



Frontier Electronics Corp.

667 E. COCHRAN STREET, SIMI VALLEY, CA 93065

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SMD Wire Wound Ceramic Chip Inductors—0402C series

A. Electrical specifications:

| Part No. | L (nH) | Tol. | Q Typ. (Min) | 900 MHz | | 1.7 GHz | | SRF (min) (GHz) | DCR (Ω) (Max) | I rms. (mA) |
|-----------|--------|------|--------------|---------|----|---------|-----|-----------------|---------------|-------------|
| | | | | L | Q | L | Q | | | |
| 0402C-1N0 | 1.0 | K | 16 | 1.02 | 77 | 1.02 | 69 | 12.7 | 0.045 | 1360 |
| 0402C-1N9 | 1.9 | K, J | 16 | 1.72 | 68 | 1.74 | 82 | 11.3 | 0.070 | 1040 |
| 0402C-2N0 | 2.0 | K, J | 16 | 1.93 | 54 | 1.93 | 75 | 11.1 | 0.070 | 1040 |
| 0402C-2N2 | 2.2 | K, J | 19 | 2.19 | 59 | 2.23 | 100 | 10.8 | 0.070 | 960 |
| 0402C-2N4 | 2.4 | K, J | 15 | 2.24 | 51 | 2.27 | 68 | 10.5 | 0.070 | 790 |
| 0402C-2N7 | 2.7 | K, J | 16 | 2.58 | 42 | 2.60 | 61 | 10.4 | 0.120 | 640 |
| 0402C-3N3 | 3.3 | K, J | 19 | 3.1 | 65 | 3.12 | 87 | 7.00 | 0.066 | 840 |
| 0402C-3N6 | 3.6 | K, J | 19 | 3.56 | 45 | 3.62 | 71 | 6.80 | 0.066 | 840 |
| 0402C-3N9 | 3.9 | K, J | 19 | 3.89 | 50 | 4.00 | 75 | 6.00 | 0.066 | 840 |
| 0402C-4N3 | 4.3 | K, J | 18 | 4.19 | 47 | 4.30 | 71 | 6.00 | 0.091 | 700 |
| 0402C-4N7 | 4.7 | K, J | 15 | 4.55 | 48 | 4.68 | 68 | 4.77 | 0.130 | 640 |
| 0402C-5N1 | 5.1 | K, J | 20 | 5.15 | 56 | 5.25 | 82 | 4.80 | 0.083 | 800 |
| 0402C-5N6 | 5.6 | K, J | 20 | 5.16 | 54 | 5.28 | 81 | 4.80 | 0.083 | 760 |
| 0402C-6N2 | 6.2 | K, J | 20 | 6.16 | 52 | 6.37 | 76 | 4.80 | 0.083 | 760 |
| 0402C-6N8 | 6.8 | K, J | 20 | 6.56 | 63 | 6.93 | 78 | 4.80 | 0.083 | 680 |
| 0402C-7N5 | 7.5 | K, J | 22 | 7.91 | 60 | 8.22 | 88 | 4.80 | 0.100 | 680 |
| 0402C-8N2 | 8.2 | K, J | 22 | 8.5 | 57 | 8.85 | 84 | 4.40 | 0.100 | 680 |
| 0402C-8N7 | 8.7 | K, J | 18 | 8.78 | 54 | 9.21 | 73 | 4.10 | 0.200 | 480 |
| 0402C-9N0 | 9.0 | K, J | 22 | 9.07 | 62 | 9.53 | 78 | 4.16 | 0.100 | 680 |
| 0402C-9N5 | 9.5 | K, J | 18 | 9.42 | 54 | 9.98 | 69 | 4.00 | 0.200 | 480 |
| 0402C-10N | 10 | K, J | 21 | 9.8 | 50 | 10.10 | 67 | 3.90 | 0.200 | 480 |
| 0402C-11N | 11 | K, J | 24 | 10.7 | 52 | 11.15 | 78 | 3.68 | 0.120 | 640 |
| 0402C-12N | 12 | K, J | 24 | 11.9 | 53 | 12.68 | 71 | 3.60 | 0.120 | 640 |
| 0402C-13N | 13 | K, J | 24 | 13.4 | 51 | 14.63 | 57 | 3.45 | 0.210 | 440 |
| 0402C-15N | 15 | K, J | 24 | 14.6 | 55 | 15.50 | 77 | 3.28 | 0.170 | 560 |
| 0402C-16N | 16 | K, J | 24 | 16.6 | 46 | 18.86 | 47 | 3.10 | 0.220 | 560 |
| 0402C-18N | 18 | K, J | 24 | 18.3 | 57 | 20.28 | 62 | 3.10 | 0.230 | 420 |
| 0402C-19N | 19 | K, J | 24 | 19.1 | 50 | 21.11 | 67 | 3.04 | 0.200 | 480 |
| 0402C-20N | 20 | K, J | 25 | 20.7 | 52 | 23.66 | 53 | 3.00 | 0.250 | 420 |
| 0402C-22N | 22 | K, J | 25 | 23.2 | 53 | 26.75 | 53 | 2.80 | 0.300 | 400 |
| 0402C-23N | 23 | K, J | 22 | 23.8 | 49 | 26.85 | 64 | 2.72 | 0.300 | 400 |
| 0402C-24N | 24 | K, J | 25 | 25.1 | 51 | 29.50 | 50 | 2.70 | 0.300 | 400 |
| 0402C-27N | 27 | K, J | 24 | 28.7 | 49 | 33.50 | 63 | 2.48 | 0.300 | 400 |
| 0402C-30N | 30 | K, J | 25 | 31.1 | 46 | 38.50 | 39 | 2.35 | 0.350 | 400 |
| 0402C-33N | 33 | K, J | 24 | 34.9 | 31 | 41.74 | 32 | 2.35 | 0.350 | 400 |
| 0402C-36N | 36 | K, J | 24 | 39.5 | 44 | 48.40 | 53 | 2.32 | 0.440 | 320 |
| 0402C-39N | 39 | K, J | 25 | 41.7 | 47 | 50.23 | 45 | 2.10 | 0.550 | 200 |
| 0402C-40N | 40 | K, J | 24 | 39 | 44 | 47.41 | 33 | 2.24 | 0.440 | 320 |
| 0402C-43N | 43 | K, J | 25 | 45.8 | 46 | 61.55 | 34 | 2.03 | 0.810 | 100 |
| 0402C-47N | 47 | K, J | 20 | 50 | 38 | -- | -- | 2.10 | 0.830 | 150 |
| 0402C-51N | 51 | K, J | 25 | -- | -- | -- | -- | 1.75 | 0.820 | 100 |
| 0402C-56N | 56 | K, J | 22 | -- | -- | -- | -- | 1.76 | 0.970 | 100 |
| 0402C-68N | 68 | K, J | 22 | -- | -- | -- | -- | 1.62 | 1.120 | 100 |

