

SMD POWER INDUCTOR

- CD SERIES -



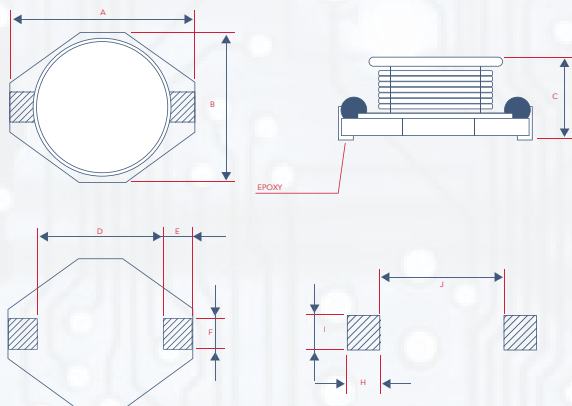
FEATURES

- High power, High saturation inductors
- Ideal inductors for DC-DC converters in notebook computer, PDAs, Step-up or step-down converters, flash memory programmers, etc.
- CD1608 used ceramic base with gold-plating -The others used LCP plastic base

APPLICATIONS

- Portable Telephones
- Personal Computers
- DC/DC Converters, etc.
- Other Various Electronic Appliances

MECHANICAL DIMENSION



CHARACTERISTICS

- Saturation Rated Current: The current when the inductance becomes 10% lower than its initial value. (Ta=25°C)
- Operating temperature range: -40~125°C

| TYPE | A (MAX) | B (MAX) | C (MAX) | D | E | F | H | I | J |
|--------|---------|---------|---------|------|------|------|------|------|-------|
| CD1608 | 6.60 | 4.45 | 2.92 | 4.32 | 1.02 | 1.27 | 1.40 | 3.56 | 4.06 |
| CD3308 | 12.95 | 9.40 | 3.00 | 7.62 | 2.54 | 2.54 | 2.79 | 2.92 | 7.37 |
| CD3316 | 12.95 | 9.40 | 5.21 | 7.62 | 2.54 | 2.54 | 2.79 | 2.92 | 7.37 |
| CD3340 | 12.95 | 9.40 | 11.43 | 7.62 | 2.54 | 2.54 | 2.79 | 2.92 | 7.37 |
| CD5022 | 18.54 | 15.24 | 7.11 | 12.7 | 2.54 | 2.54 | 2.79 | 2.92 | 12.45 |

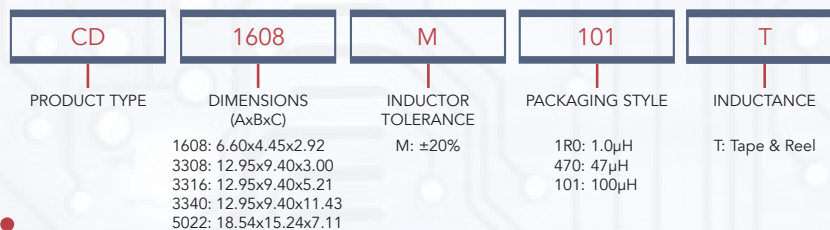
UNIT:mm

INDUCTANCE AND RATED CURRENT RANGES

| | | |
|--------|---------------|------------|
| CD1608 | 1.0μH~1000μH | 2.9~0.10A |
| CD3308 | 1.0μH~1000μH | 5.15~0.10A |
| CD3316 | 0.68μH~1000μH | 11~0.30A |
| CD3340 | 0.47μH~1000μH | 20~0.8A |
| CD5022 | 1.0μH~1000μH | 20~1.0A |

- Test Equipment:
L: HP4284A LCR meter
DCR: Milli-ohm meter
- Electrical specifications at 25°C

