

Multilayer RF Inductors---HFM Series



Features

- Compact design.
- High self resonant frequency
- High reliability.
- RoHS compliant.
- Operating temperature range $-55^{\circ}\text{C} \sim 125^{\circ}\text{C}$ (Including self - temperature rise).

Applications

- Communications, Computer, Remote control, etc.
- Mobile phones .
- Filters
- Navigation systems, Bluetooth, WLAN

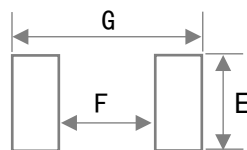
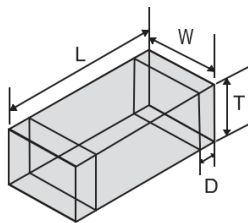
Production identification

HFM
1005
-
2N2
J

①
②
③
④

- ① Series name
- ② Size: 1.0×0.5mm
- ③ Inductance: 2.2nH
- ④ Tolerance: G = $\pm 2\%$, H = $\pm 3\%$, J = $\pm 5\%$, K = $\pm 10\%$,
B = $\pm 0.1\text{nH}$, C = $\pm 0.2\text{nH}$, S = $\pm 0.3\text{nH}$, D = $\pm 0.5\text{nH}$

Series Shape and Dimensions (Unit: mm)



| Series | L(mm) | W(mm) | T(mm) | D(mm) | E(mm) | F(mm) | G(mm) | SPQ (PCS) |
|---------|----------------|----------------|----------------|----------------|---------------|---------------|---------------|-----------|
| HFM1005 | 1.0 ± 0.15 | 0.5 ± 0.15 | 0.5 ± 0.15 | 0.25 ± 0.1 | 0.6 ± 0.1 | 0.5 ± 0.1 | 1.4 ± 0.1 | 10000 |
| HFM1608 | 1.6 ± 0.2 | 0.8 ± 0.2 | 0.8 ± 0.2 | 0.3 ± 0.2 | 0.9 ± 0.1 | 0.8 ± 0.1 | 2.2 ± 0.1 | 4000 |
| HFM2012 | 2.0 ± 0.2 | 1.2 ± 0.2 | 0.9 ± 0.2 | 0.5 ± 0.3 | 1.0 ± 0.1 | 1.2 ± 0.1 | 3.0 ± 0.1 | 4000 |

