

SMD SHIELDED POWER INDUCTOR

- CSDB SERIES -



FEATURES

- Directly connected electrode on ferrite core
- High power, High saturation inductors
- Ideal inductors for DC/DC converters
- With magnetically shielded against radiation
- Available on tape and reel for automatic surface mounting.

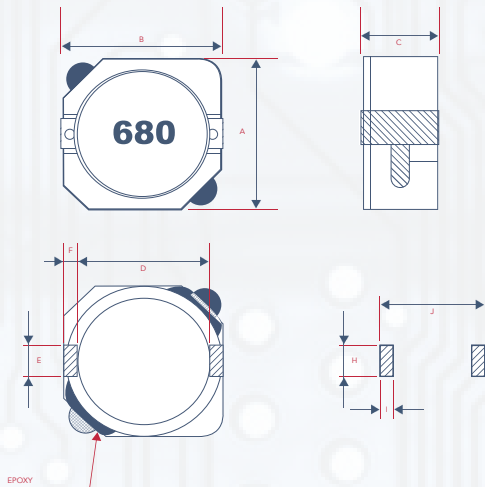
APPLICATIONS

- Power Supply for VTRs
- LCD Televisions -Notebook PCs
- Portable Communication
- DC/DC Converters, etc.

CHARACTERISTICS

- Rated DC current: The current when the inductance becomes 35% lower than its initial value or the actual current when the temperature of coil increases to $\Delta T=40^{\circ}\text{C}$. The smaller one is defined as Rated DC Current. ($T_a=25^{\circ}\text{C}$)
- Operating temperature range: $-40\sim 85^{\circ}\text{C}$

MECHANICAL DIMENSIONS

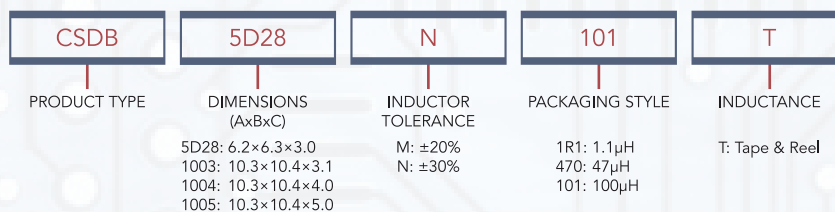


TYPE	A (MAX)	B (MAX)	C (MAX)	D	E	F	H	I	J
CSDB5D28	6.2	6.3	3.0	4.7	2.0	0.6	2.6	1.0	4.6
CSDB1003	10.3	10.4	3.1	7.7	3.0	1.2	3.2	1.6	7.3
CSDB1004	10.3	10.4	4.0	7.7	3.0	1.2	3.2	1.6	7.3
CSDB1005	10.3	10.4	5.0	7.7	3.0	1.2	3.2	1.6	7.3

INDUCTANCE AND RATED CURRENT RANGES

CSDB5D28	2.5 μH ~100 μH	2.60~0.40A
CSDB1003	10 μH ~150 μH	2.70~0.70A
CSDB1004	1.3 μH ~330 μH	10.0~0.70A
CSDB1005	1.5 μH ~1000 μH	10.5~0.35A

PART NUMBERING





ELECTRICAL CHARACTERISTICS

- 5D28 TYPE

CODES	L (μH)	TOLERANCE	TEST CONDITION	DCR (Ω) MAX	IDC (A) MAX.
1R0	1.0	N	100KHz, 0.1V	15.0	2.90
1R5	1.5	N	100KHz, 0.1V	16.0	2.80
2R2	2.2	N	100KHz, 0.1V	17.0	2.70
2R5	2.5	N	100KHz, 0.1V	17.6	2.60
3R3	3.3	N	100KHz, 0.1V	20.3	2.30
4R0	4.0	N	100KHz, 0.1V	27.0	2.10
4R7	4.7	N	100KHz, 0.1V	29.0	2.00
5R0	5.0	N	100KHz, 0.1V	31.1	1.85
6R0	6.0	N	100KHz, 0.1V	41.9	1.70
6R2-1	6.2	M	100KHz, 0.25V	74	1.49
8R0	8.0	N	100KHz, 0.1V	49.9	1.50
8R2-1	8.2	M	100KHz, 0.25V	102	1.25
100	10	N	100KHz, 0.1V	54.0	1.30
100-1	10	M	100KHz, 0.25V	118	1.22
120	12	N	100KHz, 0.1V	71.6	1.20
150	15	N	100KHz, 0.1V	82.4	1.10
150-1	15	M	100KHz, 0.25V	1.79	0.94
180	18	N	100KHz, 0.1V	101.5	1.05
220	22	N	100KHz, 0.1V	119.0	0.95
220-1	22	M	100KHz, 0.25V	253	0.80
270	27	N	100KHz, 0.1V	146.0	0.85
330	33	N	100KHz, 0.1V	182.5	0.76
330-1	33	M	100KHz, 0.25V	368	0.63
390	39	N	100KHz, 0.1V	209.5	0.68
470	47	N	100KHz, 0.1V	229.5	0.60
470-1	47	M	100KHz, 0.25V	542	0.50
560	56	N	100KHz, 0.1V	305.0	0.55
680	68	N	100KHz, 0.1V	351.0	0.48
820	82	N	100KHz, 0.1V	418.0	0.45
101	100	N	100KHz, 0.1V	520.0	0.40





