

# Multilayer Chip Ceramic Inductor - SDCL0402H-01 Series

Operating Temp. : -55℃~+125℃



## FEATURES

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

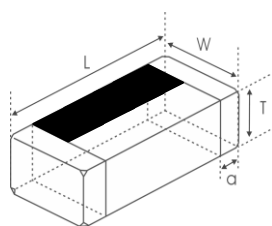
## APPLICATIONS

- RF circuit in telecommunication and other equipments

## PRODUCT IDENTIFICATION

| <u>SDCL</u> | <u>0402</u>           | <u>H</u>                       | <u>3N0</u> | <u>B</u>             | <u>T</u> | <u>01</u> |
|-------------|-----------------------|--------------------------------|------------|----------------------|----------|-----------|
| ①           | ②                     | ③                              | ④          | ⑤                    | ⑥        | ⑦         |
| ①           | ②                     |                                | ②          | ③                    |          |           |
| Type        |                       | External Dimensions (L×W) (mm) |            | Characteristics Code |          |           |
| SDCL        | Chip Ceramic Inductor | 0402 [01005]                   |            | H                    |          |           |
|             |                       | 0.4×0.2                        |            |                      |          |           |
|             |                       | ⑤                              |            | ⑥                    |          |           |
|             |                       | Inductance Tolerance           |            | Packing              |          |           |
|             |                       | B ±0.1nH                       |            | T Tape & Reel        |          |           |
|             |                       | C ±0.2nH                       |            |                      |          |           |
|             |                       | S ±0.3nH                       |            |                      |          |           |
|             |                       | H ±3%                          |            |                      |          |           |
|             |                       | J ±5%                          |            |                      |          |           |
|             |                       |                                |            | ⑦                    |          |           |
|             |                       |                                |            | Serial Code          |          |           |
|             |                       |                                |            | 01                   |          |           |

## SHAPE AND DIMENSIONS



| Unit: mm [inch]         |                          |                          |                          |                              |
|-------------------------|--------------------------|--------------------------|--------------------------|------------------------------|
| Type                    | L                        | W                        | T                        | a                            |
| SDCL0402H-01<br>[01005] | 0.4±0.02<br>[.016±.0008] | 0.2±0.02<br>[.008±.0008] | 0.2±0.02<br>[.008±.0008] | 0.095±0.025<br>[.0037±.0010] |