Multilayer RF Inductors---HFM Series



HFW1005 Electrical Characteristics

| Part Number | Inductance (nH) | Q Value (Min) | Test Freq. L/Q (MHz) | Typ. Q @ Freq. (MHz) | | | SRF Min. (GHz) | DCR Max (Ω) | Rated Current Max (mA) |
|--------------|--------------------|------------------|----------------------------|-------------------------|-----|------|----------------------|-------------------|------------------------------|
| | | | | 100 | 800 | 1000 | | | |
| HFM1005-0N6_ | 0.6 | 4 | 100 | 6 | 35 | 41 | 10.00 | 0.10 | 800 |
| HFM1005-1N0_ | 1.0 | 8 | 100 | 11 | 34 | 36 | 10.00 | 0.10 | 400 |
| HFM1005-1N1_ | 1.1 | 8 | 100 | 11 | 34 | 36 | 10.00 | 0.10 | 400 |
| HFM1005-1N2_ | 1.2 | 8 | 100 | 11 | 34 | 36 | 10.00 | 0.10 | 400 |
| HFM1005-1N3_ | 1.3 | 8 | 100 | 11 | 34 | 36 | 10.00 | 0.10 | 400 |
| HFM1005-1N5_ | 1.5 | 8 | 100 | 11 | 34 | 36 | 6.00 | 0.10 | 300 |
| HFM1005-1N6_ | 1.6 | 8 | 100 | 11 | 32 | 35 | 6.00 | 0.10 | 300 |
| HFM1005-1N8_ | 1.8 | 8 | 100 | 11 | 30 | 34 | 6.00 | 0.10 | 300 |
| HFM1005-2N0_ | 2.0 | 8 | 100 | 10 | 29 | 33 | 6.00 | 0.20 | 300 |
| HFM1005-2N2_ | 2.2 | 8 | 100 | 10 | 29 | 33 | 6.00 | 0.20 | 300 |
| HFM1005-2N4_ | 2.4 | 8 | 100 | 10 | 29 | 32 | 6.00 | 0.20 | 300 |
| HFM1005-2N7_ | 2.7 | 8 | 100 | 10 | 29 | 32 | 6.00 | 0.20 | 300 |
| HFM1005-3N0_ | 3.0 | 8 | 100 | 10 | 29 | 32 | 6.00 | 0.20 | 300 |
| HFM1005-3N3_ | 3.3 | 8 | 100 | 10 | 29 | 32 | 6.00 | 0.20 | 300 |
| HFM1005-3N6_ | 3.6 | 8 | 100 | 10 | 28 | 31 | 4.00 | 0.20 | 300 |
| HFM1005-3N9_ | 3.9 | 8 | 100 | 10 | 28 | 31 | 4.00 | 0.20 | 300 |
| HFM1005-4N3_ | 4.3 | 8 | 100 | 10 | 28 | 31 | 4.00 | 0.20 | 300 |
| HFM1005-4N7_ | 4.7 | 8 | 100 | 10 | 28 | 31 | 4.00 | 0.20 | 300 |
| HFM1005-5N1_ | 5.1 | 8 | 100 | 10 | 28 | 30 | 4.00 | 0.30 | 300 |
| HFM1005-5N6_ | 5.6 | 8 | 100 | 10 | 28 | 30 | 4.00 | 0.30 | 300 |
| HFM1005-6N2_ | 6.2 | 8 | 100 | 10 | 27 | 30 | 3.90 | 0.30 | 300 |
| HFM1005-6N8_ | 6.8 | 8 | 100 | 10 | 27 | 30 | 3.90 | 0.30 | 300 |
| HFM1005-7N5_ | 7.5 | 8 | 100 | 10 | 27 | 30 | 3.70 | 0.40 | 300 |
| HFM1005-8N2_ | 8.2 | 8 | 100 | 10 | 27 | 30 | 3.60 | 0.40 | 300 |
| HFM1005-9N1_ | 9.1 | 8 | 100 | 10 | 27 | 30 | 3.40 | 0.40 | 300 |
| HFM1005-10N_ | 10 | 8 | 100 | 10 | 27 | 30 | 3.20 | 0.40 | 300 |
| HFM1005-12N_ | 12 | 8 | 100 | 10 | 26 | 29 | 2.70 | 0.50 | 300 |
| HFM1005-15N_ | 15 | 8 | 100 | 10 | 26 | 28 | 2.30 | 0.50 | 300 |
| HFM1005-18N_ | 18 | 8 | 100 | 10 | 25 | 27 | 2.10 | 0.60 | 300 |
| HFM1005-20N_ | 20 | 8 | 100 | 10 | 25 | 26 | 2.00 | 0.60 | 300 |
| HFM1005-22N_ | 22 | 8 | 100 | 10 | 25 | 25 | 1.90 | 0.60 | 300 |
| HFM1005-27N_ | 27 | 8 | 100 | 10 | 25 | 23 | 1.60 | 0.70 | 300 |
| HFM1005-33N_ | 33 | 8 | 100 | 10 | 22 | 22 | 1.30 | 0.80 | 200 |
| HFM1005-39N_ | 39 | 8 | 100 | 10 | 22 | 19 | 1.20 | 1.00 | 200 |
| HFM1005-43N_ | 43 | 8 | 100 | 10 | 21 | 16 | 1.10 | 1.10 | 200 |
| HFM1005-47N_ | 47 | 8 | 100 | 10 | 21 | 16 | 1.00 | 1.10 | 200 |
| HFM1005-56N_ | 56 | 8 | 100 | 10 | 18 | 13 | 0.75 | 1.20 | 200 |

