

Wire Wound Chip Ceramic Inductor - MWSD-C Series

Operating Temp. : -40°C~+125°C



FEATURES

- Small chip suitable for surface mounting
- High Q value and high self-resonant frequency with ceramic material
- Tight inductance tolerance and high reliability
- Single-sided package, thinner than SDWL-C series

APPLICATIONS

- High frequency circuit in telecommunication and other equipments
- Mobile phones and other electronic devices
- Bluetooth, W-LAN, Broadband network

PRODUCT IDENTIFICATION

MWSD

①

1005

②

C

③

10N

④

S

⑤

I

⑥

①

| Type | |
|------|--------------------------|
| MWSD | Wire Wound Chip Inductor |

②

| External Dimensions | |
|---------------------|-------------|
| | 0603[0201] |
| | 0804[03015] |
| | 1005[0402] |

③

| Material Code | |
|---------------|---------|
| C | Ceramic |

④

| Nominal Inductance | |
|--------------------|---------------|
| Example | Nominal Value |
| 4N7 | 4.7nH |
| 10N | 10nH |
| R10 | 100nH |

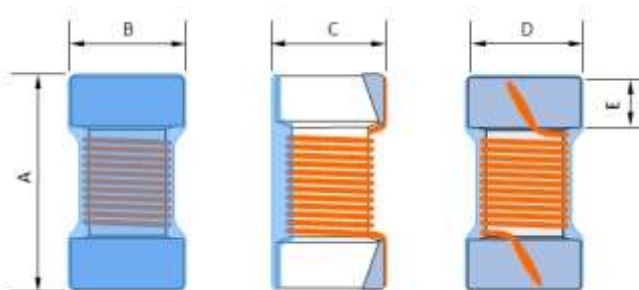
⑤

| Inductance Tolerance | |
|----------------------|--------|
| B | ±0.1nH |
| C | ±0.2nH |
| S | ±0.3nH |
| D | ±0.5nH |
| G | ±2% |
| H | ±3% |
| J | ±5% |

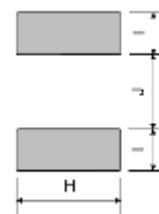
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| Packing | |
|---------|--------------|
| B | Bulk Package |
| T | Tape & Reel |

SHAPE AND DIMENSIONS



Land Pattern



SHAPE AND DIMENSIONS

Unit: mm

| Series | A | B | C | D | E | H REF. | I REF. | J REF. |
|-----------|-----------|-----------|-----------|-----------|-----------|--------|--------|--------|
| MWSD0603C | 0.53±0.05 | 0.40±0.05 | 0.40±0.05 | 0.40±0.05 | 0.10±0.05 | 0.50 | 0.20 | 0.23 |
| MWSD0804C | 0.80±0.05 | 0.40±0.05 | 0.40±0.05 | 0.40±0.05 | 0.15±0.05 | 0.50 | 0.25 | 0.43 |
| MWSD1005C | 1.1±0.1 | 0.6±0.1 | 0.55±0.1 | 0.5±0.1 | 0.2±0.1 | 0.65 | 0.35 | 0.50 |

