# SCD Series

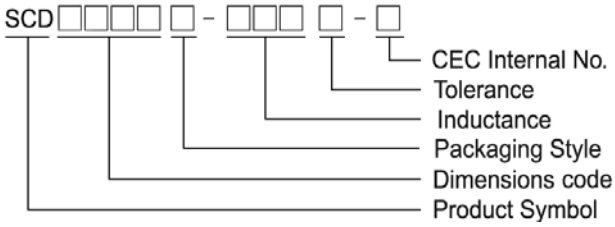

## Features

- RoHS, Halogen Free and REACH Compliance
- Unshielded power inductor
- Various package size and wide inductance range

## Applications

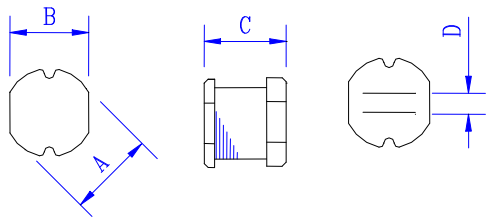
- Graphic cards
- DC/DC converters

## Product Identification

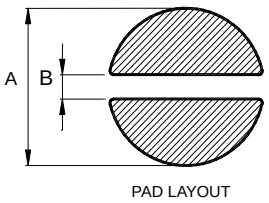



- Packaging: T：Tape and Reel

## Shape and Dimensions




## Recommended Pattern




Dimensions in mm

| TYPE | A | B | C | D |
|---|---|---|---|---|
| SCD 03015 | 3.3 ± 0.3 | 3.0 ± 0.3 | 1.5 ± 0.3 | 1.0 Typ. |
| SCD 03021 | 3.3 ± 0.3 | 3.0 ± 0.3 | 2.1 ± 0.3 | 1.0 Typ. |
| SCD 0403 | 4.5 ± 0.3 | 4.0 ± 0.3 | 3.2 ± 0.3 | 1.2 |
| SCD 0502 | 5.8 ± 0.3 | 5.2 ± 0.3 | 2.5 ± 0.3 | 2.0 Typ. |
| SCD 0503 | 5.8 ± 0.3 | 5.2 ± 0.3 | 3 ± 0.3 | 2.0 Typ. |
| SCD 0504 | 5.8 ± 0.3 | 5.2 ± 0.3 | 4.5 ± 0.4 | 1.3 |
| SCD 0703 | 7.8 ± 0.3 | 7.0 ± 0.3 | 3.5 ± 0.3 | 2.1 |
| SCD 0705 | 7.8 ± 0.3 | 7.0 ± 0.3 | 5.0 ± 0.3 | 2.1 |
| SCD 1004 | 10.0 ± 0.3 | 9.0 ± 0.3 | 4.0 ± 0.5 | 2.1 |
| SCD 1005 | 10.0 ± 0.4 | 9.0 ± 0.4 | 5.4 ± 0.4 | 2.1 |
| SCD 1006 | 10.0 ± 0.4 | 9.0 ± 0.4 | 6.5 ± 0.4 | 2.1 |

Dimensions in mm

| Dim | A | B |
|---|---|---|
| SCD 3015 | 4.5 | 1.0 |
| SCD 3021 | 4.5 | 1.0 |
| SCD 0403 | 5.5 | 1.2 |
| SCD 0502 | 6.8 | 2.0 |
| SCD 0503 | 6.8 | 2.0 |
| SCD 0504 | 6.8 | 1.3 |
| SCD 0703 | 8.8 | 2.1 |
| SCD 0705 | 8.8 | 2.1 |
| SCD 1004 | 11 | 2.1 |
| SCD 1005 | 11 | 2.1 |
| SCD 1006 | 11 | 2.1 |