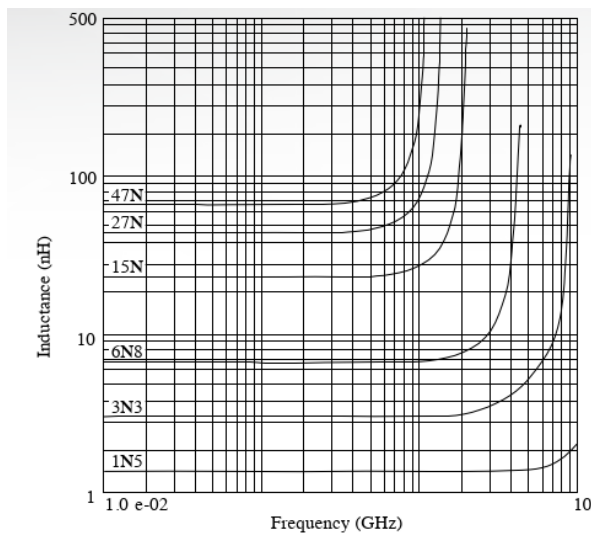
Multilayer RF Inductors---HFM Series



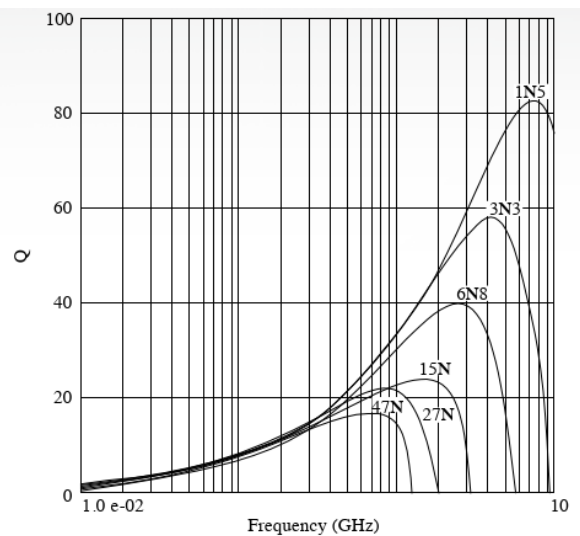
HFW1005 Electrical Characteristics

| Part Number | Inductance (nH) | Q Value (Min) | Test Freq. L/Q (MHz) | Typ. Q @ Freq. (MHz) | | | SRF Min. (GHz) | DCR Max (Ω) | Rated Current Max (mA) |
|--------------|-----------------|---------------|----------------------|----------------------|-----|------|----------------|-------------|------------------------|
| | | | | 100 | 800 | 1000 | | | |
| HFM1005-68N_ | 68 | 8 | 100 | 10 | 18 | 9 | 0.75 | 1.40 | 180 |
| HFM1005-82N_ | 82 | 8 | 100 | 10 | 13 | - | 0.75 | 2.40 | 150 |
| HFM1005-R10_ | 100 | 8 | 100 | 10 | 12 | - | 0.70 | 2.60 | 150 |
| HFM1005-R12_ | 120 | 8 | 100 | 10 | - | - | 0.60 | 2.80 | 150 |
| HFM1005-R15_ | 150 | 8 | 100 | 10 | - | - | 0.55 | 3.20 | 100 |
| HFM1005-R18_ | 180 | 8 | 100 | 10 | - | - | 0.50 | 3.70 | 100 |
| HFM1005-R22_ | 220 | 8 | 100 | 12 | - | - | 0.45 | 4.00 | 100 |
| HFM1005-R27_ | 270 | 8 | 100 | 12 | - | - | 0.40 | 4.50 | 100 |
| HFM1005-R30_ | 300 | 8 | 100 | 12 | - | - | 0.40 | 4.50 | 100 |
| HFM1005-R33_ | 330 | 6 | 50 | 8 | - | - | 0.35 | 7.00 | 50 |
| HFM1005-R36_ | 360 | 6 | 50 | 8 | - | - | 0.30 | 7.50 | 50 |