SPECIFICATIONS

MWSD0603C TYPE

| Part Number | Inductance | Tolerance | Min. Quality Factor | L/Q Test Freq. | Max. Rated Current | Min. Self-resonant Frequency | Max. DC Resistance |
|----------------|------------|-----------|---------------------|----------------|--------------------|------------------------------|--------------------|
| Units | nH | - | - | MHz | mA | GHz | Ω |
| Symbol | L | - | Q | Freq. | I _r | S.R.F | DCR |
| MWSD0603C1N0□T | 1.0 | C、D | 48 | 250 | 900 | 19.0 | 0.03 |
| MWSD0603C1N1□T | 1.1 | C、D | 41 | 250 | 660 | 19.0 | 0.06 |
| MWSD0603C1N7□T | 1.7 | C、D | 41 | 250 | 600 | 19.0 | 0.07 |
| MWSD0603C1N8□T | 1.8 | C、D | 37 | 250 | 520 | 19.0 | 0.10 |
| MWSD0603C1N9□T | 1.9 | C、D | 41 | 250 | 620 | 19.0 | 0.08 |
| MWSD0603C2N0□T | 2.0 | C、D | 42 | 250 | 490 | 19.0 | 0.10 |
| MWSD0603C2N1□T | 2.1 | C、D | 35 | 250 | 400 | 19.0 | 0.16 |
| MWSD0603C2N2□T | 2.2 | C、D | 33 | 250 | 400 | 19.0 | 0.16 |
| MWSD0603C2N7□T | 2.7 | C、D | 46 | 250 | 720 | 15.0 | 0.06 |
| MWSD0603C2N8□T | 2.8 | C、D | 44 | 250 | 600 | 14.0 | 0.08 |
| MWSD0603C2N9□T | 2.9 | C、D | 41 | 250 | 540 | 13.0 | 0.10 |
| MWSD0603C3N0□T | 3.0 | C、D | 34 | 250 | 350 | 14.0 | 0.22 |
| MWSD0603C3N1□T | 3.1 | C、D | 48 | 250 | 720 | 12.0 | 0.07 |
| MWSD0603C3N2□T | 3.2 | C、D | 48 | 250 | 580 | 10.0 | 0.08 |
| MWSD0603C3N3□T | 3.3 | C、D | 47 | 250 | 520 | 11.0 | 0.11 |
| MWSD0603C3N4□T | 3.4 | C、D | 43 | 250 | 440 | 11.0 | 0.15 |
| MWSD0603C3N5□T | 3.5 | C、D | 43 | 250 | 440 | 12.0 | 0.15 |
| MWSD0603C3N6□T | 3.6 | C、D | 36 | 250 | 340 | 11.0 | 0.23 |
| MWSD0603C3N7□T | 3.7 | C、D | 38 | 250 | 340 | 11.0 | 0.23 |
| MWSD0603C3N9□T | 3.9 | C、D | 38 | 250 | 500 | 11.0 | 0.25 |
| MWSD0603C4N1□T | 4.1 | C、D | 48 | 100 | 650 | 11.0 | 0.07 |
| MWSD0603C4N3□T | 4.3 | D、J | 45 | 100 | 480 | 11.0 | 0.12 |
| MWSD0603C4N7□T | 4.7 | D、J | 45 | 100 | 620 | 9.5 | 0.09 |
| MWSD0603C5N1□T | 5.1 | D、J | 45 | 100 | 480 | 9.5 | 0.14 |
| MWSD0603C5N4□T | 5.4 | D、J | 46 | 100 | 420 | 9.5 | 0.21 |
| MWSD0603C5N6□T | 5.6 | D、J | 37 | 100 | 330 | 8.3 | 0.33 |
| MWSD0603C6N0□T | 6.0 | D、J | 47 | 100 | 460 | 8.8 | 0.16 |
| MWSD0603C6N2□T | 6.2 | D、J | 39 | 100 | 360 | 9.9 | 0.22 |
| MWSD0603C6N8□T | 6.8 | D、J | 42 | 100 | 460 | 7.7 | 0.18 |
| MWSD0603C7N5□T | 7.5 | D、J | 41 | 100 | 400 | 7.5 | 0.24 |
| MWSD0603C8N2□T | 8.2 | D、J | 40 | 100 | 290 | 8.5 | 0.26 |
| MWSD0603C8N7□T | 8.7 | D、J | 39 | 100 | 290 | 7.5 | 0.42 |
| MWSD0603C9N1□T | 9.1 | D、J | 46 | 100 | 460 | 6.4 | 0.22 |
| MWSD0603C10N□T | 10.0 | J | 37 | 100 | 250 | 7.2 | 0.46 |
| MWSD0603C11N□T | 11.0 | J | 37 | 100 | 260 | 7.0 | 0.47 |
| MWSD0603C12N□T | 12.0 | J | 39 | 100 | 280 | 6.0 | 0.54 |
| MWSD0603C13N□T | 13.0 | J | 39 | 100 | 280 | 5.9 | 0.54 |
| MWSD0603C14N□T | 14.0 | J | 37 | 100 | 240 | 6.0 | 0.53 |
| MWSD0603C15N□T | 15.0 | J | 38 | 100 | 230 | 5.7 | 0.60 |