## Standard Specifications

| Stamp | Inductance (μH) | RDC (Ω) Max | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SCD 03015 | SCD 03021 | SCD 0403 | SCD 0502 | SCD 0503 | SCD 0504 | SCD 0703 | SCD 0705 | SCD 1004 | SCD 1005 | SCD 1006 |
| R15 | 0.15 | | | 0.0085 | | | | | | | | |
| R82 | 0.82 | | 0.06 | | | | | | | | | |
| 1R0 | 1.0 | | 0.07 | 0.033 | 0.03 | 0.03 | | | | | | |
| 1R2 | 1.2 | | | 0.035 | | 0.03 | | | | | | |
| 1R4 | 1.4 | | 0.09 | 0.038 | 0.04 | | | | 0.02 | | | |
| 1R5 | 1.5 | | 0.11 | | | 0.03 | | | 0.02 | | | |
| 1R8 | 1.8 | | 0.11 | 0.042 | 0.05 | 0.03 | 0.020 | | 0.02 | | | |
| 2R2 | 2.2 | 0.10±30% | 0.13 | 0.047 | 0.06 | 0.03 | 0.023 | 0.03 | 0.02 | | | |
| 2R7 | 2.7 | | 0.14 | 0.052 | 0.07 | 0.04 | | | 0.02 | | | |
| 3R0 | 3.0 | | | | | | | | 0.025 | | | |
| 3R3 | 3.3 | 0.11±30% | 0.17 | 0.058 | 0.08 | 0.05 | 0.0314 | | 0.03 | 0.022 | 0.038 | |
| 3R5 | 3.5 | | | | | | 0.030 | | | | | |
| 3R8 | 3.8 | | | | | | | | | 0.022 | | |
| 3R9 | 3.9 | | 0.19 | 0.076 | 0.09 | 0.06 | | | 0.03 | | | |
| 4R7 | 4.7 | 0.15±30% | 0.21 | 0.094 | 0.14 | 0.07 | 0.0372 | 0.04 | 0.04 | | 0.040 | |
| 5R6 | 5.6 | 0.15±30% | 0.22 | 0.101 | 0.15 | 0.08 | | | 0.04 | | 0.037 | |
| 6R2 | 6.2 | | | 0.110 | | | | | | | | |
| 6R8 | 6.8 | 0.20±30% | 0.25 | 0.117 | 0.16 | 0.09 | 0.057 | | 0.04 | 0.04 | 0.037 | |
| 7R0 | 7.0 | | 0.28 | | | | | | | | | |
| 8R2 | 8.2 | | 0.28 | 0.132 | 0.17 | 0.10 | | | 0.05 | | 0.050 | |
| 100 | 10 | 0.30±30% | 0.32 | 0.182 | 0.18 | 0.12 | 0.10 | 0.08 | 0.07 | 0.05 | 0.060 | |
| 120 | 12 | | 0.35 | 0.210 | 0.20 | 0.13 | 0.12 | 0.09 | 0.08 | 0.06 | 0.070 | |
| 150 | 15 | 0.58±30% | 0.40 | 0.235 | 0.22 | 0.15 | 0.14 | 0.10 | 0.09 | 0.07 | 0.080 | |
| 180 | 18 | | 0.48 | 0.338 | 0.25 | 0.22 | 0.15 | 0.11 | 0.10 | 0.08 | 0.090 | |
| 220 | 22 | 0.71±30% | 0.58 | 0.378 | 0.35 | 0.22 | 0.18 | 0.13 | 0.11 | 0.09 | 0.100 | 0.08 |
