

Data Sheet

Customer:

Product: Shielded SMD Power Inductor – PSDB Series

Sizes.: 5D28/1003/1004/1005

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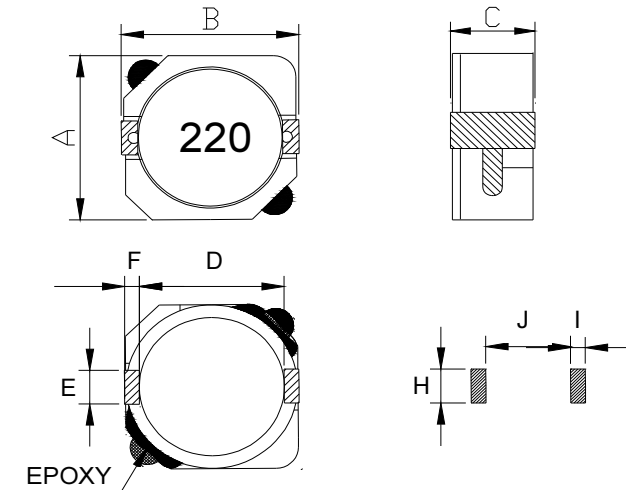
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Shielded SMD Power Inductor



Dimensions

Unit: mm

Type	A Max.	B Max.	C Max.	D	E	F	H	I	J
PSDB5D28	6.2	6.3	3.0	4.7	2.0	0.6	2.6	1.0	4.6
PSDB1003	10.3	10.4	3.1	7.7	3.0	1.2	3.2	1.6	7.3
PSDB1004	10.3	10.4	4.0	7.7	3.0	1.2	3.2	1.6	7.3
PSDB1005	10.3	10.4	5.0	7.7	3.0	1.2	3.2	1.6	7.3

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.

Inductance and rated current ranges

– PSDB5D28	2.5~100μH	2.60~0.40A
– PSDB1003	2.2~470μH	5.60~0.48A
– PSDB1004	0.56~1000μH	10.0~0.32A
– PSDB1005	1.5~1000μH	10.5~0.35A

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

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: $-40\sim 125^{\circ}\text{C}$

Product Identification

PSDB	5D28	N	T	101
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	5D28: 6.2×6.3×3.0 1003: 10.3×10.4×3.1 1004: 10.3×10.4×4.0 1005: 10.3×10.4×5.0	N: $\pm 30\%$	T: Tape and Reel	1R0: 1.0μH 470: 47μH 101: 100μH