PART NUMBERING




ELECTRICAL CHARACTERISTICS

CD1608 TYPE

| CODES | L (μ H) | TOLERANCE | TEST CONDITION | DCR (Ω) MAX | IDC (A) MAX |
|-------|-----------------|-----------|----------------|-------------------------|----------------|
| 1R0 | 1.0 | M | 100KHz, 0.1V | 0.05 | 2.90 |
| 1R5 | 1.5 | M | 100KHz, 0.1V | 0.06 | 2.60 |
| 2R2 | 2.2 | M | 100KHz, 0.1V | 0.07 | 2.30 |
| 3R3 | 3.3 | M | 100KHz, 0.1V | 0.08 | 2.00 |
| 4R7 | 4.7 | M | 100KHz, 0.1V | 0.09 | 1.50 |
| 6R8 | 6.8 | M | 100KHz, 0.1V | 0.13 | 1.20 |
| 8R2 | 8.2 | M | 100KHz, 0.1V | 0.16 | 1.15 |
| 100 | 10 | M | 100KHz, 0.1V | 0.16 | 1.10 |
| 150 | 15 | M | 100KHz, 0.1V | 0.23 | 0.90 |
| 220 | 22 | M | 100KHz, 0.1V | 0.37 | 0.70 |
| 330 | 33 | M | 100KHz, 0.1V | 0.51 | 0.58 |
| 470 | 47 | M | 100KHz, 0.1V | 0.64 | 0.50 |
| 680 | 68 | M | 100KHz, 0.1V | 0.86 | 0.40 |
| 101 | 100 | M | 100KHz, 0.1V | 1.27 | 0.31 |
| 151 | 150 | M | 100KHz, 0.1V | 2.00 | 0.27 |
| 221 | 220 | M | 100KHz, 0.1V | 3.11 | 0.22 |
| 331 | 330 | M | 100KHz, 0.1V | 3.80 | 0.18 |
| 471 | 470 | M | 100KHz, 0.1V | 6.00 | 0.14 |
| 681 | 680 | M | 100KHz, 0.1V | 10.5 | 0.12 |
| 102 | 1000 | M | 100KHz, 0.1V | 13.8 | 0.10 |

CD3308 TYPE

| CODES | L (μ H) | TOLERANCE | TEST CONDITION | DCR (Ω) MAX | IDC (A) MAX |
|-------|-----------------|-----------|----------------|-------------------------|----------------|
| 1R0 | 1.0 | M | 100KHz, 0.1V | 0.024 | 5.15 |
| 4R7 | 4.7 | M | 100KHz, 0.1V | 0.036 | 4.20 |
| 6R8 | 6.8 | M | 100KHz, 0.1V | 0.060 | 3.90 |
| 8R2 | 8.2 | M | 100KHz, 0.1V | 0.080 | 2.42 |
| 100 | 10 | M | 100KHz, 0.1V | 0.110 | 2.40 |
| 150 | 15 | M | 100KHz, 0.1V | 0.120 | 2.30 |
| 220 | 22 | M | 100KHz, 0.1V | 0.180 | 1.80 |
| 330 | 33 | M | 100KHz, 0.1V | 0.250 | 1.60 |
| 470 | 47 | M | 100KHz, 0.1V | 0.320 | 1.30 |
| 680 | 68 | M | 100KHz, 0.1V | 0.540 | 1.10 |
| 101 | 100 | M | 100KHz, 0.1V | 0.690 | 0.87 |
| 151 | 150 | M | 100KHz, 0.1V | 0.940 | 0.74 |
| 221 | 220 | M | 100KHz, 0.1V | 1.600 | 0.56 |
| 331 | 330 | M | 100KHz, 0.1V | 2.150 | 0.50 |
| 471 | 470 | M | 100KHz, 0.1V | 3.300 | 0.40 |
| 681 | 680 | M | 100KHz, 0.1V | 4.400 | 0.33 |
| 821 | 820 | M | 100KHz, 0.1V | 5.800 | 0.15 |
| 102 | 1000 | M | 100KHz, 0.1V | 8.400 | 0.10 |