| 270 | 27 | | 0.65 | 0.522 | 0.45 | 0.26 | 0.20 | 0.15 | 0.12 | 0.10 | 0.110 | |
| 330 | 33 | 1.10±30% | 0.80 | 0.540 | 0.56 | 0.33 | 0.23 | 0.17 | 0.13 | 0.12 | 0.120 | |
| 390 | 39 | 1.30±30% | 0.90 | 0.587 | 0.69 | 0.42 | 0.32 | 0.22 | 0.16 | 0.15 | 0.140 | |
| 470 | 47 | 1.30±30% | 1.19 | 0.844 | 0.72 | 0.50 | 0.37 | 0.25 | 0.18 | 0.17 | 0.170 | |
| 500 | 50 | | 1.22 | | | | | | | | | |
| 560 | 56 | | 1.27 | 0.937 | 0.84 | 0.55 | 0.42 | 0.28 | 0.24 | 0.20 | 0.190 | |
| 680 | 68 | 2.20±30% | 1.73 | 1.117 | 0.90 | 0.65 | 0.46 | 0.33 | 0.28 | 0.22 | 0.220 | |
| 750 | 75 | | 1.90 | | | | | | | | | |
| 820 | 82 | | 1.99 | | 1.20 | 0.80 | 0.60 | 0.41 | 0.37 | 0.30 | 0.25 | |
| 101 | 100 | 3.50±30% | 2.52 | 2.000 | 1.30 | 0.90 | 0.70 | 0.48 | 0.43 | 0.34 | 0.35 | |
| 121 | 120 | | 2.90 | 1.800 | 1.38 | 1.00 | 0.93 | 0.54 | 0.47 | 0.40 | 0.40 | |
| 151 | 150 | | 3.36 | 2.800 | 1.81 | 1.30 | 1.10 | 0.75 | 0.64 | 0.54 | 0.47 | |
| 181 | 180 | | 5.10 | 3.200 | 1.95 | 1.50 | 1.38 | 1.02 | 0.71 | 0.62 | 0.63 | |
| 221 | 220 | 10.92 | 5.80 | 4.000 | 3.00 | 2.00 | 1.57 | 1.20 | 0.96 | 0.72 | 0.73 | |
| 271 | 270 | | 7.80 | | 3.20 | 2.50 | 1.85 | 1.31 | 1.11 | 0.95 | 0.97 | |
| 331 | 330 | | | 5.850 | 3.82 | 3.20 | 2.00 | 1.50 | 1.26 | 1.10 | 1.15 | |
| 391 | 390 | | | | 4.68 | 3.50 | 2.60 | | 1.77 | 1.24 | 1.30 | |
| 471 | 470 | | | | 5.10 | 4.20 | 3.00 | | 1.96 | 1.53 | 1.48 | 1.421 |
| 561 | 560 | | | | 8.50 | 4.50 | 4.19 | 2.50 | 2.41 | 1.90 | 1.90 | |
| 681 | 680 | | | | 10.0 | 6.50 | 4.44 | | 2.50 | | 2.25 | |
| 821 | 820 | | | | 12.0 | 7.50 | 5.12 | | | | 2.55 | |
| 102 | 1000 | | | | 18.0 | 8.00 | 10.00 | | 2.80 | | 3.10 | 2.9 |
| 122 | 1200 | | | | | | | | | | | 3.5 |
| 152 | 1500 | | | | | | | | | | | 3.8 |
| 202 | 2000 | | | | | | | | | | | 6.6 |
| 222 | 2200 | | | | | | | | | | | 8.0 |
| 602 | 6000 | | | | | | | | | | | 14 |
| 822 | 8200 | | | | | | | | | | | 50 |