Shielded SMD Power Inductor

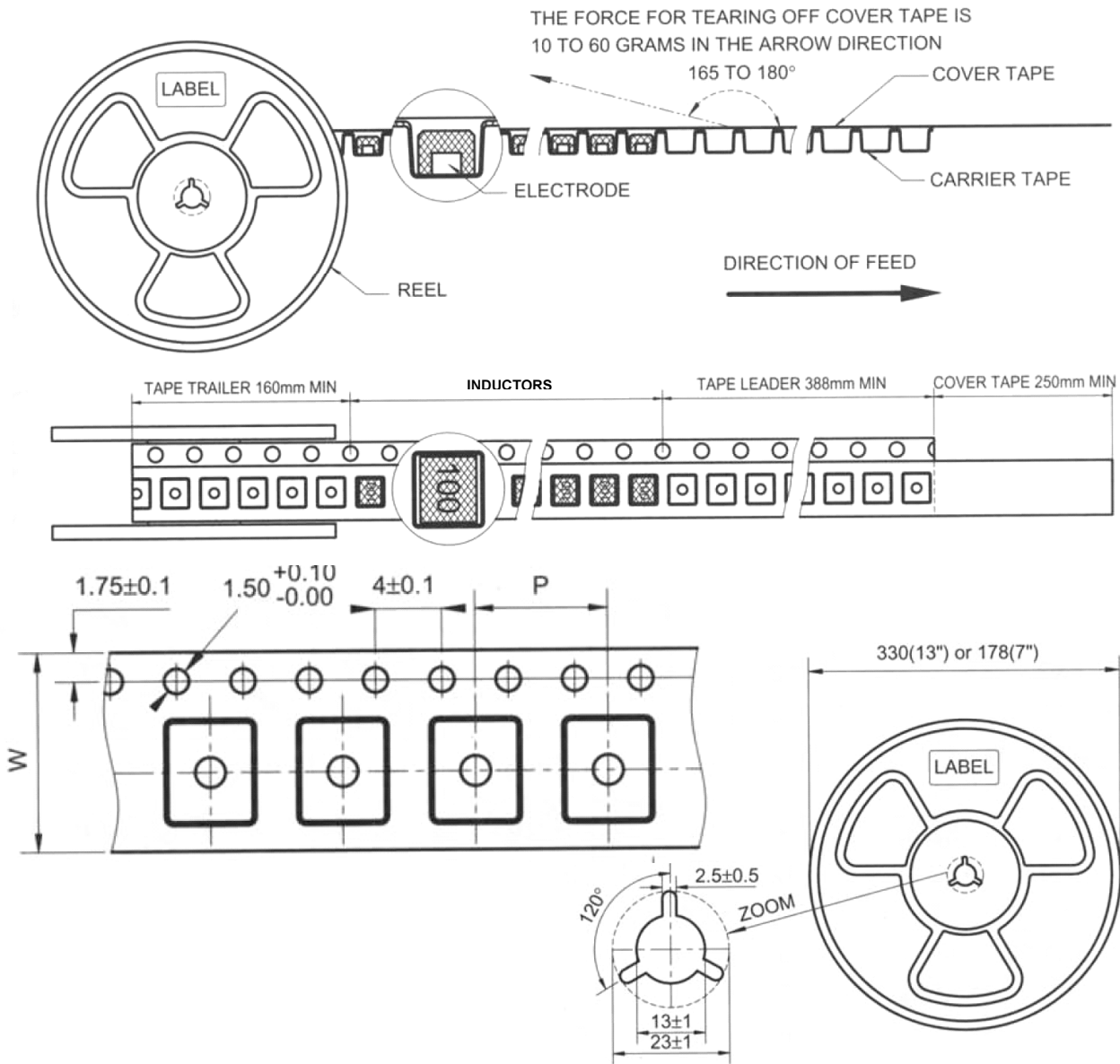
Electrical Characteristics

PSDB5D28 / 1003 / 1004 / 1005 Type

Codes	L (μ H)	Tolerance	Test Condition	DCR (m Ω) max.				IDC (A) max.			
				5D28	1003	1004	1005	5D28	1003	1004	1005
R56	0.56	N	100KHz, 0.1V	-	-	8	-	-	-	10.0	-
1R0	1.0	N	100KHz, 0.1V	15.0	-	8	-	2.90	-	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	16.0	-	8	6	2.80	-	10.0	10.5
1R8	1.8	N	100KHz, 0.1V			10				9.5	
2R2	2.2	N	100KHz, 0.1V	17.0	23	11	7	2.70	5.60	8.00	9.25
2R5	2.5	N	100KHz, 0.1V	17.6	-	12	-	2.60	-	7.50	-
2R7	2.7	N	100KHz, 0.1V			12				7.50	
3R3	3.3	N	100KHz, 0.1V	20.3	-	13	10	2.30	-	6.50	7.80
3R8	3.8	N	100KHz, 0.1V	-	-	17	-	-	-	6.00	-
4R0	4.0	N	100KHz, 0.1V	27.0	-	-	-	2.10	-	-	-
4R7	4.7	N	100KHz, 0.1V	29.0	-	21	12	2.00	-	5.70	6.40
5R0	5.0	N	100KHz, 0.1V	31.1	-	22	-	1.85	-	5.60	-
5R2	5.2	N	100KHz, 0.1V	-	43	22	-	-	4.83	5.50	-
5R6	5.6	N	100KHz, 0.1V	-	-	25	-	-	-	5.20	-
6R0	6.0	N	100KHz, 0.1V	41.9	-	-	-	1.70	-	-	-
6R8	6.8	N	100KHz, 0.1V	-	-	26	18	-	-	4.90	5.40
7R0	7.0	N	100KHz, 0.1V	-	-	27	-	-	-	4.80	-
8R0	8.0	N	100KHz, 0.1V	49.9	-	-	-	1.50	-	-	-
8R2	8.2	N	100KHz, 0.1V	-	50	33	20	-	3.54	4.60	4.85
100	10	N	100KHz, 0.1V	54.0	58	35	26	1.30	2.70	4.40	3.45
120	12	N	100KHz, 0.1V	71.6	72	46	33	1.20	2.25	3.92	3.40
150	15	N	100KHz, 0.1V	82.4	86	50	41	1.10	2.22	3.60	2.83
180	18	N	100KHz, 0.1V	101.5	116	70	46	1.05	1.90	3.00	2.62
220	22	N	100KHz, 0.1V	119.0	145	73	61	0.95	1.78	2.90	2.44
270	27	N	100KHz, 0.1V	146.0	176	83	69	0.85	1.63	2.80	2.24
330	33	N	100KHz, 0.1V	182.5	213	93	84	0.76	1.46	2.30	1.88
390	39	N	100KHz, 0.1V	209.5	270	120	106	0.68	1.32	2.20	1.70
470	47	N	100KHz, 0.1V	229.5	299	128	130	0.60	1.18	2.10	1.56
560	56	N	100KHz, 0.1V	305.0	335	171	149	0.55	1.10	1.80	1.39
680	68	N	100KHz, 0.1V	351.0	451	213	201	0.48	1.04	1.50	1.36
820	82	N	100KHz, 0.1V	418.5	513	250	227	0.45	0.94	1.40	1.20
101	100	N	100KHz, 0.1V	520.0	700	304	253	0.40	0.84	1.35	1.09
121	120	N	100KHz, 0.1V	-	765	400	303	-	0.76	1.20	1.00
151	150	N	100KHz, 0.1V	-	876	506	370	-	0.70	1.15	0.91
181	180	N	100KHz, 0.1V	-	-	631	419	-	-	1.03	0.84
221	220	N	100KHz, 0.1V	-	1050	756	500	-	0.58	0.92	0.75
271	270	N	100KHz, 0.1V	-	-	853	672	-	-	0.84	0.68
331	330	N	100KHz, 0.1V	-	-	1090	812	-	-	0.70	0.60
391	390	N	100KHz, 0.1V	-	-	-	953	-	-	-	0.57
471	470	N	100KHz, 0.1V	-	2170	1520	1289	-	0.48	0.54	0.50
561	560	N	100KHz, 0.1V	-	-	-	1430	-	-	-	0.47
681	680	N	100KHz, 0.1V	-	-	-	1599	-	-	-	0.43
821	820	N	100KHz, 0.1V	-	-	-	1768	-	-	-	0.39
102	1000	N	100KHz, 0.1V	-	-	3250	1989	-	-	0.32	0.35

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■Tape and Reel specifications



Unit:mm

Type	Tape size		Parts Per Reel
	W	P	13"
PSDB5D28	12	8	1500
PSDB1003	24	16	1000
PSDB1004	24	16	750
PSDB1005	24	16	750

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■ SMD Power Inductor Environmental Specifications

General

Items	Specifications
Shelf Storage conditions	Temperature range: 25±3°C; Humidity: <80% relative humidity. Recommended product should be used within six months 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 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.

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. $\Delta L/L \leq 10\%$	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):

