

# Wire Wound Chip Ceramic Inductor-SDWL-CP Series

Operating Temp. : -40°C~+125°C



## FEATURES

- Small chip suitable for surface mounting
- Higher Q and lower DCR than other 1005 inductors, high self-resonant frequency with ceramic material
- Tight inductance tolerance and stable inductance at high frequency

## APPLICATIONS

- High frequency circuit in telecommunication and other equipments
- Mobile phones such as GSM, CDMA, PDC, etc.
- Bluetooth, W-LAN, Broadband network

## PRODUCT IDENTIFICATION

**SDWL**

①

**1005**

②

**C**

③

**P**

④

**10N**

⑤

**J**

⑥

**S**

⑦

**T**

⑧

**F**

⑨

①

| Type |                          |
|------|--------------------------|
| SDWL | Wire Wound Chip Inductor |

②

| External Dimensions |  |
|---------------------|--|
| 1005 [0402]         |  |
| 1608 [0603]         |  |

③

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

④

| Feature Type |                       |
|--------------|-----------------------|
| P            | High Current & High Q |

⑤

| Nominal Inductance |               |
|--------------------|---------------|
| Example            | Nominal Value |
| 10N                | 10nH          |
| R10                | 100nH         |
| 1R0                | 1.0μH         |

⑥

| Inductance Tolerance |        |
|----------------------|--------|
| B                    | ±0.1nH |
| C                    | ±0.2nH |
| S                    | ±0.3nH |
| D                    | ±0.5nH |
| G                    | ±2%    |
| H                    | ±3%    |
| J                    | ±5%    |
| K                    | ±10%   |

⑦

| Feature Type |                                  |
|--------------|----------------------------------|
| S            | Sn Plating<br>Five-faces Coating |

⑧

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

⑨

| Hazardous Substance Free Products |  |
|-----------------------------------|--|
| F                                 |  |

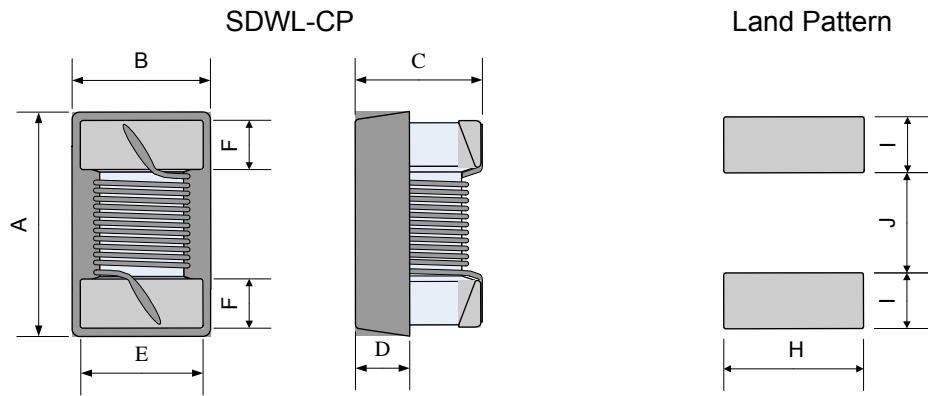
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## SHAPE AND DIMENSIONS



Unit: mm

| Series     | A       | B       | C       | D Typ. | E        | F       | H Typ. | I Typ. | J Typ. |
|------------|---------|---------|---------|--------|----------|---------|--------|--------|--------|
| SDWL1005CP | 1.0±0.1 | 0.6±0.1 | 0.6±0.1 | 0.25   | 0.5±0.1  | 0.2±0.1 | 0.65   | 0.35   | 0.50   |
| SDWL1608CP | 1.7±0.2 | 1.1±0.2 | 0.9±0.2 | 0.38   | 0.76±0.1 | 0.3±0.1 | 1.02   | 0.69   | 0.71   |

