



**THE DATASHEET OF
HFI-100505-2N7S**



■ FEATURES

HFI chip inductors are >Ufc& line of high frequency ceramic chip inductors. We have developed highly reliable and versatile chip inductors that will meet your high frequency design requirements.

• High Frequency Range

HFI chip inductors have a ceramic material construction that extends the effective frequency range to 10GHz.

• Multiple Size Availability

HFI chip inductors are available in three compact sizes: 060303,100505, 160808 and 201209.

• High Q characteristics

H-series HFI chip inductors exhibit higher Q at high frequency.

■ APPLICATIONS

HFI chip inductors can be used in a variety of electronics including:

- Cellular Phones
- Pager
- High-Speed Communication Devices
- WALN and RF module

■ PRODUCT IDENTIFICATION

HFI - 160808 - 1N2 S □ □

Product Code

Dimensions (in mm)

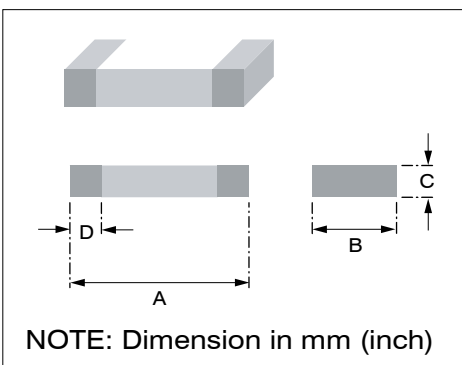
Inductance Code

Tolerance Code

Pattern Code

| Code | Tolerance |
|------|-----------|
| G | ± 2% |
| J | ± 5% |
| K | ± 10% |
| C | ± 0.2nH |
| S | ± 0.3nH |

■ PRODUCT DIMENSIONS



| PRODUCT NO. | A | B | C | D |
|----------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|
| HFI-201209 (0805) | 2.0 ± 0.20 (0.079 ± 0.008) | 1.2 ± 0.20 (0.047 ± 0.008) | 0.9 ± 0.20 (0.035 ± 0.008) | 0.5 ± 0.30 (0.020 ± 0.012) |
| HFI-160808 (0603) | 1.6 ± 0.15 (0.063 ± 0.006) | 0.8 ± 0.15 (0.031 ± 0.006) | 0.8 ± 0.15 (0.031 ± 0.006) | 0.3 ± 0.20 (0.012 ± 0.008) |
| HFI-100505 (0402) | 1.0 ± 0.10 (0.039 ± 0.004) | 0.5 ± 0.10 (0.020 ± 0.004) | 0.5 ± 0.10 (0.020 ± 0.004) | 0.25 ± 0.10 (0.010 ± 0.004) |
| HFI-060303 (0201) | 0.6 ± 0.03 (0.024 ± 0.001) | 0.33max. (0.012max.) | 0.33max. (0.012max.) | 0.15 ± 0.05 (0.006 ± 0.002) |