Note: 1. Inductance measured at 250 MHz

2. 0402C has no color code.



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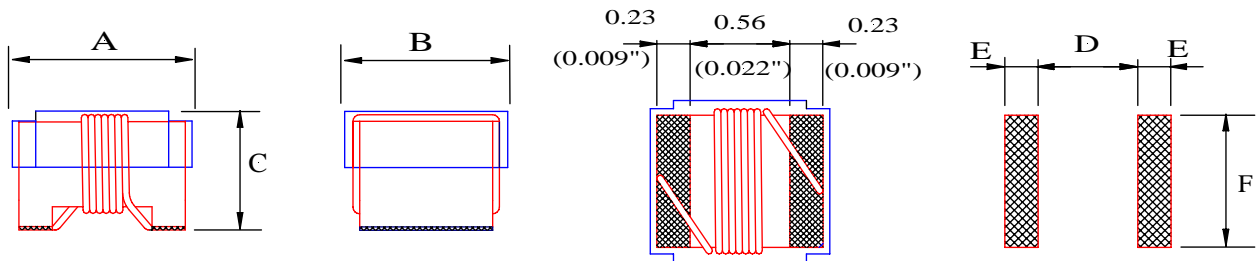
Web: <http://www.frontierusa.com>

SMD Wire Wound Ceramic Chip Inductors—0402C series

B. Dimensions: (Unit: mm)

| SERIES | A (Max.) | B (Max.) | C (Max.) | D (Max.) | E | F |
|--------|----------|----------|----------|----------|------|------|
| 0402C | 1.27 | 0.76 | 0.61 | 0.46 | 0.50 | 0.66 |

C. Mechanical Drawing:



Land Pattern

D. General information:

1. Tolerance: K: $\pm 10\%$, J: $\pm 5\%$, G: $\pm 2\%$.
2. Small and lightweight surface mounting type.
3. High Q at high frequency.
4. High self-resonance frequency.
5. For 15°C Temperature Rise at 25°C ambient.
6. Inductance & Q measured using the HP4291B.
7. SRF measured using the HP8720D or HP8753E.
8. DCR measured using the 502BC.
9. Operating temperature: -40°C TO +125°C.
10. This series has **no color code** due to the size is small.
11. Inductance Range:
 - 0402C (Ceramic) Series: 1.0nH (1360mA)~68nH (100mA). SRF from 12.7GHz to 1.62GHz.
12. **RoHS** compliant.