## SPECIFICATIONS

### SDWL1005CP TYPE

| Part Number       | Inductance | Tolerance   | Min. Quality Factor | L/Q Test Freq. | Max. DC Resistance | Max. Rated Current | Min. Self-resonant Frequency |
|-------------------|------------|-------------|---------------------|----------------|--------------------|--------------------|------------------------------|
| Units             | nH         | -           | -                   | MHz            | Ω                  | mA                 | GHz                          |
| Symbol            | L          | -           | Q                   | Freq.          | DCR                | I <sub>r</sub>     | S.R.F                        |
| SDWL1005CP1N0□STF | 1.0        | B,C,S,D,K   | 20                  | 250            | 0.030              | 2300               | 16.0                         |
| SDWL1005CP2N0□STF | 2.0        | B,C,S,D,J,K | 24                  | 250            | 0.038              | 2100               | 15.2                         |
| SDWL1005CP2N2□STF | 2.2        | B,C,S,D,J,K | 25                  | 250            | 0.038              | 2100               | 15.1                         |
| SDWL1005CP2N4□STF | 2.4        | B,C,S,D,J,K | 23                  | 250            | 0.042              | 2000               | 14.0                         |
| SDWL1005CP2N7□STF | 2.7        | B,C,S,D,J,K | 28                  | 250            | 0.056              | 1500               | 13.0                         |
| SDWL1005CP3N3□STF | 3.3        | B,C,S,D,J,K | 28                  | 250            | 0.045              | 1700               | 12.8                         |
| SDWL1005CP3N6□STF | 3.6        | B,C,S,D,J,K | 28                  | 250            | 0.045              | 1700               | 11.7                         |
| SDWL1005CP3N9□STF | 3.9        | B,C,S,D,J,K | 28                  | 250            | 0.045              | 1700               | 9.50                         |
| SDWL1005CP4N3□STF | 4.3        | B,C,S,D,J,K | 29                  | 250            | 0.040              | 1600               | 7.15                         |
| SDWL1005CP4N7□STF | 4.7        | B,C,S,D,J,K | 28                  | 250            | 0.060              | 1500               | 6.85                         |
| SDWL1005CP5N1□STF | 5.1        | B,C,S,D,J,K | 27                  | 250            | 0.100              | 1200               | 6.80                         |
| SDWL1005CP5N6□STF | 5.6        | B,C,S,D,J,K | 29                  | 250            | 0.048              | 1600               | 6.50                         |
| SDWL1005CP6N2□STF | 6.2        | B,C,S,D,J,K | 29                  | 250            | 0.050              | 1600               | 5.80                         |
| SDWL1005CP6N8□STF | 6.8        | G,H,J,K     | 31                  | 250            | 0.055              | 1500               | 5.80                         |
| SDWL1005CP7N5□STF | 7.5        | G,H,J,K     | 31                  | 250            | 0.080              | 1400               | 5.40                         |
| SDWL1005CP8N2□STF | 8.2        | G,H,J,K     | 28                  | 250            | 0.054              | 1500               | 5.40                         |
| SDWL1005CP8N7□STF | 8.7        | G,H,J,K     | 31                  | 250            | 0.058              | 1500               | 5.00                         |
| SDWL1005CP9N0□STF | 9.0        | G,H,J,K     | 31                  | 250            | 0.070              | 1400               | 5.00                         |
| SDWL1005CP9N5□STF | 9.5        | G,H,J,K     | 28                  | 250            | 0.075              | 1400               | 4.70                         |
| SDWL1005CP10N□STF | 10         | G,H,J,K     | 29                  | 250            | 0.085              | 1300               | 4.70                         |
| SDWL1005CP11N□STF | 11         | G,H,J,K     | 29                  | 250            | 0.065              | 1400               | 4.70                         |
| SDWL1005CP12N□STF | 12         | G,H,J,K     | 28                  | 250            | 0.070              | 1200               | 4.40                         |
| SDWL1005CP13N□STF | 13         | G,H,J,K     | 27                  | 250            | 0.140              | 870                | 4.20                         |
| SDWL1005CP15N□STF | 15         | G,H,J,K     | 28                  | 250            | 0.130              | 1100               | 3.90                         |
| SDWL1005CP16N□STF | 16         | G,H,J,K     | 27                  | 250            | 0.130              | 850                | 3.70                         |
| SDWL1005CP18N□STF | 18         | G,H,J,K     | 26                  | 250            | 0.120              | 900                | 3.55                         |
| SDWL1005CP19N□STF | 19         | G,H,J,K     | 26                  | 250            | 0.110              | 850                | 3.50                         |
| SDWL1005CP20N□STF | 20         | G,H,J,K     | 27                  | 250            | 0.105              | 850                | 3.50                         |
| SDWL1005CP21N□STF | 21         | G,H,J,K     | 25                  | 250            | 0.460              | 450                | 1.70                         |