**Note: When ordering, please specify tolerance code. Tolerance: K=±10% , M=±20%**

- Operating temperature range - 40℃ ~ 105℃(Including self – temperature rise)
- Isat for Inductance drop 10% from its value without current
- Measure Equipment：

  Test Freq L：SCD03015: (1MHz/1V), SCD1005/1006: 1.0 ~ 8.2μH(7.96MHz/1V), 10 ~ 82μH (2.52MHz/1V), 100 ~ 1000μH (1kHz/1V)
  SCD03021/0403/0502/ 0503: 0.15 ~ 8.2μH(7.96MHz/1V), 10 ~ 82μH (2.52MHz/1V), 100 ~ 1000μH (1kHz/1V).
  SCD0504/0703/0705/1004: 1.0 ~ 8.2μH(7.96MHz/1V), 10 ~ 82μH (2.52MHz/1V), 100 ~ 1000μH (1kHz/1V).

  L：Agilent/ E4980 or HP4284A (under 1MHz), HP4285A (over 1MHz)

  RDC：Chroma 16502

  Isat：HP4284+42841A or WK3260B+WK3265B

## Standard Specifications

| Stamp | Inductance (μH) | Isat (A) Max | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SCD 03015 | SCD 03021 | SCD 0403 | SCD 0502 | SCD 0503 | SCD 0504 | SCD 0703 | SCD 0705 | SCD 1004 | SCD 1005 | SCD 1006 |
| R15 | 0.15 | | | 7.5 | | | | | | | | |
| R82 | 0.82 | | 2.200 | | | | | | | | | |
| 1R0 | 1.0 | | 2.080 | 3.80 | 4.50 | 4.50 | | | | | | |
| 1R2 | 1.2 | | | 3.50 | | 4.20 | | | | | | |
| 1R4 | 1.4 | | 1.860 | 3.30 | 4.00 | | | | 3.70 | | | |
| 1R5 | 1.5 | | 1.800 | | | 4.10 | | | 3.70 | | | |
| 1R8 | 1.8 | | 1.800 | 2.91 | 3.30 | 3.70 | 3.50 | | 3.70 | | | |
| 2R2 | 2.2 | 0.79 | 1.390 | 2.60 | 2.94 | 3.50 | 3.20 | 3.20 | 3.70 | | | |
| 2R7 | 2.7 | | 1.320 | 2.43 | 2.50 | 3.20 | | | 3.70 | | | |
| 3R0 | | | | | | | | | 3.70 | | | |
| 3R3 | 3.3 | 0.73 | 1.250 | 2.15 | 2.35 | 2.80 | 2.59 | | 3.70 | 4.50 | 2.80 | |
| 3R5 | 3.5 | | | | | | 2.40 | | | | | |
| 3R8 | 3.8 | | | | | | | | | 4.20 | | |
| 3R9 | 3.9 | | 1.200 | 1.98 | 2.20 | 2.60 | | | 3.70 | | | |
| 4R7 | 4.7 | 0.65 | 1.130 | 1.70 | 2.00 | 2.50 | 2.30 | 1.60 | 3.50 | | 2.60 | |
| 5R6 | 5.6 | 0.60 | 0.910 | 1.60 | 1.80 | 2.40 | | | 3.30 | | 4.50 | |
| 6R2 | 6.2 | | | 1.50 | | | | | | | | |
| 6R8 | 6.8 | 0.77 | 0.850 | 1.41 | 1.70 | 2.20 | 1.80 | | 3.10 | 3.00 | 4.33 | |
| 7R0 | 7.0 | | 0.820 | | | | | | | | | |
| 8R2 | 8.2 | | 0.820 | 1.26 | 1.40 | 2.00 | | | 2.70 | | 3.50 | |
| 100 | 10 | 0.45 | 0.740 | 1.15 | 1.20 | 1.80 | 1.44 | 1.44 | 2.30 | 2.38 | 2.60 | |