HFM1005 Typical Electrical Graphs



Q vs. Frequency



Inductance vs. Frequency

Multilayer RF Inductors---HFM Series



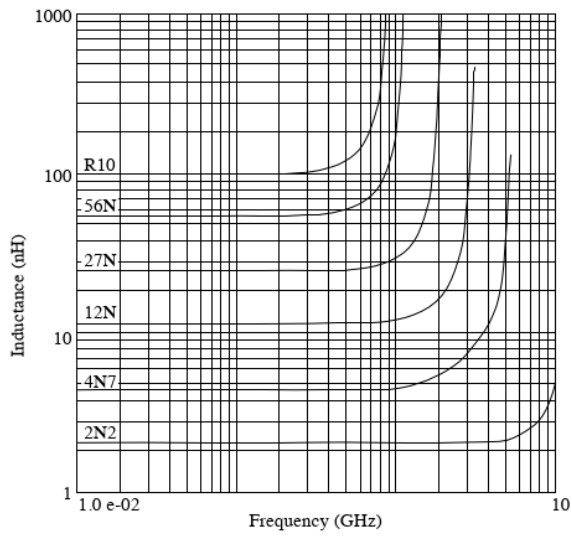
HFW1608 Electrical Characteristics

| Part Number | Inductance (nH) | Q Value (Min) | Test Freq. L/Q (MHz) | Typ. Q @ Freq. (MHz) | | | SRF Min. (GHz) | DCR Max(Ω) | Rated Current Max (mA) |
|--------------|--------------------|------------------|----------------------------|-------------------------|-----|------|----------------------|-------------------|------------------------------|
| | | | | 100 | 800 | 1000 | | | |
| HFM1608-1N0_ | 1.0 | 8 | 100 | 13 | 70 | 80 | 10.00 | 0.05 | 500 |
| HFM1608-1N2_ | 1.2 | 8 | 100 | 13 | 60 | 70 | 10.00 | 0.05 | 500 |
| HFM1608-1N5_ | 1.5 | 8 | 100 | 13 | 47 | 68 | 6.00 | 0.10 | 500 |
| HFM1608-1N8_ | 1.8 | 8 | 100 | 13 | 45 | 61 | 6.00 | 0.10 | 500 |
| HFM1608-2N2_ | 2.2 | 8 | 100 | 13 | 45 | 60 | 6.00 | 0.10 | 500 |
| HFM1608-2N7_ | 2.7 | 10 | 100 | 13 | 44 | 55 | 6.00 | 0.12 | 500 |
| HFM1608-3N3_ | 3.3 | 10 | 100 | 13 | 43 | 50 | 6.00 | 0.15 | 500 |
| HFM1608-3N9_ | 3.9 | 10 | 100 | 13 | 43 | 50 | 6.00 | 0.16 | 500 |
| HFM1608-4N7_ | 4.7 | 10 | 100 | 13 | 43 | 50 | 6.00 | 0.20 | 500 |
| HFM1608-5N6_ | 5.6 | 10 | 100 | 14 | 42 | 48 | 5.00 | 0.25 | 500 |
| HFM1608-6N8_ | 6.8 | 10 | 100 | 14 | 43 | 50 | 5.00 | 0.30 | 500 |
| HFM1608-8N2_ | 8.2 | 10 | 100 | 14 | 43 | 48 | 4.50 | 0.35 | 500 |
| HFM1608-10N_ | 10 | 12 | 100 | 15 | 45 | 50 | 3.50 | 0.40 | 300 |
| HFM1608-12N_ | 12 | 12 | 100 | 18 | 48 | 50 | 3.00 | 0.45 | 300 |
| HFM1608-15N_ | 15 | 12 | 100 | 18 | 48 | 50 | 2.30 | 0.50 | 300 |