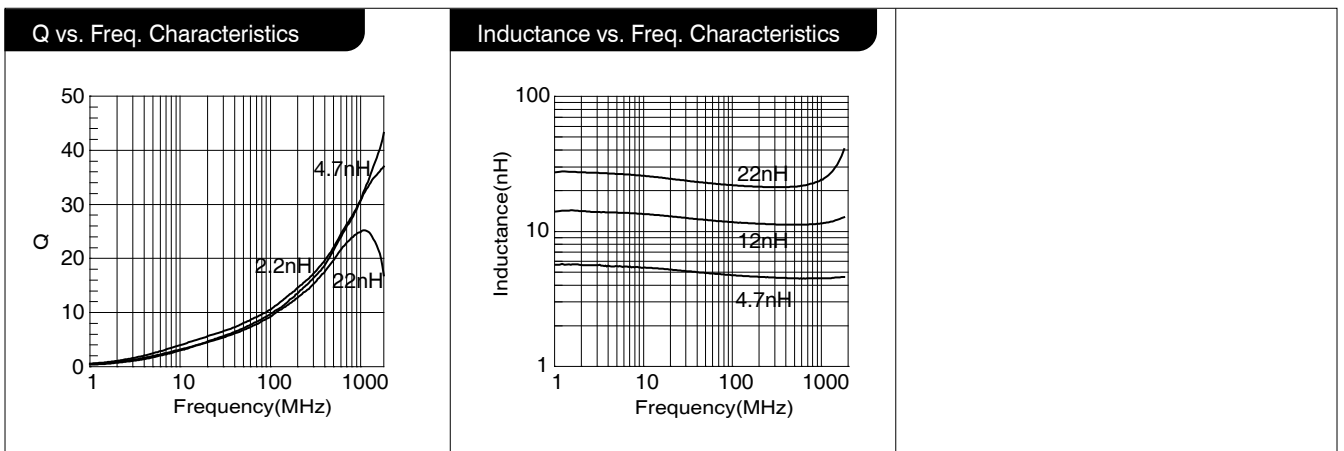
■ PRODUCT SPECIFICATIONS

| PART NUMBER | Inductance (nH) at 100 MHz | Tolerance | Q Min. | Q Typical | | | S.R.F.(MHz) Min. | R _{DC} (Ω) Max. | Rated Current (mA) Max. |
|-----------------|----------------------------|-----------|---------|-----------|---------|---------|------------------|--------------------------|-------------------------|
| | | | 100 MHz | 100 MHz | 500 MHz | 800 MHz | | | |
| HFI-060303-0N3□ | 0.3 | C | 4 | 5 | 13 | 18 | 10000 | 0.07 | 250 |
| HFI-060303-0N4□ | 0.4 | C | 4 | 5 | 13 | 18 | 10000 | 0.07 | 250 |
| HFI-060303-0N5□ | 0.5 | C | 4 | 5 | 13 | 18 | 10000 | 0.08 | 250 |
| HFI-060303-0N6□ | 0.6 | C | 4 | 5 | 13 | 18 | 10000 | 0.08 | 250 |
| HFI-060303-0N7□ | 0.7 | C | 4 | 5 | 13 | 18 | 10000 | 0.09 | 250 |
| HFI-060303-0N8□ | 0.8 | C | 4 | 5 | 13 | 18 | 10000 | 0.10 | 250 |
| HFI-060303-0N9□ | 0.9 | C | 4 | 5 | 13 | 18 | 10000 | 0.10 | 250 |
| HFI-060303-1N0□ | 1.0 | C,S | 4 | 5 | 15 | 19 | 10000 | 0.14 | 250 |
| HFI-060303-1N1□ | 1.1 | C,S | 4 | 6 | 15 | 20 | 10000 | 0.14 | 250 |
| HFI-060303-1N2□ | 1.2 | C,S | 4 | 6 | 15 | 20 | 10000 | 0.14 | 250 |
| HFI-060303-1N3□ | 1.3 | C,S | 4 | 6 | 15 | 20 | 10000 | 0.14 | 250 |
| HFI-060303-1N5□ | 1.5 | C,S | 4 | 6 | 15 | 20 | 10000 | 0.18 | 230 |
| HFI-060303-1N6□ | 1.6 | C,S | 4 | 6 | 15 | 20 | 10000 | 0.18 | 230 |
| HFI-060303-1N8□ | 1.8 | C,S | 4 | 6 | 15 | 20 | 10000 | 0.19 | 200 |
| HFI-060303-2N0□ | 2.0 | C,S | 4 | 6 | 15 | 20 | 8800 | 0.20 | 200 |