ELECTRICAL CHARACTERISTICS

- 1003 TYPE

CODES	L (μH)	TOLERANCE	TEST CONDITION	DCR (Ω) MAX	IDC (A) MAX.
R56	0.56	N	100KHz, 0.1V	20	6.20
1R0	1.0	N	100KHz, 0.1V	20	6.20
1R2	1.2	N	100KHz, 0.1V	20	6.20
1R3	1.3	N	100KHz, 0.1V	20	6.20
1R5	1.5	N	100KHz, 0.1V	20	6.20
1R8	1.8	N	100KHz, 0.1V	23	5.60
2R2	2.2	N	100KHz, 0.1V	23	5.60
2R5	2.5	N	100KHz, 0.1V	23	5.60
2R7	2.7	N	100KHz, 0.1V	23	5.60
3R3	3.3	N	100KHz, 0.1V	29	5.00
3R8	3.8	N	100KHz, 0.1V	29	5.00
4R0	4.0	N	100KHz, 0.1V	33	4.80
4R7	4.7	N	100KHz, 0.1V	35	4.83
5R0	5.0	N	100KHz, 0.1V	35	4.83
5R2	5.2	N	100KHz, 0.1V	43	4.83
8R2	8.2	N	100KHz, 0.1V	50	3.54
100	10	M, N	100KHz, 0.1V	58	2.70
120	12	M, N	100KHz, 0.1V	72	2.25
150	15	M, N	100KHz, 0.1V	86	2.22
180	18	M, N	100KHz, 0.1V	116	1.90
220	22	M, N	100KHz, 0.1V	145	1.78
270	27	M, N	100KHz, 0.1V	176	1.63
330	33	M, N	100KHz, 0.1V	213	1.46
390	39	M, N	100KHz, 0.1V	270	1.32
470	47	M, N	100KHz, 0.1V	299	1.18
560	56	M, N	100KHz, 0.1V	335	1.10
680	68	M, N	100KHz, 0.1V	451	1.04
820	82	M, N	100KHz, 0.1V	513	0.94
101	100	M, N	100KHz, 0.1V	700	0.84
121	120	M, N	100KHz, 0.1VN	765	0.76
151	150	M, N	100KHz, 0.1V	876	0.70
181	180	M, N	100KHz, 0.1V	1000	0.60
221	220	M, N	100KHz, 0.1V	1050	0.58
271	270	M, N	100KHz, 0.1V	1500	0.56
331	330	M, N	100KHz, 0.1V	1800	0.52
391	390	M, N	100KHz, 0.1V	2000	0.50
471	470	M, N	100KHz, 0.1V	2170	0.48
561	560	M, N	100KHz, 0.1V	2750	0.35
681	680	M, N	100KHz, 0.1V	3200	0.29
821	820	M, N	100KHz, 0.1V	3800	0.28
101	100	M, N	100KHz, 0.1V	5000	0.23