CD3316 TYPE

| CODES | L (μ H) | TOLERANCE | TEST CONDITION | DCR (Ω) MAX | IDC (A) MAX |
|-------|-----------------|-----------|----------------|-------------------------|----------------|
| R68 | 0.68 | M | 100KHz, 0.1V | 0.008 | 11.0 |
| 1R0 | 1.0 | M | 100KHz, 0.1V | 0.009 | 9.00 |
| 1R2 | 1.2 | M | 100KHz, 0.1V | 0.010 | 8.50 |
| 1R5 | 1.5 | M | 100KHz, 0.1V | 0.010 | 8.00 |
| 1R8 | 1.8 | M | 100KHz, 0.1V | 0.011 | 7.50 |
| 2R2 | 2.2 | M | 100KHz, 0.1V | 0.012 | 7.00 |
| 2R7 | 2.7 | M | 100KHz, 0.1V | 0.014 | 6.50 |
| 3R3 | 3.3 | M | 100KHz, 0.1V | 0.015 | 6.40 |
| 4R7 | 4.7 | M | 100KHz, 0.1V | 0.018 | 5.40 |
| 5R6 | 5.6 | M | 100KHz, 0.1V | 0.025 | 4.70 |
| 6R8 | 6.8 | M | 100KHz, 0.1V | 0.027 | 4.60 |





ELECTRICAL CHARACTERISTICS

CD3316 TYPE

| CODES | L (μ H) | TOLERANCE | TEST CONDITION | DCR (Ω) MAX | IDC (A) MAX |
|-------|-----------------|-----------|----------------|-------------------------|----------------|
| 8R2 | 8.2 | M | 100KHz, 0.1V | 0.036 | 4.00 |
| 100 | 10 | M | 100KHz, 0.1V | 0.038 | 3.80 |
| 120 | 12 | M | 100KHz, 0.1V | 0.044 | 3.20 |
| 150 | 15 | M | 100KHz, 0.1V | 0.046 | 3.00 |
| 180 | 18 | M | 100KHz, 0.1V | 0.066 | 2.70 |
| 220 | 22 | M | 100KHz, 0.1V | 0.085 | 2.60 |
| 270 | 27 | M | 100KHz, 0.1V | 0.095 | 2.10 |
| 330 | 33 | M | 100KHz, 0.1V | 0.100 | 2.00 |
| 390 | 39 | M | 100KHz, 0.1V | 0.130 | 1.70 |
| 470 | 47 | M | 100KHz, 0.1V | 0.140 | 1.60 |
| 560 | 56 | M | 100KHz, 0.1V | 0.190 | 1.50 |
| 680 | 68 | M | 100KHz, 0.1V | 0.200 | 1.40 |
| 820 | 82 | M | 100KHz, 0.1V | 0.260 | 1.25 |
| 101 | 100 | M | 100KHz, 0.1V | 0.280 | 1.20 |
| 121 | 120 | M | 100KHz, 0.1V | 0.360 | 1.02 |
| 151 | 150 | M | 100KHz, 0.1V | 0.400 | 1.00 |
| 181 | 180 | M | 100KHz, 0.1V | 0.540 | 0.82 |
| 221 | 220 | M | 100KHz, 0.1V | 0.610 | 0.80 |
| 271 | 270 | M | 100KHz, 0.1V | 0.840 | 0.62 |
| 331 | 330 | M | 100KHz, 0.1V | 1.020 | 0.60 |
| 391 | 390 | M | 100KHz, 0.1V | 1.250 | 0.52 |
| 471 | 470 | M | 100KHz, 0.1V | 1.270 | 0.50 |
| 561 | 560 | M | 100KHz, 0.1V | 1.850 | 0.42 |
| 681 | 680 | M | 100KHz, 0.1V | 2.020 | 0.40 |
| 821 | 820 | M | 100KHz, 0.1V | 2.530 | 0.35 |
| 102 | 1000 | M | 100KHz, 0.1V | 3.000 | 0.30 |