| HFI-060303-2N2□ | 2.2 | C,S | 4 | 6 | 15 | 20 | 8800 | 0.22 | 200 |
| HFI-060303-2N4□ | 2.4 | C,S | 4 | 6 | 15 | 20 | 8300 | 0.24 | 200 |
| HFI-060303-2N7□ | 2.7 | C,S | 5 | 6 | 16 | 20 | 7700 | 0.25 | 200 |
| HFI-060303-3N0□ | 3.0 | C,S | 5 | 6 | 16 | 20 | 7200 | 0.28 | 180 |
| HFI-060303-3N3□ | 3.3 | C,S,K | 5 | 6 | 16 | 20 | 6700 | 0.30 | 180 |
| HFI-060303-3N6□ | 3.6 | C,S,K | 5 | 6 | 16 | 20 | 6400 | 0.30 | 170 |
| HFI-060303-3N9□ | 3.9 | C,S,K | 5 | 7 | 16 | 20 | 6000 | 0.30 | 170 |
| HFI-060303-4N3□ | 4.3 | C,S,K | 5 | 7 | 16 | 20 | 5700 | 0.40 | 150 |
| HFI-060303-4N7□ | 4.7 | C,S,K | 5 | 7 | 16 | 20 | 5300 | 0.40 | 150 |
| HFI-060303-5N1□ | 5.1 | C,S,K | 5 | 7 | 16 | 20 | 5000 | 0.40 | 150 |
| HFI-060303-5N6□ | 5.6 | C,S,K | 5 | 7 | 16 | 20 | 4200 | 0.40 | 150 |
| HFI-060303-6N2□ | 6.2 | G,J,K | 5 | 7 | 16 | 20 | 3800 | 0.44 | 150 |
| HFI-060303-6N8□ | 6.8 | G,J,K | 5 | 7 | 16 | 20 | 3500 | 0.50 | 150 |
| HFI-060303-7N5□ | 7.5 | G,J,K | 5 | 7 | 15 | 20 | 3300 | 0.53 | 150 |
| HFI-060303-8N2□ | 8.2 | G,J,K | 5 | 7 | 15 | 20 | 3200 | 0.55 | 150 |
| HFI-060303-9N1□ | 9.1 | G,J,K | 5 | 6 | 15 | 20 | 3000 | 0.62 | 150 |
| HFI-060303-10N□ | 10 | G,J,K | 5 | 7 | 15 | 19 | 2800 | 0.65 | 150 |
| HFI-060303-12N□ | 12 | G,J,K | 5 | 7 | 14 | 18 | 2400 | 0.70 | 100 |
| HFI-060303-15N□ | 15 | G,J,K | 5 | 7 | 14 | 18 | 2200 | 0.80 | 100 |
| HFI-060303-18N□ | 18 | G,J,K | 5 | 7 | 14 | 18 | 2100 | 0.90 | 100 |