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## SPECIFICATIONS

### SDWL1005CP TYPE

| Part Number       | Inductance | Tolerance | Min. Quality Factor | L/Q Test Freq. | Max. DC Resistance | Max. Rated Current | Min. Self-resonant Frequency |
|-------------------|------------|-----------|---------------------|----------------|--------------------|--------------------|------------------------------|
| Units             | nH         | -         | -                   | MHz            | Ω                  | mA                 | GHz                          |
| Symbol            | L          | -         | Q                   | Freq.          | DCR                | Ir                 | S.R.F                        |
| SDWL1005CP22N□STF | 22         | G,H,J,K   | 28                  | 250            | 0.160              | 800                | 3.30                         |
| SDWL1005CP23N□STF | 23         | G,H,J,K   | 28                  | 250            | 0.160              | 800                | 3.30                         |
| SDWL1005CP24N□STF | 24         | G,H,J,K   | 27                  | 250            | 0.230              | 700                | 3.15                         |
| SDWL1005CP25N□STF | 25         | G,H,J,K   | 26                  | 250            | 0.250              | 700                | 3.15                         |
| SDWL1005CP26N□STF | 26         | G,H,J,K   | 27                  | 250            | 0.275              | 700                | 3.15                         |
| SDWL1005CP27N□STF | 27         | G,H,J,K   | 27                  | 250            | 0.330              | 450                | 3.20                         |
| SDWL1005CP30N□STF | 30         | G,H,J,K   | 25                  | 250            | 0.330              | 450                | 2.90                         |
| SDWL1005CP33N□STF | 33         | G,H,J,K   | 28                  | 250            | 0.330              | 490                | 2.80                         |
| SDWL1005CP36N□STF | 36         | G,H,J,K   | 26                  | 250            | 0.360              | 480                | 2.80                         |
| SDWL1005CP37N□STF | 37         | G,H,J,K   | 26                  | 250            | 0.480              | 470                | 2.70                         |
| SDWL1005CP39N□STF | 39         | G,H,J,K   | 28                  | 250            | 0.430              | 450                | 2.60                         |
| SDWL1005CP40N□STF | 40         | G,H,J,K   | 28                  | 250            | 0.430              | 450                | 2.60                         |
| SDWL1005CP43N□STF | 43         | G,H,J,K   | 26                  | 250            | 0.520              | 450                | 2.50                         |
| SDWL1005CP47N□STF | 47         | G,H,J,K   | 28                  | 250            | 0.580              | 420                | 2.40                         |
| SDWL1005CP51N□STF | 51         | G,H,J,K   | 26                  | 250            | 0.700              | 360                | 2.30                         |