| 120 | 12 | | 0.640 | 1.05 | 1.18 | 1.75 | 1.40 | 1.39 | 2.00 | 2.13 | 2.45 | |
| 150 | 15 | 0.30 | 0.600 | 0.92 | 1.15 | 1.70 | 1.30 | 1.24 | 1.80 | 1.87 | 2.27 | |
| 180 | 18 | | 0.540 | 0.84 | 1.10 | 1.60 | 1.23 | 1.12 | 1.60 | 1.73 | 2.15 | |
| 220 | 22 | 0.25 | 0.500 | 0.76 | 1.00 | 1.50 | 1.11 | 1.07 | 1.50 | 1.60 | 1.95 | 3.80 |
| 270 | 27 | | 0.430 | 0.71 | 0.86 | 1.40 | 0.97 | 0.94 | 1.30 | 1.44 | 1.76 | |
| 330 | 33 | 0.20 | 0.400 | 0.64 | 0.76 | 1.10 | 0.88 | 0.85 | 1.20 | 1.26 | 1.50 | |
| 390 | 39 | 0.17 | 0.370 | 0.59 | 0.75 | 1.00 | 0.80 | 0.74 | 1.10 | 1.20 | 1.37 | |
| 470 | 47 | 0.17 | 0.360 | 0.54 | 0.73 | 0.90 | 0.72 | 0.68 | 1.10 | 1.10 | 1.28 | |
| 500 | 50 | | 0.330 | | | | | | | | | |
| 560 | 56 | | 0.310 | 0.50 | 0.55 | 0.85 | 0.68 | 0.64 | 0.94 | 1.01 | 1.17 | |
| 680 | 68 | 0.13 | 0.300 | 0.46 | 0.52 | 0.80 | 0.61 | 0.59 | 0.85 | 0.91 | 1.11 | |
| 750 | 75 | | 0.290 | | | | | | | | | |
| 820 | 82 | | 0.280 | | 0.50 | 0.65 | 0.58 | 0.54 | 0.78 | 0.85 | 1.00 | |
| 101 | 100 | 0.10 | 0.250 | 0.40 | 0.40 | 0.60 | 0.52 | 0.51 | 0.72 | 0.74 | 0.97 | |
| 121 | 120 | | 0.200 | 0.38 | 0.36 | 0.58 | 0.48 | 0.49 | 0.66 | 0.69 | 0.89 | |
| 151 | 150 | | 0.190 | 0.30 | 0.30 | 0.43 | 0.40 | 0.40 | 0.58 | 0.61 | 0.78 | |
| 181 | 180 | | 0.170 | 0.25 | 0.26 | 0.41 | 0.38 | 0.36 | 0.51 | 0.56 | 0.72 | |
| 221 | 220 | 0.07 | 0.160 | 0.15 | 0.25 | 0.38 | 0.35 | 0.31 | 0.49 | 0.53 | 0.66 | |
| 271 | 270 | | 0.140 | | 0.21 | 0.35 | 0.29 | 0.29 | 0.42 | 0.45 | 0.57 | |
| 331 | 330 | | | 0.21 | 0.18 | 0.28 | 0.28 | 0.28 | 0.40 | 0.42 | 0.52 | |
| 391 | 390 | | | | 0.16 | 0.26 | 0.26 | | 0.36 | 0.38 | 0.48 | |
| 471 | 470 | | | | 0.15 | 0.20 | 0.12 | | 0.34 | 0.35 | 0.42 | 0.82 |
| 561 | 560 | | | | 0.14 | 0.19 | 0.10 | 0.14 | 0.32 | 0.32 | 0.33 | |
| 681 | 680 | | | | 0.13 | 0.18 | 0.08 | | 0.29 | | 0.28 | |
| 821 | 820 | | | | 0.07 | 0.15 | 0.05 | | | | 0.24 | |
| 102 | 1000 | | | | 0.05 | 0.13 | 0.03 | | 0.19 | | 0.20 | 0.60 |
| 122 | 1200 | | | | | | | | | | | 0.50 |
| 152 | 1500 | | | | | | | | | | | 0.60 |
| 202 | 2000 | | | | | | | | | | | 0.40 |
| 222 | 2200 | | | | | | | | | | | 0.40 |
| 602 | 6000 | | | | | | | | | | | 0.27 |
| 822 | 8200 | | | | | | | | | | | 0.20 |