■ **PRODUCT SPECIFICATIONS**

| PART NUMBER | Inductance (nH) at 100 MHz | Tolerance | Q Min. | | | | Q Typical | | S.R.F.(MHz) Min. | R _{DC} (Ω) Max. | Rated Current (mA) Max. |
|-----------------|----------------------------|-----------|---------|---------|---------|---------|-----------|---------|------------------|--------------------------|-------------------------|
| | | | 100 MHz | 100 MHz | 500 MHz | 800 MHz | 100 MHz | 500 MHz | | | |
| HFI-060303-22N□ | 2.2 | G,J,K | 5 | 7 | 14 | 18 | 1800 | 1.20 | 100 | | |
| HFI-060303-27N□ | 27 | G,J,K | 4 | 6 | 14 | 16 | 1800 | 1.80 | 50 | | |
| HFI-060303-33N□ | 33 | G,J,K | 4 | 6 | 12 | 14 | 1700 | 2.10 | 50 | | |
| HFI-060303-39N□ | 39 | G,J,K | 4 | 6 | 12 | 14 | 1500 | 2.40 | 50 | | |
| HFI-060303-47N□ | 47 | G,J,K | 4 | 6 | 11 | 13 | 1300 | 2.80 | 50 | | |

■ **TYPICAL ELECTRICAL CHARACTERISTIC CURVES**



HFI SERIES-100505

CUTTING-EDGE TECHNOLOGIES OF EMI/EMC SOLUTIONS

High Frequency Ceramic Chip Inductors

Multilayer Chip Inductors

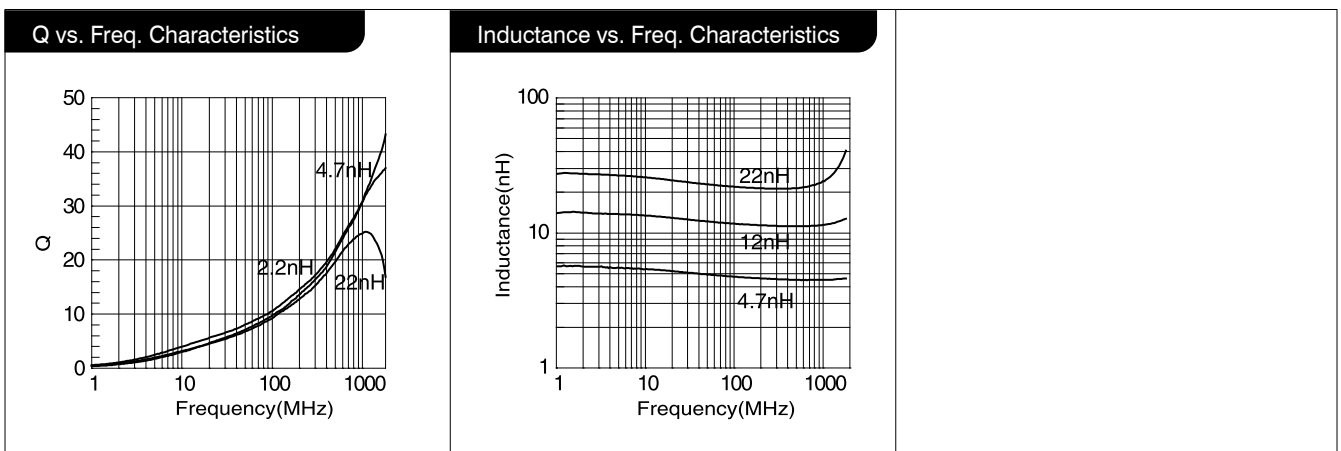
■ PRODUCT SPECIFICATIONS

| PART NUMBER | INDUCTANCE (nH) AT 100 MHz | Q Min. | Q Typical | S.R.F.(MHz) Min. | R _{DC} (Ω) Max. | I _{DC} (mA) Max. | | | |
|-----------------|----------------------------------|--------|-----------|---------------------|-----------------------------|------------------------------|----|------|------|
| | | 100MHz | 800 MHz | | | | | | |
| HFI-100505-1N0□ | 1.0 | 8 | 43 | 10000 | 0.12 | 300 | | | |
