

# Multilayer Chip Ceramic Inductor - SDCL0603Q-02 Series

Operating Temp. : SDCL0603Q-02 series: -55°C~+125°C



## FEATURES

- Monolithic structure for high reliability
- High self-resonant frequency
- Excellent solderability and high heat resistance
- High Q factor

## APPLICATIONS

- RF circuit in telecommunication and other equipments

## PRODUCT IDENTIFICATION

**SDCL**

①

| Type |                       |
|------|-----------------------|
| SDCL | Chip Ceramic Inductor |

**0603**

②

**Q**

③

| External Dimensions (L×W) (mm) |         |
|--------------------------------|---------|
| 0603 [0201]                    | 0.6×0.3 |

**10N**

④

④

| Nominal Inductance |               |
|--------------------|---------------|
| Example            | Nominal Value |
| 3N9                | 3.9nH         |
| 10N                | 10nH          |
| ※R=, N=nH          |               |

⑤

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

**J**

⑤

**T**

⑥

③

| Characteristics Code |  |
|----------------------|--|
| Q                    |  |

**02**

⑦

⑥

| Packing |             |
|---------|-------------|
| T       | Tape & Reel |

⑦

| Serial Code |  |
|-------------|--|
| 02          |  |

## SHAPE AND DIMENSIONS



Unit: mm [inch]

| Type         | L           | W           | T           | a            |
|--------------|-------------|-------------|-------------|--------------|
| SDCL0603Q-02 | 0.6±0.05    | 0.3±0.05    | 0.3±0.05    | 0.12±0.05    |
| [0201]       | [.024±.002] | [.012±.002] | [.012±.002] | [.0048±.002] |