SPECIFICATIONS

MWSD0804C TYPE

| Part Number | Inductance | Tolerance | Min. Quality Factor | L/Q Test Freq. | Min. Self-resonant Frequency | Max. DC Resistance | Max. Rated Current |
|----------------|------------|-----------|---------------------|----------------|------------------------------|--------------------|--------------------|
| Units | nH | - | - | MHz | GHz | Ω | mA |
| Symbol | L | - | Q | Freq. | S.R.F | DCR | Ir |
| MWSD0804C0N8□T | 0.8 | C、D | 23 | 100 | 20 | 0.02 | 1800 |
| MWSD0804C1N1□T | 1.1 | C、D | 15 | 100 | 20 | 0.03 | 990 |
| MWSD0804C1N3□T | 1.3 | C、D | 15 | 100 | 20 | 0.03 | 1500 |
| MWSD0804C1N6□T | 1.6 | C、D | 15 | 100 | 17 | 0.06 | 700 |
| MWSD0804C1N7□T | 1.7 | C、D | 15 | 100 | 17 | 0.06 | 700 |
| MWSD0804C1N8□T | 1.8 | C、D | 15 | 100 | 17 | 0.06 | 700 |
| MWSD0804C1N9□T | 1.9 | C、D | 10 | 100 | 15 | 0.12 | 490 |
| MWSD0804C2N3□T | 2.3 | C、D | 18 | 100 | 20 | 0.07 | 780 |
| MWSD0804C2N4□T | 2.4 | C、D | 15 | 100 | 15 | 0.07 | 570 |
| MWSD0804C2N5□T | 2.5 | C、D | 10 | 100 | 10 | 0.12 | 490 |
| MWSD0804C2N6□T | 2.6 | C、D | 15 | 100 | 15 | 0.07 | 620 |
| MWSD0804C2N7□T | 2.7 | C、D | 15 | 100 | 15 | 0.07 | 570 |
| MWSD0804C2N8□T | 2.8 | C、D | 15 | 100 | 15 | 0.07 | 620 |
| MWSD0804C3N0□T | 3.0 | C、D | 15 | 100 | 13 | 0.07 | 620 |
| MWSD0804C3N3□T | 3.3 | C、D | 10 | 100 | 10.0 | 0.14 | 440 |
| MWSD0804C3N4□T | 3.4 | C、D | 10 | 100 | 8.0 | 0.27 | 310 |
| MWSD0804C3N6□T | 3.6 | C、D | 15 | 100 | 13.0 | 0.10 | 530 |
| MWSD0804C3N7□T | 3.7 | C、D | 20 | 100 | 10.0 | 0.14 | 440 |
| MWSD0804C3N8□T | 3.8 | C、D | 15 | 100 | 11.0 | 0.10 | 530 |
| MWSD0804C3N9□T | 3.9 | C、D | 15 | 100 | 12.0 | 0.10 | 530 |
| MWSD0804C4N3□T | 4.3 | C、D | 15 | 100 | 11.0 | 0.10 | 530 |
| MWSD0804C4N5□T | 4.5 | C、D | 20 | 100 | 10.0 | 0.14 | 440 |
| MWSD0804C5N0□T | 5.0 | C、D | 15 | 100 | 9.0 | 0.23 | 350 |
| MWSD0804C5N1□T | 5.1 | C、D | 20 | 100 | 10.0 | 0.12 | 470 |
| MWSD0804C5N6□T | 5.6 | C、D | 20 | 100 | 9.0 | 0.12 | 470 |
| MWSD0804C6N2□T | 6.2 | C、D | 20 | 100 | 9.0 | 0.19 | 390 |
| MWSD0804C6N5□T | 6.5 | C、D | 20 | 100 | 9.0 | 0.19 | 390 |
| MWSD0804C6N8□T | 6.8 | C、D | 20 | 100 | 9.0 | 0.14 | 440 |
| MWSD0804C7N5□T | 7.5 | C、D | 20 | 100 | 8.0 | 0.14 | 440 |
| MWSD0804C8N2□T | 8.2 | C、D | 20 | 100 | 8.0 | 0.23 | 350 |
| MWSD0804C9N0□T | 9.0 | C、D | 20 | 100 | 7.0 | 0.26 | 330 |
| MWSD0804C9N5□T | 9.5 | C、D | 20 | 100 | 7.0 | 0.26 | 330 |
| MWSD0804C9N9□T | 9.9 | C、D | 20 | 100 | 7.0 | 0.26 | 330 |
| MWSD0804C10N□T | 10 | H、J | 20 | 100 | 7.0 | 0.26 | 330 |
| MWSD0804C12N□T | 12 | H、J | 15 | 100 | 6.0 | 0.28 | 310 |
| MWSD0804C18N□T | 18 | H、J | 15 | 100 | 5.0 | 0.54 | 220 |
| MWSD0804C24N□T | 24 | H、J | 15 | 100 | 4.0 | 0.95 | 160 |
| MWSD0804C33N□T | 33 | H、J | 15 | 100 | 4.0 | 1.11 | 140 |
| MWSD0804C43N□T | 43 | J | 15 | 100 | 1.6 | 1.20 | 180 |
| MWSD0804C56N□T | 56 | J | 13 | 100 | 1.2 | 1.60 | 130 |

