

# SMD POWER INDUCTOR

## - CD SERIES -



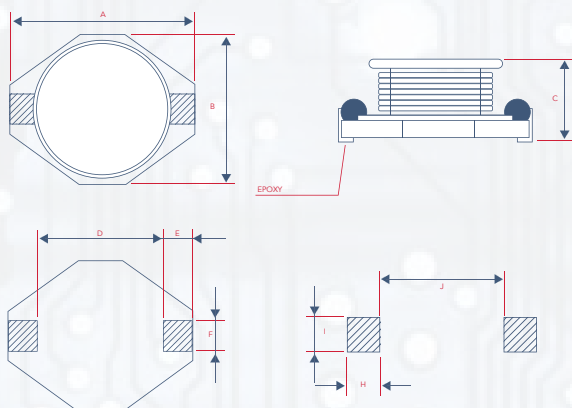
### FEATURES

- 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

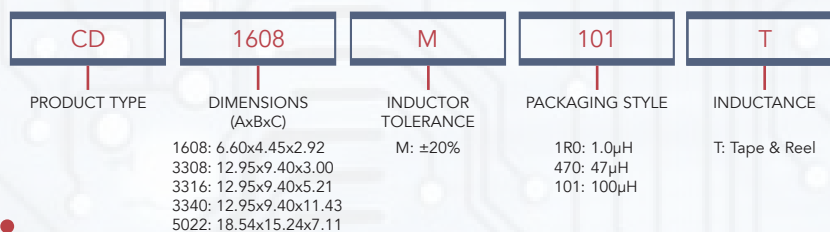
UNIT:mm

### 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 ( $\mu$ H)	TOLERANCE	TEST CONDITION	DCR ( $\Omega$ ) 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 ( $\mu$ H)	TOLERANCE	TEST CONDITION	DCR ( $\Omega$ ) 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 ( $\mu$ H)	TOLERANCE	TEST CONDITION	DCR ( $\Omega$ ) 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 (μH)	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 (μH)	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 ( $\mu$ H)	TOLERANCE	TEST CONDITION	DCR ( $\Omega$ ) 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

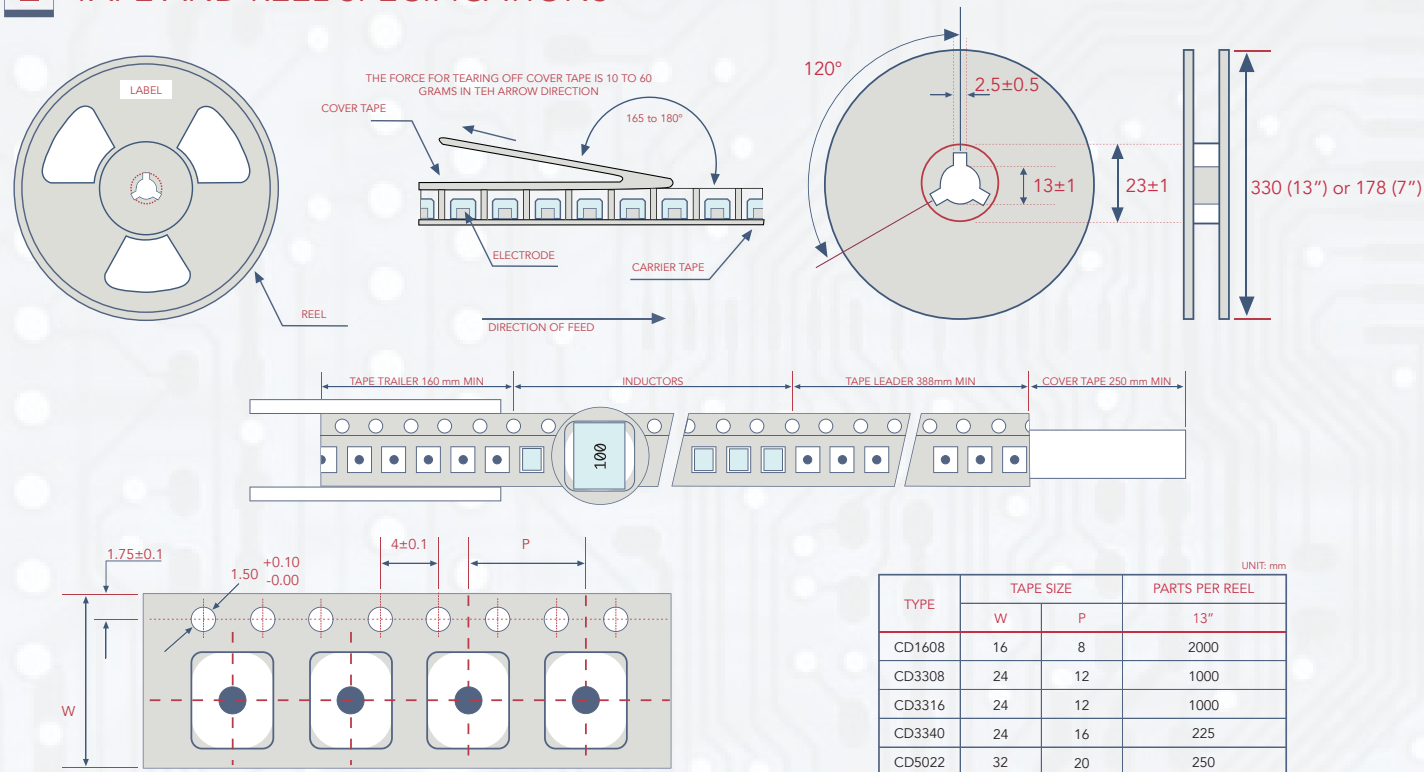
## CD5022 TYPE

CODES	L ( $\mu$ H)	TOLERANCE	TEST CONDITION	DCR ( $\Omega$ ) 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 <sup>2</sup> (100G) shock attitude upon a rubber block method shock testing machine, for 1 time. In each of three orientations.

## THE CONDITION OF REFLOW (RECOMMENDATION):