E. Applications:

* Pagers. * Mobile communication units. * Portable telephone. * Hybrid.

★ *Special specifications are available for customer's requirement.*



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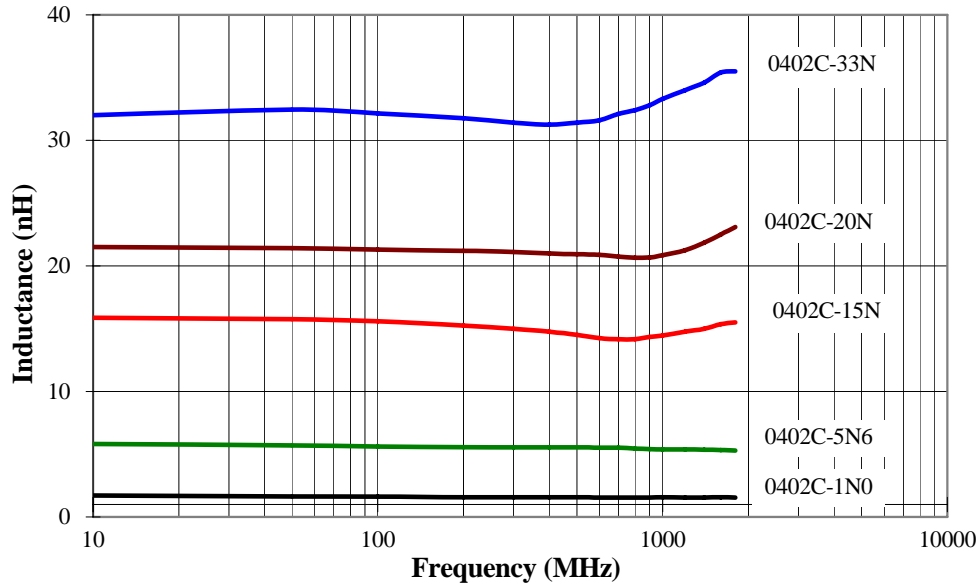
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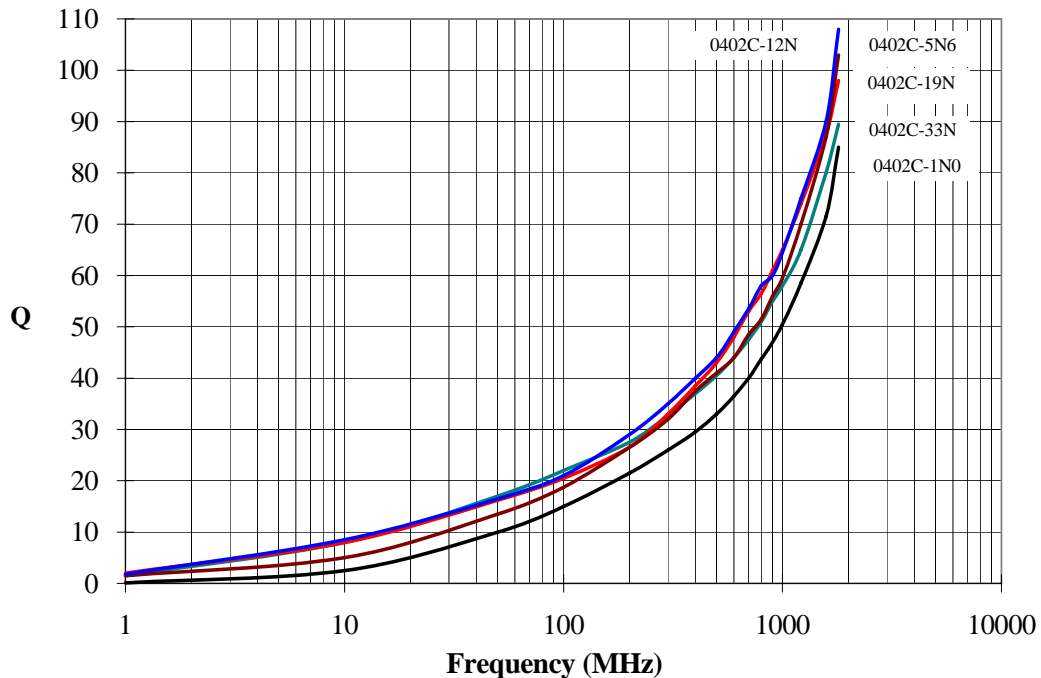
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F. Characteristic curve:

1. Inductance vs. Frequency:



2. Typical Q vs. Frequency:





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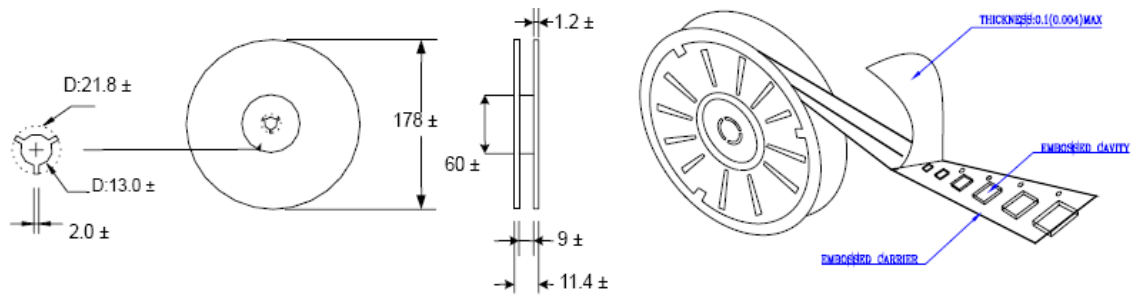
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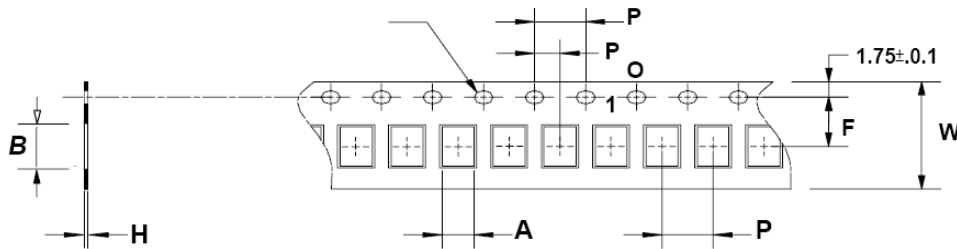
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F. Paper Tape

1. Reel Dimension:

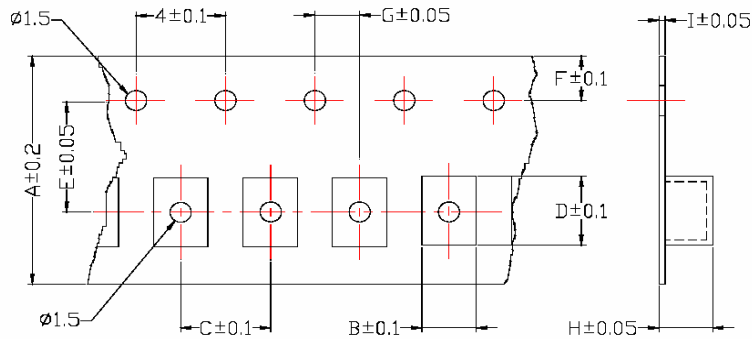


2. Paper Tape Specification:



| A | B | K | F | P | Po | P1 | W | Quantity |
|------|------|------|-----|-----|-----|-----|-----|----------|
| 0.80 | 1.22 | 0.60 | 3.5 | 2.0 | 4.0 | 2.0 | 8.0 | 4,000 |

3. Emboss Plastic Tape Specification:



| A | B | C | D | E | F | G | H | I | Quantity |
|---|------|-----|------|-----|------|---|------|------|----------|
| 8 | 0.71 | 2.0 | 1.16 | 3.5 | 1.75 | 2 | 0.65 | 0.23 | 4,000 |

4. Cover Tape Strength:

The force for tearing off cover tape is 0.1~0.6(N) in the arrow direction at the following conditions:

a. Temperature : 5 ~ 35°C. b. Humidity : 45 ~ 85%. c. Atmospheric pressure : 860 ~ 1060 hpa