| HFI-100505-1N1□ | 1.1 | | | | | | | | |
| HFI-100505-1N2□ | 1.2 | | | | | | | | |
| HFI-100505-1N3□ | 1.3 | | | | | | | | |
| HFI-100505-1N5□ | 1.5 | | | | | | | | |
| HFI-100505-1N6□ | 1.6 | | | | | | | | |
| HFI-100505-1N8□ | 1.8 | | | | | | | | |
| HFI-100505-2N0□ | 2.0 | | | | | | 41 | 6000 | 0.16 |
| HFI-100505-2N2□ | 2.2 | | | | | | | | |
| HFI-100505-2N4□ | 2.4 | | | | | | | | |
| HFI-100505-2N7□ | 2.7 | | | | | | | | |
| HFI-100505-3N0□ | 3.0 | | | | | | | | |
| HFI-100505-3N3□ | 3.3 | | | | | | | | |
| HFI-100505-3N6□ | 3.6 | | | | | | | | |
| HFI-100505-3N9□ | 3.9 | | | | | | | | |
| HFI-100505-4N3□ | 4.3 | | 37 | 5000 | 0.22 | | | | |
| HFI-100505-4N7□ | 4.7 | | | | | | | | |
| HFI-100505-5N1□ | 5.1 | | | | | | | | |
| HFI-100505-5N6□ | 5.6 | | | | | | | | |
| HFI-100505-6N2□ | 6.2 | | | | | | | | |
| HFI-100505-6N8□ | 6.8 | | | | | | | | |
| HFI-100505-7N5□ | 7.5 | | | | | | | | |
| HFI-100505-8N2□ | 8.2 | | | | | | | | |
| HFI-100505-9N1□ | 9.1 | | | | | | | | |
| HFI-100505-10N□ | 10.0 | | | | | | 35 | 4000 | 0.24 |
| HFI-100505-12N□ | 12.0 | | | | | | | | |
| HFI-100505-15N□ | 15.0 | | | | | | | | |
| HFI-100505-18N□ | 18.0 | | | | | | | | |
| HFI-100505-22N□ | 22.0 | | | | | | | | |
| HFI-100505-27N□ | 27.0 | | | | | | | | |
| HFI-100505-33N□ | 33.0 | | | | | | | | |
| HFI-100505-39N□ | 39.0 | | | | | | | | |
| HFI-100505-47N□ | 47.0 | | | | | | | | |
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■ **PRODUCT SPECIFICATIONS**