### SDWL1608CP TYPE(Developing product specifications for reference)

| Part Number       | Inductance | Tolerance | Quality Factor Typ. | L/Q Test Freq. | Max. DC Resistance | Max. Rated Current | Min. Self-resonant Frequency |
|-------------------|------------|-----------|---------------------|----------------|--------------------|--------------------|------------------------------|
| Units             | nH         | -         | -                   | MHz            | Ω                  | mA                 | GHz                          |
| Symbol            | L          | -         | Q                   | Freq.          | DCR                | Ir                 | S.R.F                        |
| SDWL1608CP1N8□STF | 1.8        | C,S,D,J,K | 23                  | 250/250        | 0.033              | 2100               | 16.0                         |
| SDWL1608CP2N2□STF | 2.2        | C,S,D,J,K | 13                  | 250/250        | 0.230              | 900                | 15.0                         |
| SDWL1608CP3N3□STF | 3.3        | C,S,D,J,K | 32                  | 250/250        | 0.024              | 1900               | 9.60                         |
| SDWL1608CP3N6□STF | 3.6        | C,S,D,J,K | 40                  | 250/250        | 0.031              | 1900               | 9.70                         |
| SDWL1608CP3N9□STF | 3.9        | C,S,D,J,K | 35                  | 250/250        | 0.039              | 1600               | 7.50                         |
| SDWL1608CP4N3□STF | 4.3        | C,S,D,J,K | 30                  | 250/250        | 0.080              | 1300               | 7.50                         |
| SDWL1608CP4N7□STF | 4.7        | C,S,D,J,K | 26                  | 250/250        | 0.100              | 1100               | 7.90                         |
| SDWL1608CP5N1□STF | 5.1        | C,S,D,J,K | 40                  | 250/250        | 0.036              | 1700               | 8.90                         |
| SDWL1608CP5N6□STF | 5.6        | C,S,D,J,K | 48                  | 250/250        | 0.036              | 1700               | 6.60                         |
| SDWL1608CP6N0□STF | 6.0        | C,S,D,J,K | 49                  | 250/250        | 0.036              | 1700               | 6.00                         |
| SDWL1608CP6N8□STF | 6.8        | G,H,J,K   | 42                  | 250/250        | 0.042              | 1400               | 5.80                         |
| SDWL1608CP7N2□STF | 7.2        | G,H,J,K   | 43                  | 250/250        | 0.070              | 1400               | 5.40                         |
| SDWL1608CP7N5□STF | 7.5        | G,H,J,K   | 41                  | 250/250        | 0.080              | 1300               | 5.30                         |
| SDWL1608CP8N2□STF | 8.2        | G,H,J,K   | 46                  | 250/250        | 0.054              | 1400               | 5.90                         |
| SDWL1608CP8N7□STF | 8.7        | G,H,J,K   | 46                  | 250/250        | 0.054              | 1400               | 5.50                         |
| SDWL1608CP9N1□STF | 9.1        | G,H,J,K   | 40                  | 250/250        | 0.058              | 1400               | 5.10                         |
| SDWL1608CP9N5□STF | 9.5        | G,H,J,K   | 49                  | 250/250        | 0.058              | 1400               | 4.90                         |

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## SPECIFICATIONS

SDWL1608CP TYPE(Developing product specifications for reference)