CD3340 TYPE

| CODES | L (μ H) | TOLERANCE | TEST CONDITION | DCR (Ω) MAX | IDC (A) MAX |
|-------|-----------------|-----------|----------------|-------------------------|----------------|
| R47 | 0.47 | M | 100KHz, 0.1V | 0.008 | 20.0 |
| R82 | 0.82 | M | 100KHz, 0.1V | 0.009 | 20.0 |
| 1R2 | 1.2 | M | 100KHz, 0.1V | 0.010 | 20.0 |
| 1R5 | 1.5 | M | 100KHz, 0.1V | 0.010 | 20.0 |
| 2R2 | 2.2 | M | 100KHz, 0.1V | 0.012 | 18.5 |
| 3R5 | 3.5 | M | 100KHz, 0.1V | 0.015 | 18.0 |
| 4R7 | 4.7 | M | 100KHz, 0.1V | 0.020 | 13.0 |
| 5R6 | 5.6 | M | 100KHz, 0.1V | 0.022 | 12.0 |
| 6R8 | 6.8 | M | 100KHz, 0.1V | 0.030 | 10.0 |
| 8R2 | 8.2 | M | 100KHz, 0.1V | 0.033 | 9.00 |
| 100 | 10 | M | 100KHz, 0.1V | 0.040 | 8.00 |
| 120 | 12 | M | 100KHz, 0.1V | 0.042 | 7.20 |
| 150 | 15 | M | 100KHz, 0.1V | 0.050 | 7.00 |
| 180 | 18 | M | 100KHz, 0.1V | 0.052 | 5.70 |
| 220 | 22 | M | 100KHz, 0.1V | 0.066 | 5.50 |
| 270 | 27 | M | 100KHz, 0.1V | 0.072 | 4.20 |
| 330 | 33 | M | 100KHz, 0.1V | 0.080 | 4.00 |
| 390 | 39 | M | 100KHz, 0.1V | 0.092 | 3.90 |
| 470 | 47 | M | 100KHz, 0.1V | 0.110 | 3.80 |
| 560 | 56 | M | 100KHz, 0.1V | 0.150 | 3.20 |
| 680 | 68 | M | 100KHz, 0.1V | 0.170 | 3.00 |
| 820 | 82 | M | 100KHz, 0.1V | 0.200 | 2.60 |
| 101 | 100 | M | 100KHz, 0.1V | 0.220 | 2.50 |
| 121 | 120 | M | 100KHz, 0.1V | 0.320 | 2.20 |
| 151 | 150 | M | 100KHz, 0.1V | 0.340 | 2.00 |
| 181 | 180 | M | 100KHz, 0.1V | 0.420 | 1.80 |
| 221 | 220 | M | 100KHz, 0.1V | 0.440 | 1.60 |