MWSD1005C TYPE

| Part Number | Inductance | Tolerance | Min. Quality Factor | L/Q Test Freq. | Min. Self-resonant Frequency | Max. DC Resistance | Max. Rated Current |
|----------------|------------|-------------|---------------------|----------------|------------------------------|--------------------|--------------------|
| Units | nH | - | - | MHz | MHz | Ω | mA |
| Symbol | L | - | Q | Freq. | S.R.F | DCR | Ir |
| MWSD1005C0N8□T | 0.8 | B,C,S,D,K | 14 | 250 | >6000 | 0.035 | 1000 |
| MWSD1005C1N0□T | 1.0 | B,C,S,D,K | 10 | 250 | >6000 | 0.085 | 650 |
| MWSD1005C1N8□T | 1.8 | B,C,S,D,J,K | 20 | 250 | >6000 | 0.043 | 950 |
| MWSD1005C1N9□T | 1.9 | B,C,S,D,J,K | 20 | 250 | >6000 | 0.043 | 950 |

SPECIFICATIONS

MWSD1005C TYPE

| Part Number | Inductance | Tolerance | Min. Quality Factor | L/Q Test Freq. | Min. Self-resonant Frequency | Max. DC Resistance | Max. Rated Current |
|----------------|------------|-------------|---------------------|----------------|------------------------------|--------------------|--------------------|
| Units | nH | - | - | MHz | MHz | Ω | mA |
| Symbol | L | - | Q | Freq. | S.R.F | DCR | I _r |
| MWSD1005C2N0□T | 2.0 | B,C,S,D,J,K | 23 | 250 | >6000 | 0.043 | 950 |
| MWSD1005C2N2□T | 2.2 | B,C,S,D,J,K | 22 | 250 | >6000 | 0.058 | 820 |
| MWSD1005C2N4□T | 2.4 | B,C,S,D,J,K | 18 | 250 | >6000 | 0.091 | 650 |
| MWSD1005C2N7□T | 2.7 | B,C,S,D,J,K | 24 | 250 | >6000 | 0.050 | 900 |
| MWSD1005C3N0□T | 3.0 | S,D,K | 24 | 250 | >6000 | 0.063 | 790 |
| MWSD1005C3N3□T | 3.3 | B,C,S,D,J,K | 24 | 250 | >6000 | 0.063 | 790 |
| MWSD1005C3N6□T | 3.6 | B,C,S,D,J,K | 24 | 250 | >6000 | 0.063 | 790 |
| MWSD1005C3N9□T | 3.9 | B,C,S,D,J,K | 24 | 250 | >6000 | 0.063 | 790 |
| MWSD1005C4N1□T | 4.1 | B,C,S,D,J,K | 22 | 250 | >6000 | 0.070 | 700 |
| MWSD1005C4N3□T | 4.3 | B,C,S,D,J,K | 22 | 250 | >6000 | 0.070 | 750 |
| MWSD1005C4N7□T | 4.7 | B,C,S,D,J,K | 20 | 250 | >6000 | 0.120 | 570 |
| MWSD1005C5N1□T | 5.1 | B,C,S,D,J,K | 23 | 250 | >6000 | 0.100 | 620 |
| MWSD1005C5N6□T | 5.6 | B,C,S,D,J,K | 25 | 250 | >6000 | 0.078 | 710 |
| MWSD1005C5N8□T | 5.8 | B,C,S,D,J,K | 25 | 250 | >6000 | 0.078 | 710 |
| MWSD1005C6N2□T | 6.2 | B,C,S,D,J,K | 25 | 250 | >6000 | 0.078 | 710 |
| MWSD1005C6N8□T | 6.8 | G,H,J,K | 24 | 250 | 6000 | 0.105 | 610 |
| MWSD1005C7N5□T | 7.5 | G,H,J,K | 25 | 250 | 6000 | 0.12 | 570 |
| MWSD1005C8N2□T | 8.2 | G,H,J,K | 25 | 250 | 5500 | 0.11 | 590 |
| MWSD1005C8N7□T | 8.7 | G,H,J,K | 25 | 250 | 5500 | 0.11 | 590 |
| MWSD1005C9N0□T | 9.0 | G,H,J,K | 25 | 250 | 5500 | 0.11 | 590 |
| MWSD1005C9N1□T | 9.1 | G,H,J,K | 25 | 250 | 5500 | 0.11 | 590 |