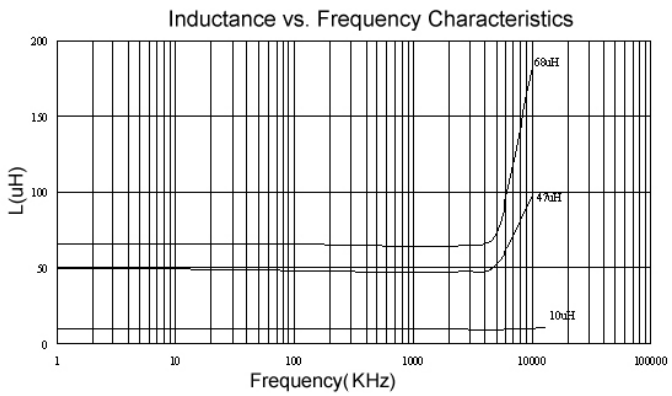
**Tolerance Of Inductors**

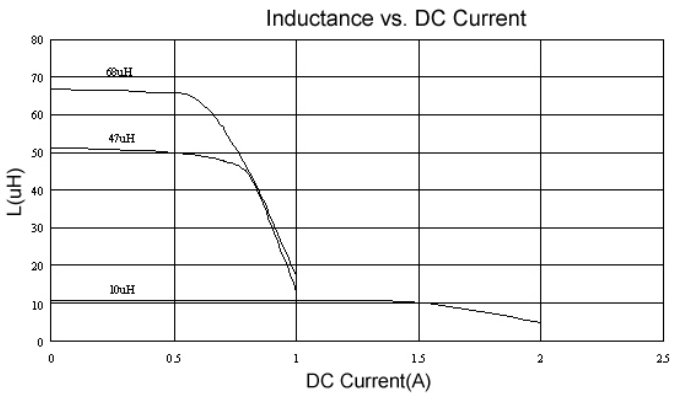
- SCD03015 2.2 ~ 100μH ± 20%
- SCD03021 1.0 ~ 270μH ± 20%
- SCD0403 0.15 ~ 27μH ± 20% 33 ~ 100μH ±10%
- SCD0502 1.0 ~ 27μH ± 20% 33 ~ 1000μH ±10%
- SCD0503 1.0 ~ 27μH ± 20% 33 ~ 1000μH ±10%
- SCD0504 1.0~27μH±20% 33~47μH ±15% 56~1000μH±10%
- SCD0703 10 ~ 27μH ± 20% 33 ~ 330μH ±10%
- SCD0705 1.4 ~ 27μH ± 20% 33 ~ 470μH ±10%
- SCD1004 10 ~ 27μH ± 20% 33 ~ 560μH ±10%
- SCD1005 4.7 ~ 27μH ± 20% 33 ~ 820μH ±10%
- SCD1006 6000μH ~8200μH±20%