ELECTRICAL CHARACTERISTICS

CD3340 TYPE

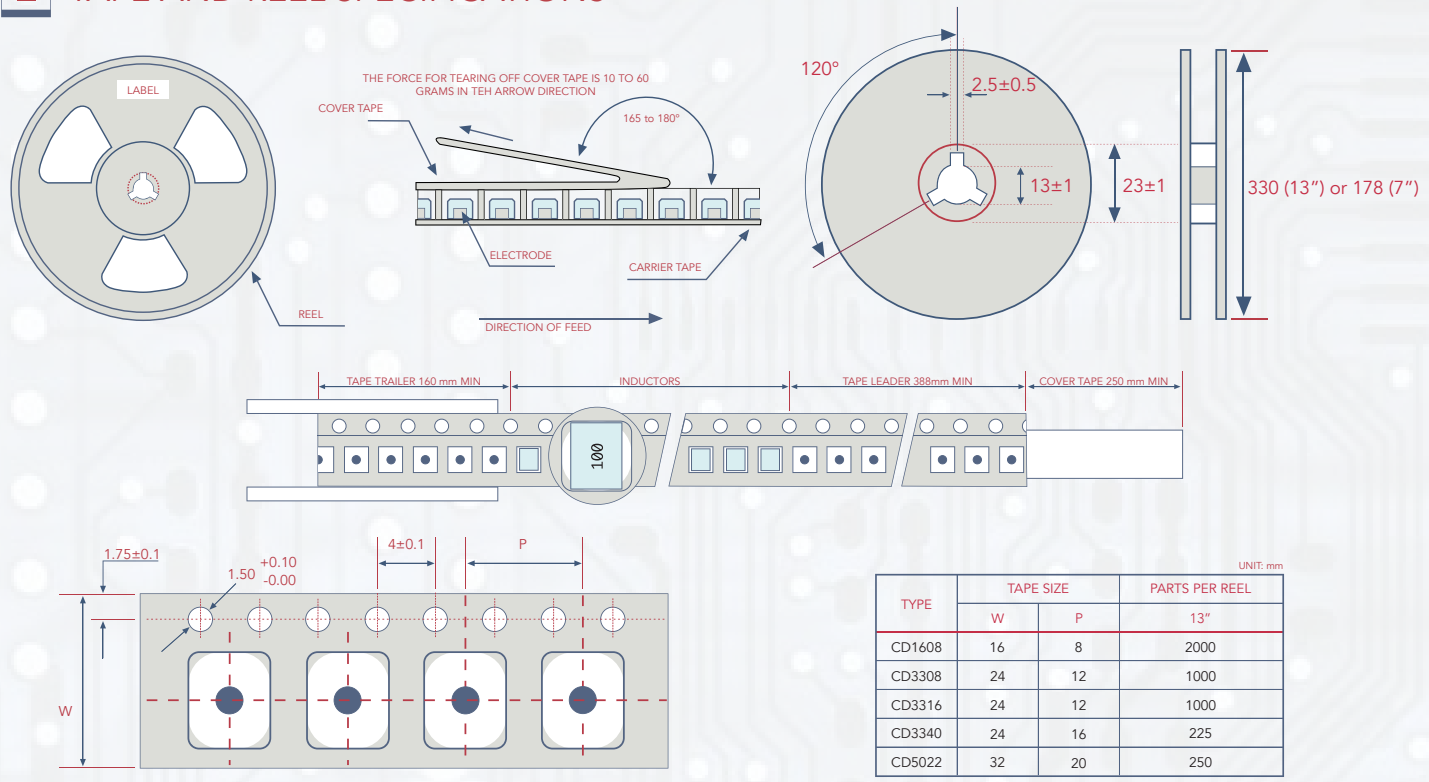
| CODES | L (μ H) | TOLERANCE | TEST CONDITION | DCR (Ω) MAX | IDC (A) MAX |
|-------|-----------------|-----------|----------------|-------------------------|----------------|
| 271 | 270 | M | 100KHz, 0.1V | 0.600 | 1.30 |
| 331 | 330 | M | 100KHz, 0.1V | 0.700 | 1.20 |
| 391 | 390 | M | 100KHz, 0.1V | 0.850 | 1.10 |
| 471 | 470 | M | 100KHz, 0.1V | 0.950 | 1.00 |
| 561 | 560 | M | 100KHz, 0.1V | 1.100 | 1.00 |
| 681 | 680 | M | 100KHz, 0.1V | 1.200 | 1.00 |
| 821 | 820 | M | 100KHz, 0.1V | 1.500 | 0.82 |
| 102 | 1000 | M | 100KHz, 0.1V | 2.000 | 0.80 |

