|------------------------|-----|-----------------------|
| | μ H | Tolerance | Min | Typ | (MHz) | Min | Typ | Max | Typ | Max |
| FI-C3216-562 | 5.6 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 50 | 65 | 4 | 32 | 38 | 600 | 300 | 50 |
| FI-C3216-682 | 6.8 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 50 | 65 | 4 | 29 | 34 | 600 | 300 | 50 |
| FI-C3216-822 | 8.2 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 50 | 65 | 4 | 26 | 31 | 600 | 330 | 50 |
| FI-C3216-103 | 10.0 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 50 | 65 | 2 | 24 | 28 | 700 | 380 | 50 |
| FI-C3216-123 | 12.0 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 50 | 65 | 2 | 22 | 26 | 900 | 450 | 25 |
| FI-C3216-153 | 15.0 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 35 | 45 | 1 | 19 | 23 | 1100 | 550 | 25 |
| FI-C3216-183 | 18.0 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 35 | 45 | 1 | 18 | 21 | 1500 | 800 | 25 |
| FI-C3216-223 | 22.0 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 35 | 45 | 1 | 16 | 19 | 1500 | 800 | 25 |
| FI-C3216-273 | 27.0 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 35 | 45 | 1 | 14 | 17 | 1500 | 800 | 25 |
| FI-C3216-333 | 33.0 | $\pm 5\%/\pm 10\%/\pm 20\%$ | 35 | 45 | 0.4 | 13 | 16 | 1600 | 850 | 25 |

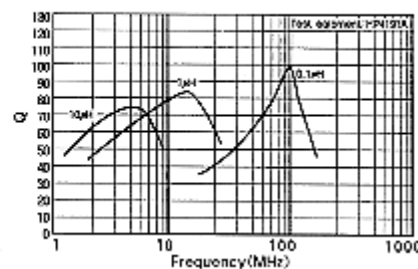
DC Bias Characteristics



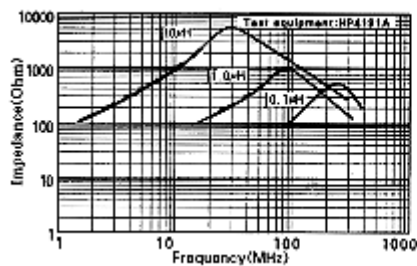
Inductance Characteristics



Q Characteristics



Impedance Characteristics



Temperature Characteristics