Tolerance: K = ±10% , M = ±20%

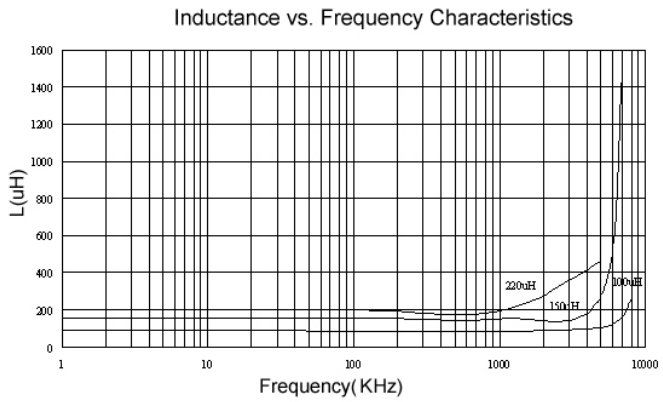
**Test Instruments**：HP4294A Impedance / Material Analyzer

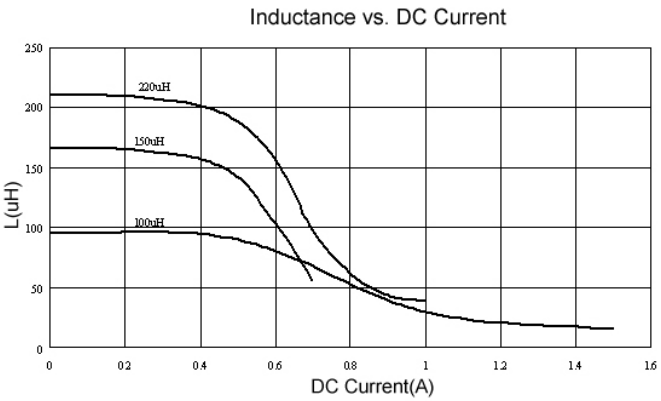
**SCD0403**



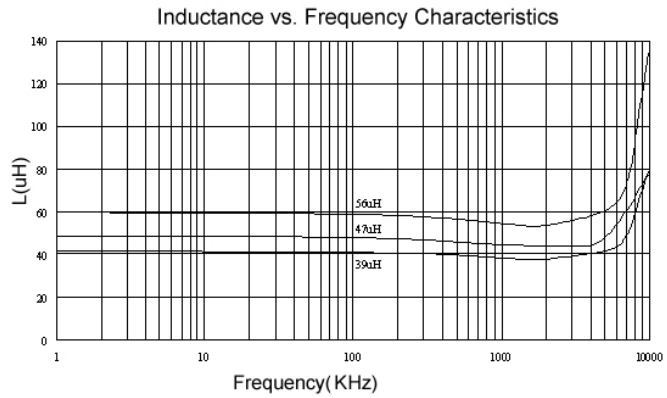



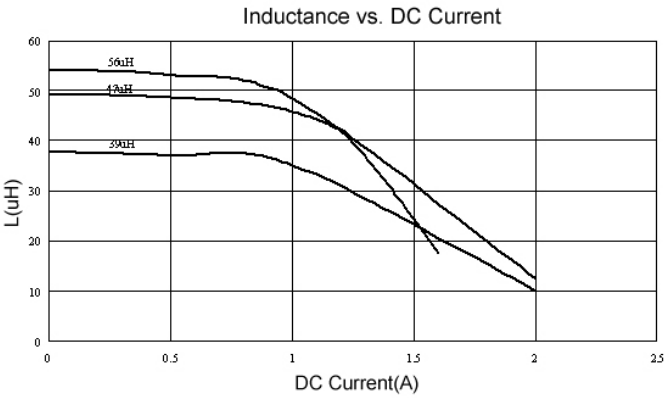

**SCD0504**



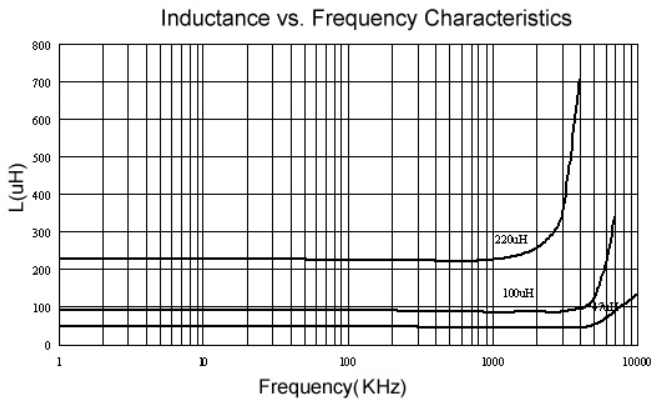

**SCD0703**

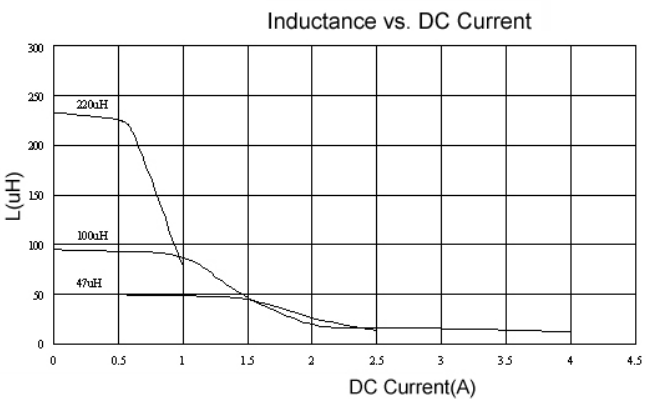


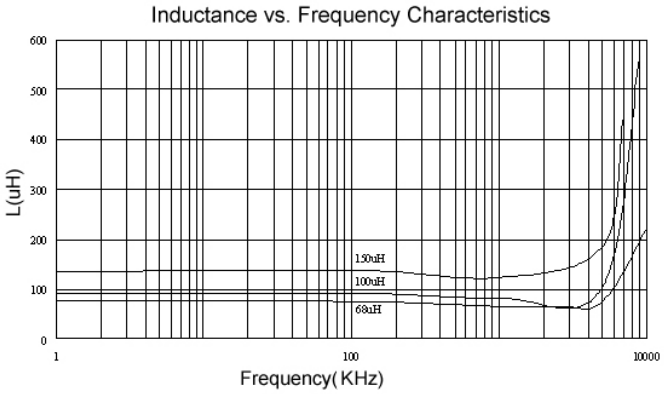
**Test Instruments**：HP4294A Impedance / Material Analyzer