| PART NUMBER | Inductance (nH) at 100 MHz | Q Min. | Q Typical | S.R.F.(MHz) Min. | R _{DC} (Ω) Max. | Rated Current (mA) Max. |
|-----------------|----------------------------|---------|-----------|------------------|--------------------------|-------------------------|
| | | 100 MHz | 800 MHz | | | |
| HFI-100505-56N□ | 56.0 | 8 | 21 | 750 | 1.40 | 200 |
| HFI-100505-68N□ | 68.0 | | 19 | | | 180 |
| HFI-100505-82N□ | 82.0 | | 16 | 150 | | |
| HFI-100505-R10□ | 100.0 | | - | 600 | 1.60 | 100 |
| HFI-100505-R12□ | 120.0 | | - | | | |

■ **TYPICAL ELECTRICAL CHARACTERISTIC CURVES**



HFI SERIES-160808

CUTTING-EDGE TECHNOLOGIES OF EMI/EMC SOLUTIONS

High Frequency Ceramic Chip Inductors

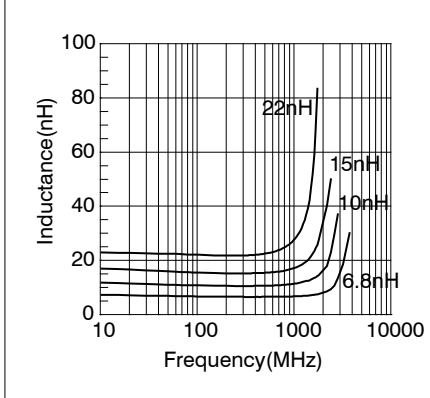
Multilayer Chip Inductors

■ PRODUCT SPECIFICATIONS

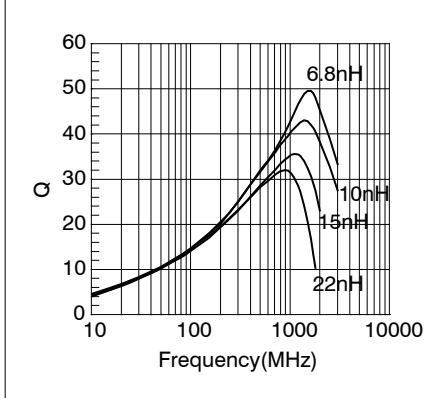
| PART NUMBER | INDUCTANCE (nH) AT 100 MHz | Q Min. | Q Typical | S.R.F.(MHz) Min. | R _{DC} (Ω) Max. | I _{DC} (mA) Max. | |
|-----------------|-------------------------------|--------|-----------|---------------------|-----------------------------|------------------------------|----|
| | | 100MHz | 800 MHz | | | | |
| HFI-160808-1N0□ | 1.0 | 8 | 47 | 6000 | 0.10 | 1000 | |
| HFI-160808-1N2□ | 1.2 | | | | | | |
| HFI-160808-1N5□ | 1.5 | | | | | | |
| HFI-160808-1N8□ | 1.8 | | | | | | |
| HFI-160808-2N2□ | 2.2 | 10 | 49 | 4000 | 0.13 | 600 | |
| HFI-160808-2N7□ | 2.7 | | 48 | | | | |
| HFI-160808-3N3□ | 3.3 | | 51 | | | | |
| HFI-160808-3N9□ | 3.9 | | 48 | | | | |
| HFI-160808-4N7□ | 4.7 | 12 | 46 | 3500 | 0.23 | 500 | |
| HFI-160808-5N6□ | 5.6 | | | | | | 48 |
| HFI-160808-6N8□ | 6.8 | | | | | | 50 |
| HFI-160808-8N2□ | 8.2 | | | | | | 50 |
| HFI-160808-10N□ | 10.0 | 12 | 47 | 3200 | 0.30 | 400 | |
| HFI-160808-12N□ | 12.0 | | 45 | 2600 | 0.35 | | |
| HFI-160808-15N□ | 15.0 | | 48 | 2300 | 0.40 | | |
| HFI-160808-18N□ | 18.0 | | 47 | 2000 | 0.45 | | |
| HFI-160808-22N□ | 22.0 | *8 | 49 | 1600 | 0.50 | 300 | |
| HFI-160808-27N□ | 27.0 | | 47 | 1400 | 0.55 | | |
| HFI-160808-33N□ | 33.0 | | 46 | 1200 | 0.60 | | |
| HFI-160808-39N□ | 39.0 | | 46 | 1100 | 0.65 | | |
| HFI-160808-47N□ | 47.0 | *8 | 39 | 900 | 0.70 | 300 | |
| HFI-160808-56N□ | 56.0 | | 37 | 900 | 0.75 | | |
| HFI-160808-68N□ | 68.0 | | 36 | 700 | 0.85 | | |
| HFI-160808-82N□ | 82.0 | | 29 | 600 | 0.95 | | |
| HFI-160808-R10□ | 100.0 | *8 | 16 | 600 | 1.0 | 300 | |
| HFI-160808-R12□ | 120.0 at 50MHz | | 17 | 500 | 1.20 | | |
| HFI-160808-R15□ | 150.0 at 50MHz | | - | 500 | 1.20 | | |
| HFI-160808-R18□ | 180.0 at 50MHz | | - | 400 | 1.30 | | |
| HFI-160808-R22□ | 220.0 at 50MHz | *8 | - | 400 | 1.50 | 300 | |
| HFI-160808-R27□ | 270.0 at 50MHz | | - | | | | |