| Part Number       | Inductance | Tolerance | Quality Factor Typ. | L/Q Test Freq. | Max. DC Resistance | Max. Rated Current | Min. Self-resonant Frequency |
|-------------------|------------|-----------|---------------------|----------------|--------------------|--------------------|------------------------------|
| Units             | nH         | -         | -                   | MHz            | $\Omega$           | mA                 | GHz                          |
| Symbol            | L          | -         | Q                   | Freq.          | DCR                | I <sub>r</sub>     | S.R.F                        |
| SDWL1608CP10N□STF | 10         | G,H,J,K   | 49                  | 250/250        | 0.048              | 1400               | 4.30                         |
| SDWL1608CP11N□STF | 11         | G,H,J,K   | 41                  | 250/250        | 0.058              | 1400               | 4.10                         |
| SDWL1608CP12N□STF | 12         | G,H,J,K   | 37                  | 250/250        | 0.115              | 1100               | 4.10                         |
| SDWL1608CP15N□STF | 15         | G,H,J,K   | 48                  | 250/250        | 0.078              | 1200               | 3.60                         |
| SDWL1608CP16N□STF | 16         | G,H,J,K   | 48                  | 250/250        | 0.085              | 1100               | 3.50                         |
| SDWL1608CP18N□STF | 18         | G,H,J,K   | 41                  | 250/250        | 0.066              | 1200               | 3.30                         |
| SDWL1608CP22N□STF | 22         | G,H,J,K   | 44                  | 250/250        | 0.140              | 850                | 3.15                         |
| SDWL1608CP23N□STF | 23         | G,H,J,K   | 40                  | 250/250        | 0.190              | 850                | 3.00                         |
| SDWL1608CP24N□STF | 24         | G,H,J,K   | 42                  | 250/250        | 0.074              | 1100               | 2.95                         |
| SDWL1608CP27N□STF | 27         | G,H,J,K   | 44                  | 250/250        | 0.200              | 780                | 2.80                         |
| SDWL1608CP30N□STF | 30         | G,H,J,K   | 49                  | 250/250        | 0.160              | 920                | 2.80                         |
| SDWL1608CP33N□STF | 33         | G,H,J,K   | 45                  | 250/250        | 0.220              | 680                | 2.70                         |
| SDWL1608CP36N□STF | 36         | G,H,J,K   | 44                  | 250/250        | 0.225              | 720                | 2.50                         |
| SDWL1608CP39N□STF | 39         | G,H,J,K   | 44                  | 250/250        | 0.250              | 680                | 2.45                         |
| SDWL1608CP43N□STF | 43         | G,H,J,K   | 45                  | 250/250        | 0.225              | 810                | 2.45                         |
| SDWL1608CP47N□STF | 47         | G,H,J,K   | 47                  | 200/250        | 0.240              | 680                | 2.30                         |
| SDWL1608CP51N□STF | 51         | G,H,J,K   | 45                  | 200/250        | 0.280              | 660                | 2.30                         |
| SDWL1608CP56N□STF | 56         | G,H,J,K   | 45                  | 200/250        | 0.300              | 610                | 2.20                         |
| SDWL1608CP68N□STF | 68         | G,H,J,K   | 46                  | 200/250        | 0.330              | 600                | 2.00                         |
| SDWL1608CP72N□STF | 72         | G,H,J,K   | 46                  | 150/250        | 0.420              | 550                | 1.90                         |
| SDWL1608CP75N□STF | 75         | G,H,J,K   | 46                  | 150/250        | 0.520              | 500                | 1.90                         |
| SDWL1608CP82N□STF | 82         | G,H,J,K   | 45                  | 150/250        | 0.460              | 510                | 1.80                         |
| SDWL1608CP91N□STF | 91         | G,H,J,K   | 45                  | 150/250        | 0.580              | 440                | 1.65                         |
| SDWL1608CPR10□STF | 100        | G,H,J,K   | 49                  | 150/250        | 0.540              | 470                | 1.70                         |
| SDWL1608CPR11□STF | 110        | G,H,J,K   | 47                  | 150/250        | 0.580              | 440                | 1.60                         |
| SDWL1608CPR12□STF | 120        | G,H,J,K   | 47                  | 150/250        | 0.720              | 420                | 1.55                         |
| SDWL1608CPR15□STF | 150        | G,H,J,K   | 47                  | 150/250        | 0.820              | 390                | 1.35                         |
| SDWL1608CPR18□STF | 180        | G,H,J,K   | 48                  | 100/250        | 1.500              | 310                | 1.30                         |
| SDWL1608CPR20□STF | 200        | G,H,J,K   | 47                  | 100/250        | 2.000              | 280                | 1.25                         |
| SDWL1608CPR21□STF | 210        | G,H,J,K   | 48                  | 100/250        | 2.000              | 280                | 1.20                         |
| SDWL1608CPR22□STF | 220        | G,H,J,K   | 47                  | 100/250        | 2.000              | 280                | 1.10                         |
| SDWL1608CPR25□STF | 250        | G,H,J,K   | 45                  | 100/250        | 3.000              | 240                | 1.05                         |
| SDWL1608CPR27□STF | 270        | G,H,J,K   | 46                  | 100/250        | 2.250              | 260                | 1.05                         |
| SDWL1608CPR30□STF | 300        | G,H,J,K   | 47                  | 100/250        | 2.800              | 220                | 0.99                         |
| SDWL1608CPR33□STF | 330        | G,H,J,K   | 46                  | 100/250        | 3.600              | 180                | 0.93                         |
| SDWL1608CPR36□STF | 360        | G,H,J,K   | 47                  | 100/250        | 4.000              | 170                | 0.93                         |
| SDWL1608CPR39□STF | 390        | G,H,J,K   | 47                  | 100/250        | 4.000              | 160                | 0.88                         |

※ □: 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%).