# SPECIFICATIONS

## SDCL0402H-01 Series

| Part Number      | Inductance | Min. Quality Factor | L, Q Test Freq. | 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>     |
| SDCL0402H0N2□T01 | 0.2        | -                   | 500             | 12                      | 16  | 22  | 26  | 38  | 13000                        | 0.4                | 320                |
| SDCL0402H0N3□T01 | 0.3        | -                   | 500             | 12                      | 15  | 22  | 25  | 36  | 13000                        | 0.4                | 320                |
| SDCL0402H0N4□T01 | 0.4        | 8                   | 500             | 11                      | 14  | 21  | 22  | 24  | 13000                        | 0.4                | 320                |
| SDCL0402H0N5□T01 | 0.5        | 8                   | 500             | 10                      | 13  | 21  | 23  | 25  | 13000                        | 0.4                | 320                |
| SDCL0402H0N6□T01 | 0.6        | 8                   | 500             | 12                      | 14  | 20  | 23  | 25  | 13000                        | 0.4                | 320                |
| SDCL0402H0N7□T01 | 0.7        | 8                   | 500             | 11                      | 13  | 21  | 22  | 24  | 13000                        | 0.4                | 320                |
| SDCL0402H0N8□T01 | 0.8        | 8                   | 500             | 10                      | 12  | 20  | 21  | 23  | 13000                        | 0.4                | 320                |
| SDCL0402H0N9□T01 | 0.9        | 8                   | 500             | 11                      | 13  | 20  | 22  | 24  | 13000                        | 0.4                | 320                |
| SDCL0402H1N0□T01 | 1.0        | 8                   | 500             | 10                      | 12  | 19  | 21  | 23  | 11500                        | 0.4                | 220                |
| SDCL0402H1N1□T01 | 1.1        | 8                   | 500             | 11                      | 13  | 19  | 22  | 24  | 11500                        | 0.4                | 220                |
| SDCL0402H1N2□T01 | 1.2        | 8                   | 500             | 10                      | 12  | 20  | 21  | 23  | 11500                        | 0.4                | 220                |
| SDCL0402H1N3□T01 | 1.3        | 8                   | 500             | 10                      | 12  | 19  | 21  | 23  | 11500                        | 0.4                | 220                |
| SDCL0402H1N4□T01 | 1.4        | 8                   | 500             | 11                      | 13  | 20  | 21  | 23  | 11500                        | 0.4                | 220                |
| SDCL0402H1N5□T01 | 1.5        | 8                   | 500             | 10                      | 13  | 19  | 21  | 24  | 11500                        | 0.4                | 220                |
| SDCL0402H1N6□T01 | 1.6        | 8                   | 500             | 10                      | 12  | 19  | 21  | 23  | 11500                        | 0.4                | 220                |
| SDCL0402H1N7□T01 | 1.7        | 8                   | 500             | 11                      | 13  | 20  | 21  | 24  | 9500                         | 0.5                | 200                |
| SDCL0402H1N8□T01 | 1.8        | 8                   | 500             | 10                      | 12  | 19  | 21  | 23  | 9000                         | 0.5                | 200                |
| SDCL0402H1N9□T01 | 1.9        | 8                   | 500             | 10                      | 12  | 20  | 21  | 23  | 9000                         | 0.5                | 200                |
| SDCL0402H2N0□T01 | 2.0        | 8                   | 500             | 11                      | 12  | 19  | 21  | 23  | 9000                         | 0.5                | 200                |
| SDCL0402H2N1□T01 | 2.1        | 8                   | 500             | 10                      | 12  | 19  | 22  | 24  | 9000                         | 0.5                | 200                |
| SDCL0402H2N2□T01 | 2.2        | 8                   | 500             | 9.5                     | 11  | 18  | 20  | 22  | 7500                         | 0.55               | 200                |
| SDCL0402H2N3□T01 | 2.3        | 8                   | 500             | 10                      | 12  | 19  | 21  | 23  | 7500                         | 0.55               | 200                |
| SDCL0402H2N4□T01 | 2.4        | 8                   | 500             | 10                      | 12  | 19  | 21  | 23  | 7500                         | 0.55               | 200                |
| SDCL0402H2N5□T01 | 2.5        | 8                   | 500             | 9.5                     | 11  | 18  | 20  | 22  | 7500                         | 0.6                | 200                |
| SDCL0402H2N6□T01 | 2.6        | 8                   | 500             | 11                      | 12  | 19  | 21  | 23  | 7500                         | 0.6                | 200                |
| SDCL0402H2N7□T01 | 2.7        | 8                   | 500             | 10                      | 12  | 19  | 22  | 24  | 7500                         | 0.6                | 200                |
| SDCL0402H2N8□T01 | 2.8        | 8                   | 500             | 10                      | 12  | 19  | 21  | 23  | 7500                         | 0.8                | 200                |
| SDCL0402H2N9□T01 | 2.9        | 8                   | 500             | 10                      | 12  | 19  | 21  | 23  | 7500                         | 0.8                | 200                |
| SDCL0402H3N0□T01 | 3.0        | 8                   | 500             | 10                      | 12  | 19  | 20  | 23  | 7500                         | 0.9                | 200                |
| SDCL0402H3N1□T01 | 3.1        | 8                   | 500             | 10                      | 13  | 19  | 20  | 22  | 7500                         | 0.9                | 200                |
| SDCL0402H3N2□T01 | 3.2        | 8                   | 500             | 9                       | 11  | 19  | 20  | 22  | 7500                         | 0.9                | 180                |
| SDCL0402H3N3□T01 | 3.3        | 8                   | 500             | 10                      | 13  | 19  | 20  | 23  | 7500                         | 0.9                | 180                |
| SDCL0402H3N4□T01 | 3.4        | 8                   | 500             | 10                      | 12  | 19  | 21  | 23  | 7500                         | 1.0                | 180                |
| SDCL0402H3N5□T01 | 3.5        | 8                   | 500             | 10                      | 13  | 19  | 21  | 24  | 7500                         | 1.0                | 180                |
| SDCL0402H3N6□T01 | 3.6        | 8                   | 500             | 11                      | 12  | 19  | 21  | 23  | 7500                         | 1.0                | 180                |
| SDCL0402H3N7□T01 | 3.7        | 8                   | 500             | 10                      | 12  | 19  | 21  | 23  | 7500                         | 1.0                | 180                |
| SDCL0402H3N8□T01 | 3.8        | 8                   | 500             | 10                      | 12  | 19  | 21  | 23  | 7500                         | 1.0                | 180                |
| SDCL0402H3N9□T01 | 3.9        | 8                   | 500             | 9                       | 11  | 19  | 20  | 22  | 7500                         | 1.0                | 180                |
| SDCL0402H4N0□T01 | 4.0        | 8                   | 500             | 10                      | 12  | 19  | 21  | 23  | 7500                         | 1.1                | 180                |
| SDCL0402H4N1□T01 | 4.1        | 8                   | 500             | 11                      | 12  | 19  | 21  | 24  | 7500                         | 1.1                | 180                |
| SDCL0402H4N2□T01 | 4.2        | 8                   | 500             | 10                      | 12  | 18  | 20  | 22  | 7500                         | 1.1                | 180                |
| SDCL0402H4N3□T01 | 4.3        | 8                   | 500             | 10                      | 13  | 19  | 21  | 24  | 7500                         | 1.1                | 180                |
| SDCL0402H4N7□T01 | 4.7        | 8                   | 500             | 9                       | 11  | 19  | 20  | 22  | 6500                         | 1.2                | 160                |
| SDCL0402H5N1□T01 | 5.1        | 8                   | 500             | 10                      | 12  | 18  | 19  | 22  | 6500                         | 1.3                | 160                |
| SDCL0402H5N6□T01 | 5.6        | 8                   | 500             | 10                      | 12  | 17  | 22  | 24  | 6000                         | 1.5                | 140                |
| SDCL0402H6N2□T01 | 6.2        | 8                   | 500             | 10                      | 11  | 18  | 20  | 23  | 5500                         | 1.6                | 140                |
| SDCL0402H6N8□T01 | 6.8        | 8                   | 500             | 10                      | 11  | 17  | 20  | 23  | 5500                         | 1.8                | 140                |
| SDCL0402H7N5□T01 | 7.5        | 8                   | 500             | 10                      | 13  | 17  | 22  | 24  | 4500                         | 1.8                | 140                |
| SDCL0402H8N2□T01 | 8.2        | 8                   | 500             | 10                      | 12  | 18  | 20  | 22  | 4500                         | 2.0                | 140                |