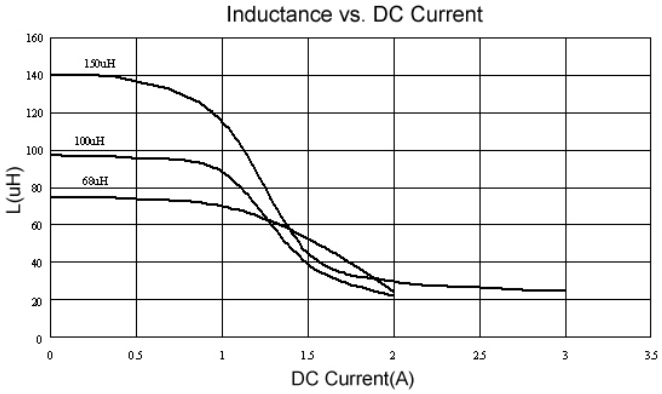
**SCD0705**



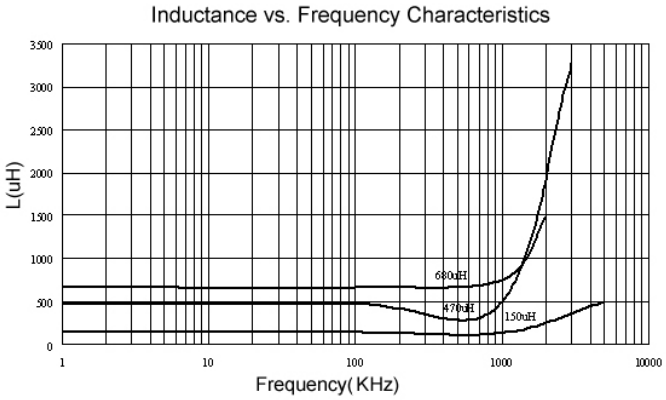



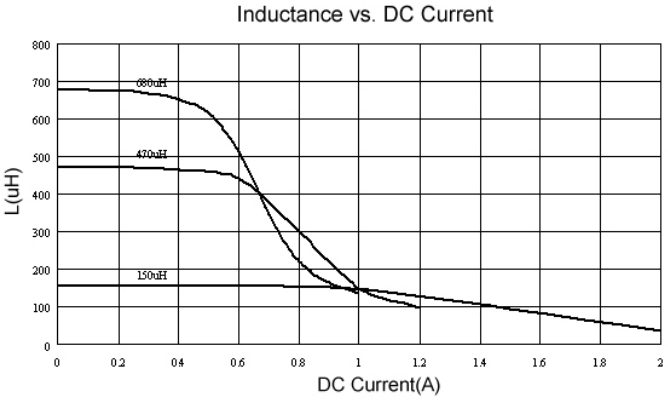

**SCD1004**



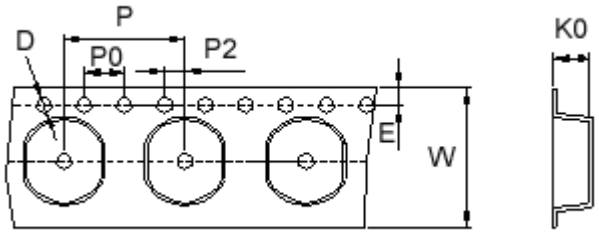

**SCD1005**



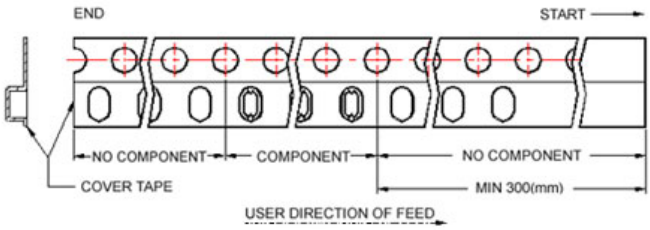



## Packaging Specifications

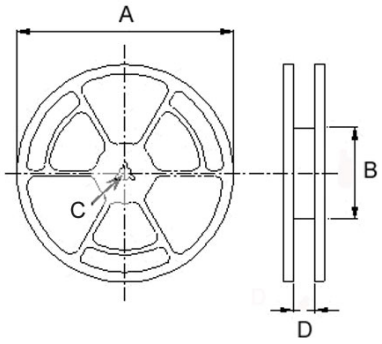
**Tape Dimensions**




**Tape Material**




**Reel Dimensions**




**Dimensions in mm**

| TYPE | Tape Dimensions | | | | | | | Reel Dimensions | | | | Quantity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | K0 | D | E | W | P | P0 | P2 | A | B | C | D | PCS / REEL |
| SCD03015 | 1.80 | 1.55 | 1.75 | 12 | 8 | 4 | 2 | 330 | 100 | 13 | 13.4 | 3000 |
| SCD03021 | 2.50 | 1.55 | 1.75 | 12 | 8 | 4 | 2 | 330 | 100 | 13 | 13.4 | 3000 |
| SCD0403 | 3.55 | 1.55 | 1.75 | 12 | 8 | 4 | 2 | 330 | 100 | 13 | 13.4 | 2000 |
| SCD0502 | 3.30 | 1.50 | 1.75 | 16 | 8 | 4 | 2 | 330 | 100 | 13 | 16.0 | 2000 |
| SCD0503 | 3.30 | 1.50 | 1.75 | 16 | 8 | 4 | 2 | 330 | 100 | 13 | 16.0 | 2000 |
| SCD0504 | 4.8 | 1.55 | 1.75 | 16 | 8 | 4 | 2 | 330 | 100 | 13 | 16.0 | 1500 |
| SCD0703 | 3.8 | 1.55 | 1.75 | 16 | 12 | 4 | 2 | 330 | 100 | 13 | 16.0 | 1000 |
| SCD0705 | 5.2 | 1.55 | 1.75 | 16 | 12 | 4 | 2 | 330 | 100 | 13 | 16.0 | 700 |
| SCD1004 | 4.5 | 1.55 | 1.75 | 24 | 12 | 4 | 2 | 330 | 100 | 13 | 24.4 | 700 |
| SCD1005 | 5.8 | 1.55 | 1.75 | 24 | 12 | 4 | 2 | 330 | 100 | 13 | 24.4 | 700 |
| SCD1006 | 7.0 | 1.55 | 1.75 | 24 | 12 | 4 | 2 | 330 | 100 | 13 | 24.4 | 500 |