■ TYPICAL ELECTRICAL CHARACTERISTIC CURVES

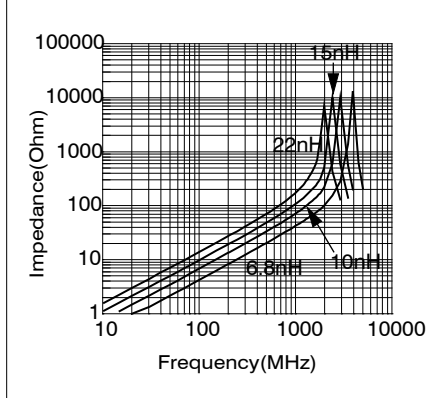
Inductance vs. Freq. Characteristics



Q vs. Freq. Characteristics



Impedance vs. Freq. Characteristics



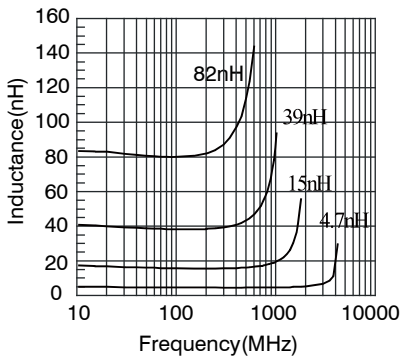
Multilayer Chip Inductors

■ PRODUCT SPECIFICATIONS

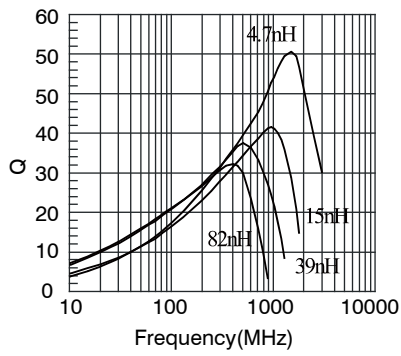
| PART NUMBER | INDUCTANCE (nH) AT 100 MHz | Q Min. | | S.R.F.(MHz) Min. | R _{DC} (Ω) Max. | I _{DC} (mA) Max. |
|-----------------|----------------------------------|------------------|----------------------|---------------------|-----------------------------|------------------------------|
| | | 100MHz *50MHz | Q Typical 800 MHz | | | |
| HFI-201209-1N5□ | 1.5 | 10 | 61 | 4000 | 0.10 | 300 |
| HFI-201209-1N8□ | 1.8 | | 55 | | | |
| HFI-201209-2N2□ | 2.2 | | 53 | | | |
| HFI-201209-2N7□ | 2.7 | 12 | 56 | 3500 | 0.13 | |
| HFI-201209-3N3□ | 3.3 | | 47 | | 0.15 | |
| HFI-201209-3N9□ | 3.9 | | 54 | | 0.20 | |
| HFI-201209-4N7□ | 4.7 | 15 | 55 | 3200 | 0.23 | |
| HFI-201209-5N6□ | 5.6 | | 60 | 0.25 | | |
| HFI-201209-6N8□ | 6.8 | | 63 | 0.28 | | |
| HFI-201209-8N2□ | 8.2 | 18 | 2400 | 2100 | 0.30 | |
| HFI-201209-10N□ | 10.0 | | 60 | 0.35 | | |
| HFI-201209-12N□ | 12.0 | | 63 | 0.40 | | |
| HFI-201209-15N□ | 15.0 | 15 | 1600 | 1900 | 0.45 | |
| HFI-201209-18N□ | 18.0 | | 1500 | 0.50 | | |
| HFI-201209-22N□ | 22.0 | | 1400 | 0.55 | | |
| HFI-201209-27N□ | 27.0 | 12 | 1300 | 1300 | 0.60 | |
| HFI-201209-33N□ | 33.0 | | 58 | 0.65 | | |
| HFI-201209-39N□ | 39.0 | | 55 | 0.70 | | |
| HFI-201209-47N□ | 47.0 | 10 | 900 | 1200 | 0.75 | |
| HFI-201209-56N□ | 56.0 | | 43 | 0.80 | | |
| HFI-201209-68N□ | 68.0 | | 39 | 0.90 | | |
| HFI-201209-82N□ | 82.0 | *13 | 30 | 700 | 0.95 | |
| HFI-201209-R10□ | 100.0 | | - | 600 | 1.00 | |
| HFI-201209-R12□ | 120.0 at 50 MHz | | - | 500 | 1.10 | |
| HFI-201209-R15□ | 150.0 at 50 MHz | *12 | - | 400 | 1.20 | |
| HFI-201209-R18□ | 180.0at 50 MHz | | - | 350 | 1.30 | |
| HFI-201209-R22□ | 220.0 at 50 MHz | | - | 300 | 1.40 | |
| HFI-201209-R27□ | 270.0 at 50 MHz | *10 | - | 250 | 1.30 | |
| HFI-201209-R33□ | 330.0 at 50 MHz | | - | 200 | 1.50 | |
| HFI-201209-R39□ | 390.0 at 50 MHz | | - | | | |
| HFI-201209-R47□ | 470.0 at 50 MHz | | | | | |

■ TYPICAL ELECTRICAL CHARACTERISTIC CURVES

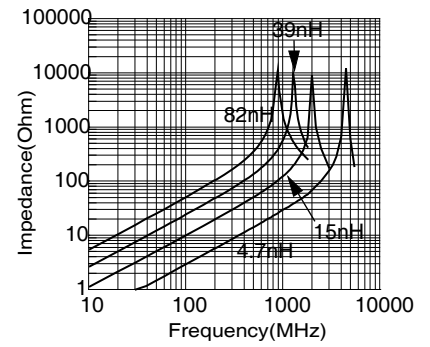
Inductance vs. Freq. Characteristics



Q vs. Freq. Characteristics



Impedance vs. Freq. Characteristics



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