| MWSD1005C10N□T | 10 | G,H,J,K | 24 | 250 | 5500 | 0.15 | 510 |
| MWSD1005C11N□T | 11 | G,H,J,K | 26 | 250 | 5500 | 0.12 | 570 |
| MWSD1005C12N□T | 12 | G,H,J,K | 26 | 250 | 5500 | 0.12 | 570 |
| MWSD1005C13N□T | 13 | G,H,J,K | 24 | 250 | 5000 | 0.18 | 460 |
| MWSD1005C14N□T | 14 | G,H,J,K | 26 | 250 | 5000 | 0.21 | 430 |
| MWSD1005C15N□T | 15 | G,H,J,K | 26 | 250 | 5000 | 0.21 | 430 |
| MWSD1005C16N□T | 16 | G,H,J,K | 25 | 250 | 4500 | 0.28 | 370 |
| MWSD1005C18N□T | 18 | G,H,J,K | 25 | 250 | 4500 | 0.28 | 370 |
| MWSD1005C19N□T | 19 | G,H,J,K | 26 | 250 | 4000 | 0.24 | 400 |
| MWSD1005C20N□T | 20 | G,H,J,K | 26 | 250 | 4000 | 0.24 | 400 |
| MWSD1005C22N□T | 22 | G,H,J,K | 25 | 250 | 4000 | 0.36 | 330 |
| MWSD1005C23N□T | 23 | G,H,J,K | 25 | 250 | 3800 | 0.36 | 330 |
| MWSD1005C24N□T | 24 | G,H,J,K | 25 | 250 | 3500 | 0.36 | 330 |
| MWSD1005C27N□T | 27 | G,H,J,K | 25 | 250 | 3500 | 0.38 | 320 |
| MWSD1005C30N□T | 30 | G,H,J,K | 25 | 250 | 3300 | 0.38 | 320 |
| MWSD1005C33N□T | 33 | G,H,J,K | 24 | 250 | 3200 | 0.55 | 260 |
| MWSD1005C36N□T | 36 | G,H,J,K | 25 | 250 | 3100 | 0.60 | 250 |
| MWSD1005C38N□T | 38 | G,H,J,K | 25 | 250 | 3000 | 0.60 | 250 |
| MWSD1005C39N□T | 39 | G,H,J,K | 25 | 250 | 3000 | 0.60 | 250 |
| MWSD1005C43N□T | 43 | G,H,J,K | 25 | 250 | 3000 | 0.68 | 240 |
| MWSD1005C47N□T | 47 | G,H,J,K | 25 | 250 | 2900 | 0.95 | 200 |
| MWSD1005C51N□T | 51 | G,H,J,K | 25 | 250 | 2850 | 0.95 | 200 |
| MWSD1005C56N□T | 56 | G,H,J,K | 25 | 250 | 2800 | 1.05 | 190 |
| MWSD1005C62N□T | 62 | G,H,J,K | 25 | 250 | 2600 | 1.05 | 190 |
| MWSD1005C68N□T | 68 | G,H,J,K | 25 | 250 | 2500 | 1.35 | 170 |
| MWSD1005C75N□T | 75 | G,H,J,K | 24 | 250 | 2400 | 1.75 | 140 |
| MWSD1005C82N□T | 82 | G,H,J,K | 25 | 250 | 2300 | 1.90 | 140 |
| MWSD1005C91N□T | 91 | G,H,J,K | 25 | 250 | 2100 | 1.95 | 140 |
| MWSD1005C96N□T | 96 | G,H,J,K | 24 | 250 | 1500 | 2.06 | 130 |
| MWSD1005CR10□T | 100 | G,H,J,K | 24 | 250 | 1500 | 2.06 | 130 |

SPECIFICATIONS

MWSD1005C TYPE

| Part Number | Inductance | Tolerance | Min. Quality Factor | L/Q Test Freq. | Min. Self-resonant Frequency | Max. DC Resistance | Max. Rated Current |
|----------------|------------|-----------|---------------------|----------------|------------------------------|--------------------|--------------------|
| Units | nH | - | - | MHz | MHz | Ω | mA |
| Symbol | L | - | Q | Freq. | S.R.F | DCR | Ir |
| MWSD1005CR11□T | 110 | G,H,J,K | 25 | 250 | 1200 | 2.38 | 120 |
| MWSD1005CR12□T | 120 | J,K | 25 | 250 | 1000 | 2.66 | 110 |
| MWSD1005CR27□T | 270 | JK | 10 | 100 | 400 | 3.30 | 100 |