CD5022 TYPE

| CODES | L (μ H) | TOLERANCE | TEST CONDITION | DCR (Ω) MAX | IDC (A) MAX |
|-------|-----------------|-----------|----------------|-------------------------|----------------|
| 1R0 | 1.0 | M | 100KHz, 0.1V | 0.009 | 20.0 |
| 2R2 | 2.2 | M | 100KHz, 0.1V | 0.014 | 16.00 |
| 3R3 | 3.3 | M | 100KHz, 0.1V | 0.018 | 14.00 |
| 4R7 | 4.7 | M | 100KHz, 0.1V | 0.019 | 13.00 |
| 5R6 | 5.6 | M | 100KHz, 0.1V | 0.020 | 12.00 |
| 6R8 | 6.8 | M | 100KHz, 0.1V | 0.022 | 10.60 |
| 8R2 | 8.2 | M | 100KHz, 0.1V | 0.024 | 10.30 |
| 100 | 10 | M | 100KHz, 0.1V | 0.031 | 10.00 |
| 120 | 12 | M | 100KHz, 0.1V | 0.034 | 8.20 |
| 150 | 15 | M | 100KHz, 0.1V | 0.036 | 8.00 |
| 180 | 18 | M | 100KHz, 0.1V | 0.045 | 7.20 |
| 220 | 22 | M | 100KHz, 0.1V | 0.047 | 7.00 |
| 270 | 27 | M | 100KHz, 0.1V | 0.056 | 5.80 |
| 330 | 33 | M | 100KHz, 0.1V | 0.066 | 5.50 |
| 390 | 39 | M | 100KHz, 0.1V | 0.080 | 4.60 |
| 470 | 47 | M | 100KHz, 0.1V | 0.095 | 4.50 |
| 560 | 56 | M | 100KHz, 0.1V | 0.128 | 3.70 |
| 680 | 68 | M | 100KHz, 0.1V | 0.130 | 3.50 |
| 820 | 82 | M | 100KHz, 0.1V | 0.180 | 3.10 |
| 101 | 100 | M | 100KHz, 0.1V | 0.190 | 3.00 |
| 121 | 120 | M | 100KHz, 0.1V | 0.240 | 2.80 |
| 151 | 150 | M | 100KHz, 0.1V | 0.250 | 2.60 |
| 181 | 180 | M | 100KHz, 0.1V | 0.360 | 2.50 |
| 221 | 220 | M | 100KHz, 0.1V | 0.380 | 2.40 |
| 271 | 270 | M | 100KHz, 0.1V | 0.520 | 2.00 |
| 331 | 330 | M | 100KHz, 0.1V | 0.560 | 1.90 |
| 391 | 390 | M | 100KHz, 0.1V | 0.720 | 1.50 |
| 471 | 470 | M | 100KHz, 0.1V | 0.850 | 1.40 |
| 561 | 560 | M | 100KHz, 0.1V | 1.080 | 1.30 |
| 681 | 680 | M | 100KHz, 0.1V | 1.100 | 1.20 |
| 821 | 820 | M | 100KHz, 0.1V | 1.600 | 1.03 |
| 102 | 1000 | M | 100KHz, 0.1V | 1.800 | 1.00 |



■ TAPE AND REEL SPECIFICATIONS



■ SMT POWER INDUCTOR ENVIRONMENTAL SPECIFICATIONS

GENERAL

| ITEMS | SPECIFICATIONS |
|--------------------------|--|
| SHELF STORAGE CONDITIONS | - Temperature range: 15~28°C; Humidity: <80% relative humidity. - Recommended product should be used within one year from the time of delivery. |

ENVIRONMENTAL TEST

| TEST ITEM | SPECIFICATIONS | TEST CONDITIONS / TEST METHODS |
|-------------------------------|---|---|
| HIGH TEMPERATURE STORAGE TEST | | - Temperature 85±2°C, - Time: 96±2 hours, - Tested after 1hour at room temperature. |
| LOW TEMPERATURE STORAGE TEST | - No case deformation or change in apperance. - Δ L/L ≤10% | - Temperature -25±2°C, - Time: 96±2 hours, - Tested after 1hour at room temperature. |
| HUMIDITY TEST | | - Temperature 40±2°C, 90~95% relative humidity - Time: 96±2 hours, - Tested after 1hour at room temperature. |
| THERMAL SHOCK TEST | | - First -25°C 30minutes then 25°C 10 minutes last 85°C 30 minutes, as 1 cycle. Go through 5 cycles. - Tested after 1 hour at room temperature. |



SMT POWER INDUCTOR ENVIRONMENTAL SPECIFICATIONS

MECHANICAL TEST

| TEST ITEM | SPECIFICATIONS | TEST CONDITIONS / TEST METHODS |
|------------------------------|--|---|
| SOLDERABILITY TEST | - Terminal area must have 90% minimum solder coverage. | Product with Lead-free terminal: Dip pads in flux then dip in solder pot at 245±5°C for 3 seconds. |
| RESISTANCE TO SOLDERING HEAT | - No case deformation or change in appearance. | Flux should cover the whole of the sample before heating, then be preheated for about 2 minutes over temperature of 130~150°C. Immersing to 260±5°C for 10 seconds. |
| VIBRATION TEST | - No case deformation or change in appearance. - Δ L/L ≤10% | Apply frequency 10~55Hz. 1.5mm amplitude in each of perpendicular direction for 2 hours. |
| SHOCK RESISTANCE | | Drop down with 981m/s ² (100G) shock attitude upon a rubber block method shock testing machine, for 1 time. In each of three orientations. |

THE CONDITION OF REFLOW (RECOMMENDATION):