ELECTRICAL CHARACTERISTICS

- 1004 TYPE

CODES	L (μH)	TOLERANCE	TEST CONDITION	DCR (Ω) MAX	IDC (A) MAX.
R56	0.56	N	100KHz, 0.1V	8	10.0
1R0	1.0	N	100KHz, 0.1V	8	10.0
1R2	1.2	N	100KHz, 0.1V	8	10.0
1R3	1.3	N	100KHz, 0.1V	8	10.0
1R5	1.5	N	100KHz, 0.1V	8	10.0
1R8	1.8	N	100KHz, 0.1V	10	9.5
2R2	2.2	N	100KHz, 0.1V	11	8.00
2R5	2.5	N	100KHz, 0.1V	12	7.50
2R7	2.7	N	100KHz, 0.1V	12	7.50
3R3	3.3	N	100KHz, 0.1V	13	6.50
3R8	3.8	N	100KHz, 0.1V	17	6.00
4R7	4.7	N	100KHz, 0.1V	21	5.70
5R0	5.0	N	100KHz, 0.1V	22	5.60
5R2	5.2	N	100KHz, 0.1V	22	5.50
5R6	5.6	M, N	100KHz, 0.1V	25	5.20
6R8	6.8	M, N	100KHz, 0.1V	26	4.90
7R0	7.0	M, N	100KHz, 0.1V	27	4.80
8R2	8.2	M, N	100KHz, 0.1V	33	4.60
100	10	M, N	100KHz, 0.1V	35	4.40
120	12	M, N	100KHz, 0.1V	46	3.92
150	15	M, N	100KHz, 0.1V	50	3.60
180	18	M, N	100KHz, 0.1V	70	3.00
220	22	M, N	100KHz, 0.1V	73	2.90
270	27	M, N	100KHz, 0.1V	83	2.80
330	33	M, N	100KHz, 0.1V	93	2.30
390	39	M, N	100KHz, 0.1V	120	2.20
470	47	M, N	100KHz, 0.1V	128	2.10
560	56	M, N	100KHz, 0.1V	171	1.80
680	68	M, N	100KHz, 0.1V	213	1.50
820	82	M, N	100KHz, 0.1V	250	1.40
101	100	M, N	100KHz, 0.1V	304	1.35
121	120	M, N	100KHz, 0.1VN	400	1.20
151	150	M, N	100KHz, 0.1V	506	1.15
181	180	M, N	100KHz, 0.1V	631	1.03
221	220	M, N	100KHz, 0.1V	756	0.92
271	270	M, N	100KHz, 0.1V	853	0.84
331	330	M, N	100KHz, 0.1V	1090	0.70
391	390	M, N	100KHz, 0.1V	1450	0.62
471	470	M, N	100KHz, 0.1V	1520	0.54
561	560	M, N	100KHz, 0.1V	2500	0.50
681	680	M, N	100KHz, 0.1V	2800	0.45
821	820	M, N	100KHz, 0.1V	3000	0.40
101	100	M, N	100KHz, 0.1V	3250	0.32