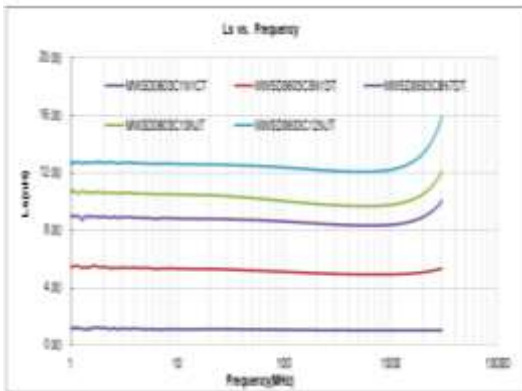
※□: Please specify the inductance tolerance code (B=±0.1nH, C=±0.2nH, S=±0.3nH, D=±0.5nH, G=±2%, H=±3%, J=±5%, K=±10%).

※: Please refer to "Measurement Notice for RF Inductors".

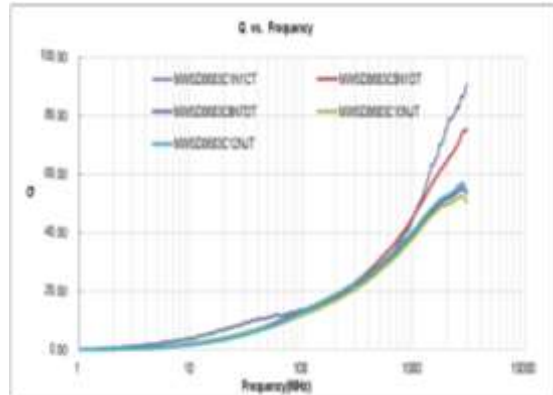
TYPICAL ELECTRICAL CHARACTERISTICS

MWSD0603C TYPE

Inductance vs. Frequency Characteristics

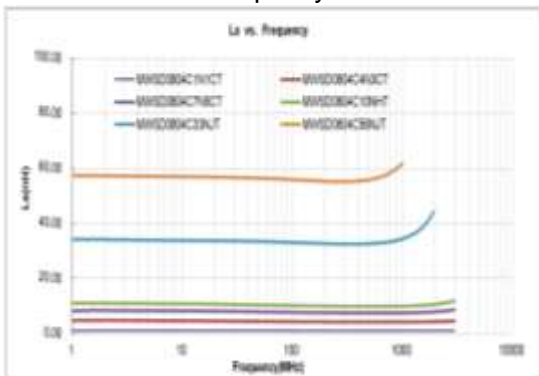


Q vs. Frequency Characteristics

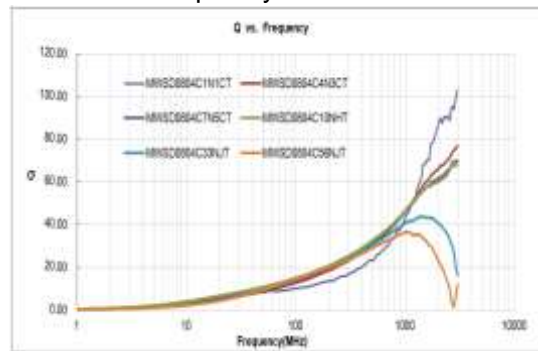


MWSD00804C TYPE

Inductance vs. Frequency Characteristics

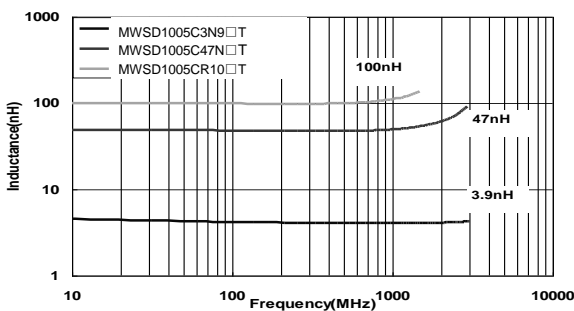


Q vs. Frequency Characteristics



MWSD1005C TYPE

Inductance vs. Frequency Characteristics



Q vs. Frequency Characteristics