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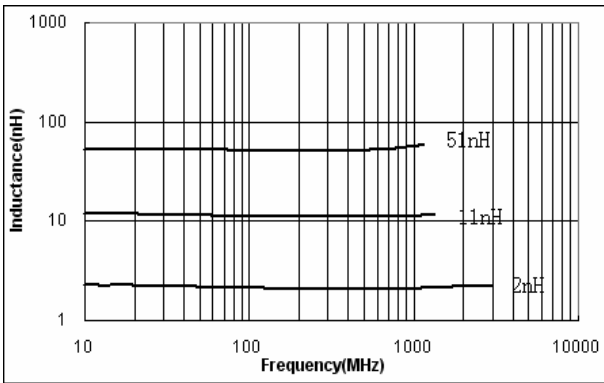
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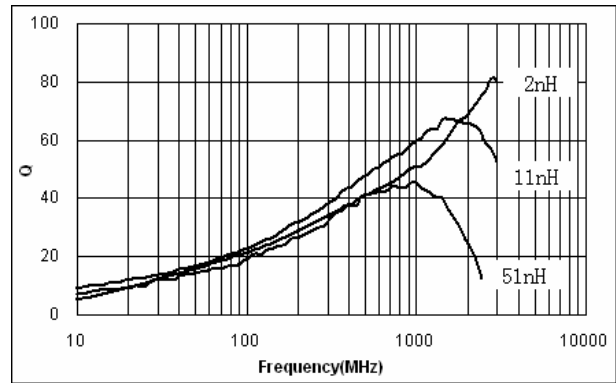
# TYPICAL ELECTRICAL CHARACTERISTICS

## SDWL1005CP TYPE

Inductance vs. Frequency Characteristics

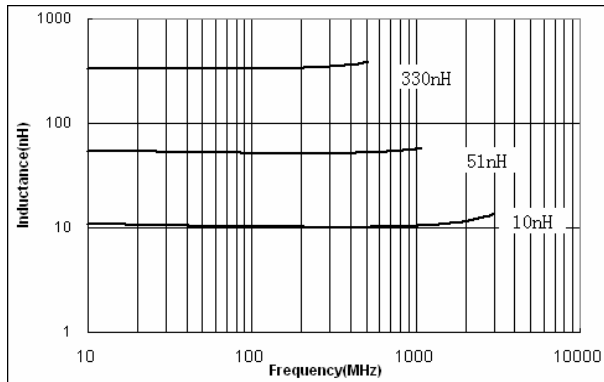


Q vs. Frequency Characteristics

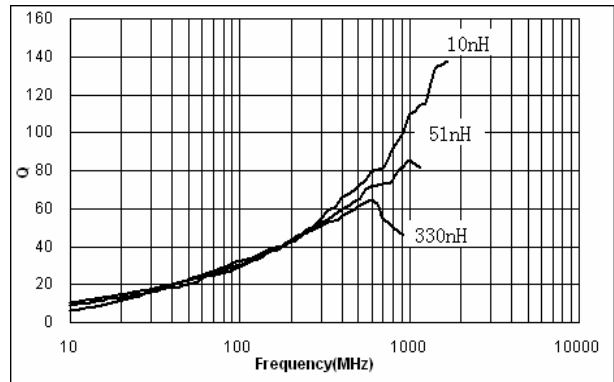


## SDWL1608CP TYPE

Inductance vs. Frequency Characteristics



Q vs. Frequency Characteristics



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