# SPECIFICATIONS

## SDCL0603Q-02 Series

| Part Number      | Inductance | Min. Quality Factor | L, Q Test Freq. L/Q | Typical Q @ Freq. (GHz) |     |     |     |     | Min. Self-resonant Frequency | Max. DC Resistance | Max. Rated Current |
|------------------|------------|---------------------|---------------------|-------------------------|-----|-----|-----|-----|------------------------------|--------------------|--------------------|
|                  |            |                     |                     | 0.5                     | 0.8 | 1.8 | 2.0 | 2.4 |                              |                    |                    |
| Units            | nH         | -                   | MHz                 | -                       |     |     |     |     | MHz                          | Ω                  | mA                 |
| Symbol           | L          | Q                   | Freq                | Q                       |     |     |     |     | S.R.F                        | DCR                | I <sub>r</sub>     |
| SDCL0603Q0N6□T02 | 0.6        | 13                  | 500                 | >24                     | >32 | >54 | >57 | >65 | 10000                        | 0.06               | 600                |
| SDCL0603Q0N7□T02 | 0.7        | 13                  | 500                 | >24                     | >32 | >54 | >57 | >65 | 10000                        | 0.06               | 550                |
| SDCL0603Q0N8□T02 | 0.8        | 13                  | 500                 | >24                     | >32 | >54 | >57 | >65 | 10000                        | 0.07               | 550                |
| SDCL0603Q0N9□T02 | 0.9        | 13                  | 500                 | >24                     | >32 | >54 | >57 | >65 | 10000                        | 0.07               | 550                |
| SDCL0603Q1N0□T02 | 1.0        | 13                  | 500                 | 24                      | 32  | 54  | 57  | 65  | 10000                        | 0.08               | 520                |
| SDCL0603Q1N1□T02 | 1.1        | 13                  | 500                 | 19                      | 26  | 45  | 47  | 55  | 10000                        | 0.11               | 440                |
| SDCL0603Q1N2□T02 | 1.2        | 13                  | 500                 | 19                      | 25  | 43  | 44  | 52  | 10000                        | 0.12               | 420                |
| SDCL0603Q1N3□T02 | 1.3        | 13                  | 500                 | 19                      | 25  | 40  | 42  | 47  | 10000                        | 0.12               | 420                |
| SDCL0603Q1N4□T02 | 1.4        | 13                  | 500                 | 19                      | 24  | 39  | 41  | 47  | 10000                        | 0.11               | 440                |
| SDCL0603Q1N5□T02 | 1.5        | 13                  | 500                 | 19                      | 24  | 39  | 41  | 46  | 10000                        | 0.12               | 420                |
| SDCL0603Q1N6□T02 | 1.6        | 13                  | 500                 | 19                      | 24  | 39  | 41  | 46  | 10000                        | 0.13               | 410                |
| SDCL0603Q1N7□T02 | 1.7        | 13                  | 500                 | 19                      | 24  | 39  | 41  | 46  | 10000                        | 0.15               | 380                |
| SDCL0603Q1N8□T02 | 1.8        | 13                  | 500                 | 19                      | 24  | 39  | 41  | 46  | 10000                        | 0.15               | 380                |
| SDCL0603Q1N9□T02 | 1.9        | 13                  | 500                 | 18                      | 24  | 38  | 40  | 45  | 10000                        | 0.18               | 350                |
| SDCL0603Q2N0□T02 | 2.0        | 13                  | 500                 | 17                      | 24  | 38  | 39  | 44  | 10000                        | 0.23               | 300                |
| SDCL0603Q2N1□T02 | 2.1        | 13                  | 500                 | 17                      | 24  | 37  | 39  | 44  | 10000                        | 0.24               | 300                |
| SDCL0603Q2N2□T02 | 2.2        | 13                  | 500                 | 17                      | 24  | 38  | 40  | 43  | 10000                        | 0.25               | 290                |
| SDCL0603Q2N3□T02 | 2.3        | 13                  | 500                 | 17                      | 24  | 37  | 39  | 43  | 10000                        | 0.20               | 330                |
| SDCL0603Q2N4□T02 | 2.4        | 13                  | 500                 | 17                      | 23  | 36  | 38  | 42  | 10000                        | 0.22               | 310                |
| SDCL0603Q2N5□T02 | 2.5        | 13                  | 500                 | 17                      | 23  | 35  | 36  | 40  | 9600                         | 0.20               | 330                |
| SDCL0603Q2N6□T02 | 2.6        | 13                  | 500                 | 17                      | 22  | 34  | 35  | 39  | 9400                         | 0.20               | 330                |
| SDCL0603Q2N7□T02 | 2.7        | 13                  | 500                 | 17                      | 22  | 34  | 35  | 39  | 9200                         | 0.22               | 310                |
| SDCL0603Q2N8□T02 | 2.8        | 13                  | 500                 | 17                      | 22  | 34  | 35  | 39  | 8900                         | 0.24               | 300                |
| SDCL0603Q2N9□T02 | 2.9        | 13                  | 500                 | 17                      | 22  | 34  | 35  | 39  | 8800                         | 0.26               | 280                |
| SDCL0603Q3N0□T02 | 3.0        | 13                  | 500                 | 17                      | 22  | 34  | 35  | 39  | 8600                         | 0.26               | 280                |
| SDCL0603Q3N1□T02 | 3.1        | 13                  | 500                 | 17                      | 22  | 34  | 35  | 39  | 8500                         | 0.28               | 270                |
| SDCL0603Q3N2□T02 | 3.2        | 13                  | 500                 | 17                      | 22  | 33  | 35  | 39  | 8200                         | 0.28               | 270                |
| SDCL0603Q3N3□T02 | 3.3        | 13                  | 500                 | 18                      | 23  | 34  | 36  | 40  | 8100                         | 0.30               | 270                |
| SDCL0603Q3N4□T02 | 3.4        | 13                  | 500                 | 17                      | 23  | 33  | 35  | 39  | 8000                         | 0.30               | 270                |
| SDCL0603Q3N5□T02 | 3.5        | 13                  | 500                 | 17                      | 23  | 33  | 35  | 39  | 7900                         | 0.34               | 250                |
| SDCL0603Q3N6□T02 | 3.6        | 13                  | 500                 | 16                      | 23  | 33  | 35  | 39  | 7700                         | 0.38               | 240                |
| SDCL0603Q3N7□T02 | 3.7        | 13                  | 500                 | 16                      | 23  | 33  | 35  | 38  | 7600                         | 0.40               | 230                |
| SDCL0603Q3N8□T02 | 3.8        | 13                  | 500                 | 16                      | 22  | 33  | 35  | 38  | 7500                         | 0.42               | 230                |
| SDCL0603Q3N9□T02 | 3.9        | 13                  | 500                 | 16                      | 22  | 33  | 35  | 38  | 7400                         | 0.42               | 230                |
| SDCL0603Q4N3□T02 | 4.3        | 13                  | 500                 | 16                      | 21  | 32  | 34  | 37  | 6800                         | 0.44               | 220                |
| SDCL0603Q4N7□T02 | 4.7        | 13                  | 500                 | 16                      | 22  | 33  | 35  | 38  | 6200                         | 0.45               | 220                |
| SDCL0603Q5N1□T02 | 5.1        | 13                  | 500                 | 17                      | 22  | 34  | 36  | 38  | 5900                         | 0.46               | 210                |
| SDCL0603Q5N6□T02 | 5.6        | 13                  | 500                 | 16                      | 21  | 33  | 34  | 37  | 5500                         | 0.46               | 210                |
| SDCL0603Q6N2□T02 | 6.2        | 13                  | 500                 | 18                      | 23  | 34  | 35  | 37  | 5100                         | 0.48               | 210                |
| SDCL0603Q6N8□T02 | 6.8        | 13                  | 500                 | 17                      | 22  | 32  | 33  | 35  | 4900                         | 0.50               | 200                |
| SDCL0603Q7N5□T02 | 7.5        | 13                  | 500                 | 16                      | 21  | 31  | 33  | 34  | 4700                         | 0.50               | 200                |
| SDCL0603Q8N2□T02 | 8.2        | 13                  | 500                 | 16                      | 21  | 31  | 32  | 34  | 4300                         | 0.56               | 190                |
| SDCL0603Q9N1□T02 | 9.1        | 13                  | 500                 | 16                      | 20  | 30  | 31  | 32  | 4100                         | 0.72               | 170                |
| SDCL0603Q10N□T02 | 10         | 13                  | 500                 | 16                      | 20  | 28  | 29  | 31  | 3800                         | 0.80               | 160                |
| SDCL0603Q12N□T02 | 12         | 13                  | 500                 | 16                      | 20  | 27  | 28  | 28  | 3400                         | 0.80               | 160                |