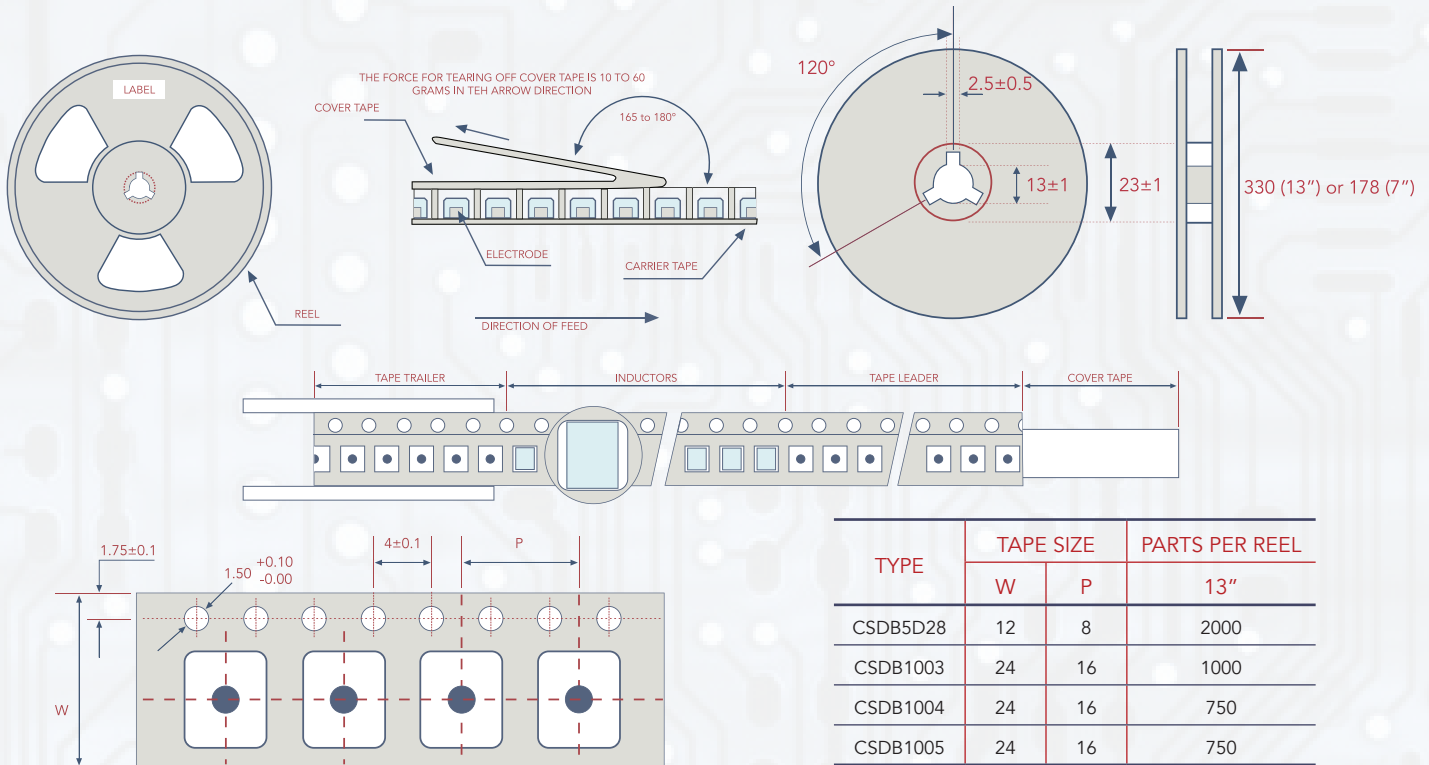


ELECTRICAL CHARACTERISTICS

- 1005 TYPE

CODES	L (μH)	TOLERANCE	TEST CONDITION	DCR (Ω) MAX	IDC (A) MAX.
1R5	1.5	N	100KHz, 0.1V	6	10.5
2R2	2.2	N	100KHz, 0.1V	7	9.25
3R3	3.3	N	100KHz, 0.1V	10	7.80
4R7	4.7	N	100KHz, 0.1V	12	6.40
6R8	6.8	N	100KHz, 0.1V	18	5.40
8R2	8.2	N	100KHz, 0.1V	20	4.85
100	10	M, N	100KHz, 0.1V	26	3.45
120	12	M, N	100KHz, 0.1V	33	3.40
150	15	M, N	100KHz, 0.1V	41	2.83
180	18	M, N	100KHz, 0.1V	46	2.62
220	22	M, N	100KHz, 0.1V	61	2.44
270	27	M, N	100KHz, 0.1V	69	2.24
330	33	M, N	100KHz, 0.1V	84	1.88
390	39	M, N	100KHz, 0.1V	106	1.70
470	47	M, N	100KHz, 0.1V	130	1.56
560	56	M, N	100KHz, 0.1V	149	1.39
680	68	M, N	100KHz, 0.1V	201	1.36
820	82	M, N	100KHz, 0.1V	227	1.20
101	100	M, N	100KHz, 0.1V	253	1.09
101-1	100	M	100KHz, 0.1V	253	1.35
121	120	M, N	100KHz, 0.1VN	303	1.00
151	150	M, N	100KHz, 0.1V	370	0.91
181	180	M, N	100KHz, 0.1V	419	0.84
221	220	M, N	100KHz, 0.1V	500	0.75
271	270	M, N	100KHz, 0.1V	672	0.68
331	330	M, N	100KHz, 0.1V	812	0.60
391	390	M, N	100KHz, 0.1V	953	0.57
471	470	M, N	100KHz, 0.1V	1289	0.50
561	560	M, N	100KHz, 0.1V	1430	0.47
681	680	M, N	100KHz, 0.1V	1599	0.43
821	820	M, N	100KHz, 0.1V	1768	0.39
102	1000	M, N	100KHz, 0.1V	1989	0.35

■ TAPE AND REEL SPECIFICATIONS



■ SMD 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 ITEMS	SPECIFICATIONS	TEST CONDITIONS / TEST METHODS
High Temperature Storage Test	No case deformation or change in appearance. $\Delta L/L \leq 10\%$	Temperature 85±2°C Time: 48±2 hours, Tested after 1 hour at room temperature.
Low Temperature Storage Test		Temperature 40±2°C, Time: 48±2 hours, Tested after 1 hour at room temperature.
Humidity Test		Temperature 40±2°C, 90~95% relative humidity Time: 96±2 hours Tested after 1 hour at room temperature.
Thermal Shock Test		First -25°C 30 minutes then 25°C 10 minutes last 85°C 30 minutes, as 1 cycle. Go through 5 cycles. Tested after 1 hour at room temperature.



SMD POWER INDUCTOR ENVIRONMENTAL SPECIFICATIONS

- MECHANICAL TEST

TEST ITEMS	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.	Apply frequency 10~55Hz. 1.5mm amplitude in each of perpendicular direction for 2 hours.
Shock Resistance	Δ L/L ≤ 10%	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