## SPECIFICATIONS

### SDCL0402H-01 Series

| Part Number      | Inductance | Min. Quality Factor | L, Q Test Freq. | 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>     |
| SDCL0402H9N1□T01 | 9.1        | 8                   | 500             | 10                      | 13  | 17  | 21  | 23  | 4000                         | 2.0                | 140                |
| SDCL0402H10N□T01 | 10         | 8                   | 500             | 9                       | 12  | 18  | 20  | 21  | 4000                         | 2.2                | 140                |
| SDCL0402H11N□T01 | 11         | 8                   | 500             | 9                       | 12  | 18  | 19  | 20  | 4000                         | 2.4                | 140                |
| SDCL0402H12N□T01 | 12         | 8                   | 500             | 9                       | 12  | 17  | 18  | 18  | 4000                         | 2.4                | 140                |
| SDCL0402H13N□T01 | 13         | 7                   | 500             | 8                       | 12  | 17  | 18  | 18  | 3500                         | 3.0                | 140                |
| SDCL0402H15N□T01 | 15         | 7                   | 500             | 8                       | 12  | 16  | 15  | 14  | 3000                         | 3.0                | 140                |
| SDCL0402H16N□T01 | 16         | 7                   | 500             | 8                       | 11  | 13  | 12  | 11  | 2500                         | 3.2                | 140                |
| SDCL0402H18N□T01 | 18         | 7                   | 500             | 7.5                     | 10  | 12  | 10  | 9   | 2500                         | 3.2                | 140                |
| SDCL0402H20N□T01 | 20         | 6                   | 500             | 7                       | 9   | 11  | 9   | 7   | 2500                         | 4.5                | 120                |
| SDCL0402H22N□T01 | 22         | 6                   | 500             | 7                       | 10  | 10  | 9   | 7   | 2300                         | 5                  | 120                |
| SDCL0402H24N□T01 | 24         | 6                   | 500             | 8                       | 11  | 10  | 9   | 6   | 2000                         | 5.5                | 120                |
| SDCL0402H27N□T01 | 27         | 6                   | 500             | 8                       | 10  | 8   | 7   | -   | 2000                         | 5.5                | 120                |
| SDCL0402H30N□T01 | 30         | 6                   | 500             | 7                       | 9   | 7   | -   | -   | 1800                         | 6.5                | 90                 |
| SDCL0402H33N□T01 | 33         | 6                   | 300             | 8                       | 9   | 7   | -   | -   | 1800                         | 6.5                | 90                 |

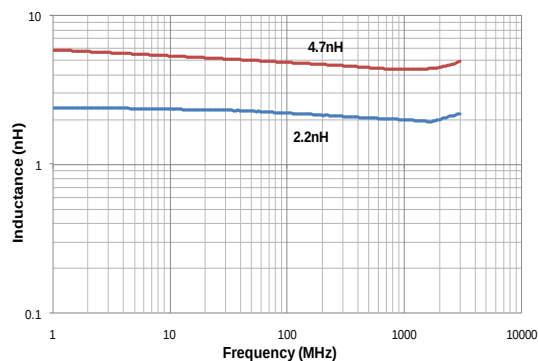
※□: Please specify the inductance tolerance. For L≤4.2nH, choose B=±0.1nH, C=±0.2nH or S=±0.3nH; For L≥4.3nH, choose H=±3%, J=±5%.

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

## TYPICAL ELECTRICAL CHARACTERISTICS

### SDCL0402H-01 Series

Inductance vs. Frequency Characteristics



Q vs. Frequency Characteristics