## SPECIFICATIONS

### SDCL0603Q-02 Series

| Part Number      | Inductance | Min. Quality Factor | L, Q Test Freq. L/Q | Typical Q @ Freq. (GHz) |     |     |     |     | Min. Self-resonant Frequency | Max. DC Resistance | Max. Rated Current |
|------------------|------------|---------------------|---------------------|-------------------------|-----|-----|-----|-----|------------------------------|--------------------|--------------------|
|                  |            |                     |                     | 0.5                     | 0.8 | 1.8 | 2.0 | 2.4 |                              |                    |                    |
| Units            | nH         | -                   | MHz                 | -                       |     |     |     |     | MHz                          | $\Omega$           | mA                 |
| Symbol           | L          | Q                   | Freq.               | Q                       |     |     |     |     | S.R.F                        | DCR                | I <sub>r</sub>     |
| SDCL0603Q15N□T02 | 15         | 13                  | 500                 | 15                      | 19  | 24  | 24  | 23  | 2600                         | 0.85               | 160                |
| SDCL0603Q18N□T02 | 18         | 13                  | 500                 | 15                      | 19  | 23  | 24  | 22  | 2300                         | 1.00               | 140                |
| SDCL0603Q22N□T02 | 22         | 13                  | 500                 | 15                      | 19  | 22  | 23  | 20  | 1900                         | 1.20               | 130                |
| SDCL0603Q27N□T02 | 27         | 13                  | 500                 | 15                      | 19  | 15  | 13  | 8   | 1800                         | 1.60               | 120                |
| SDCL0603Q33N□T02 | 33         | 11                  | 300                 | 14                      | 15  | 8   | 5   | -   | 1800                         | 2.20               | 110                |
| SDCL0603Q39N□T02 | 39         | 11                  | 300                 | 14                      | 15  | 6   | -   | -   | 1600                         | 2.30               | 100                |
| SDCL0603Q47N□T02 | 47         | 11                  | 300                 | 14                      | 15  | -   | -   | -   | 1500                         | 2.60               | 100                |
| SDCL0603Q56N□T02 | 56         | 11                  | 300                 | 13                      | 13  | -   | -   | -   | 1400                         | 2.80               | 80                 |
| SDCL0603Q68N□T02 | 68         | 11                  | 300                 | 13                      | 11  | -   | -   | -   | 1200                         | 3.20               | 80                 |
| SDCL0603Q82N□T02 | 82         | 10                  | 300                 | 12                      | 10  | -   | -   | -   | 1100                         | 3.80               | 70                 |
| SDCL0603QR10□T02 | 100        | 10                  | 300                 | 12                      | 10  | -   | -   | -   | 1000                         | 4.00               | 60                 |
| SDCL0603QR12□T02 | 120        | 9                   | 300                 | 12                      | 8   | -   | -   | -   | 1000                         | 5.00               | 50                 |

※□: Please specify the inductance tolerance. For L≤6.2nH, choose B=±0.1nH,C=±0.2nH or S=±0.3nH; For L>6.2nH, choose G=±2%, H=±3% or J=±5%.

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