| HFM1608-18N_ | 18 | 12 | 100 | 16 | 48 | 51 | 2.20 | 0.55 | 300 |
| HFM1608-22N_ | 22 | 12 | 100 | 16 | 45 | 48 | 2.00 | 0.60 | 300 |
| HFM1608-27N_ | 27 | 12 | 100 | 16 | 45 | 45 | 1.70 | 0.65 | 300 |
| HFM1608-33N_ | 33 | 12 | 100 | 16 | 45 | 41 | 1.50 | 0.70 | 300 |
| HFM1608-39N_ | 39 | 12 | 100 | 17 | 40 | 48 | 1.40 | 0.70 | 300 |
| HFM1608-47N_ | 47 | 12 | 100 | 17 | 35 | 35 | 1.20 | 0.70 | 300 |
| HFM1608-56N_ | 56 | 12 | 100 | 17 | 35 | 30 | 1.10 | 0.75 | 300 |
| HFM1608-68N_ | 68 | 12 | 100 | 17 | 30 | 20 | 0.90 | 0.85 | 300 |
| HFM1608-82N | 82 | 8 | 100 | 15 | 22 | - | 0.80 | 1.00 | 300 |
| HFM1608-R10_ | 100 | 8 | 100 | 15 | 16 | - | 0.70 | 1.20 | 300 |
| HFM1608-R12_ | 120 | 8 | 50 | 15 | - | - | 0.60 | 1.40 | 200 |
| HFM1608-R15_ | 150 | 8 | 50 | 15 | - | - | 0.50 | 1.60 | 200 |
| HFM1608-R18_ | 180 | 8 | 50 | 15 | - | - | 0.40 | 1.90 | 200 |
| HFM1608-R22_ | 220 | 8 | 50 | 15 | - | - | 0.35 | 2.40 | 200 |
| HFM1608-R27_ | 270 | 8 | 50 | 16 | - | - | 0.35 | 2.60 | 150 |
| HFM1608-R33_ | 330 | 8 | 50 | 16 | - | - | 0.35 | 2.80 | 150 |
| HFM1608-R39_ | 390 | 8 | 50 | 16 | - | - | 0.30 | 3.20 | 150 |
| HFM1608-R43_ | 430 | 8 | 50 | 16 | - | - | 0.28 | 3.40 | 150 |
| HFM1608-R47_ | 470 | 8 | 50 | 15 | - | - | 0.25 | 3.60 | 150 |
| HFM1608-R56_ | 560 | 8 | 50 | 15 | - | - | 0.25 | 4.00 | 100 |
| HFM1608-R68_ | 680 | 8 | 50 | 15 | - | - | 0.25 | 4.50 | 100 |

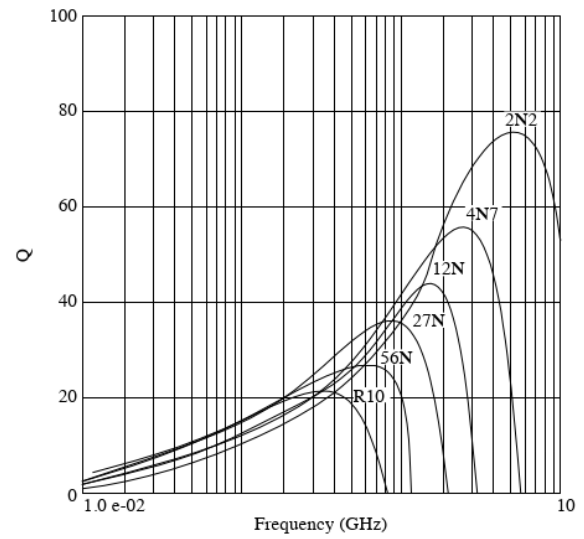
Multilayer RF Inductors---HFM Series



HFM1608 Typical Electrical Graphs



Q vs. Frequency



Inductance vs. Frequency

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

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