

SCDS

SHIELDED SMD POWER INDUCTOR



Applications

- Power supply for VTRs
- OA equipment.
- Notebook PCs
- Portable communication equipment
- DC/DC converters, etc

Features

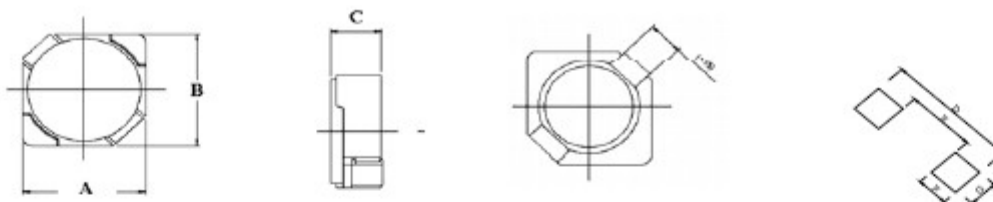
- Small size with the electrode attached to the ferrite core directly.
- Available in magnetically shielded.
- Low DC resistance.
- Suitable for large currents.
- Available on tape and reel for auto surface mounting.

Inductance and rated current ranges

- | | | |
|------------|-----------------|------------|
| ● SCDS2D09 | 1.2~10 μ H | 0.80~0.28A |
| ● SCDS2D11 | 1.0~47 μ H | 1.00~0.14A |
| ● SCDS2D14 | 1.5~33 μ H | 1.80~0.32A |
| ● SCDS2D18 | 2.2~47 μ H | 0.82~0.20A |
| ● SCDS3D18 | 1.5~47 μ H | 1.55~0.21A |
| ● SCDS4D18 | 1.0~180 μ H | 1.72~0.14A |
| ● SCDS4D28 | 1.2~180 μ H | 2.56~0.22A |
| ● SCDS5D18 | 4.1~100 μ H | 1.95~0.36A |
| ● SCDS5D28 | 2.6~100 μ H | 2.60~0.42A |
| ● SCDS6D28 | 3.0~100 μ H | 3.00~0.54A |
| ● SCDS6D38 | 3.3~100 μ H | 3.50~0.65A |

Dimension

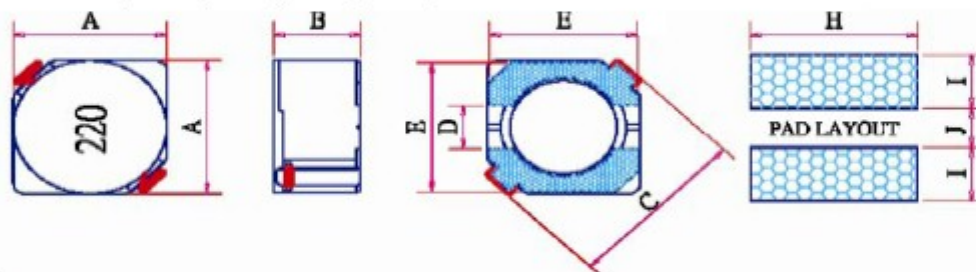
- 2D09, 2D11, 2D14, 2D18



Unit: mm

Codes	A	B	C(Max)	D	E	F	G
SCDS2D09	3.2±0.3	3.2±0.3	1.1	4.3	1.7	1.3	1.3
SCDS2D11	3.2±0.3	3.2±0.3	1.2	4.3	1.7	1.3	1.3
SCDS2D14	3.2±0.3	3.2±0.3	1.6	4.3	1.7	1.3	1.3
SCDS2D18	3.2±0.3	3.2±0.3	2.0	4.3	1.7	1.3	1.3

- 4D18, 4D28, 5D18, 5D28, 6D28, 6D38



Unit: mm

Codes	A	B	C	D	E	H	I	J
SCDS3D18	3.8±0.3	1.8Max	5.2Max	1.15	3.6	4.1	1.60	1.2
SCDS4D18	4.7±0.3	2.0Max	6.9Max	1.50	4.5	5.3	1.90	1.5
SCDS4D28	4.7±0.3	3.0Max	6.9Max	1.50	4.5	5.3	1.90	1.5
SCDS5D18	5.7±0.3	2.0Max	8.2Max	2.00	5.5	6.3	2.15	2.0
SCDS5D28	5.7±0.3	3.0Max	8.2Max	2.00	5.5	6.3	2.15	2.0
SCDS6D28	6.7±0.3	3.0Max	9.5Max	2.00	6.5	7.3	2.65	2.0
SCDS6D38	6.7±0.3	4.0Max	9.5Max	2.00	6.5	7.3	2.65	2.0

Product Identification

SCDS 5D28 N T 101
 (1) (2) (3) (4) (5)

- (1)Type: SMD Power Inductors
- (2)Dimensions(mm): 5D is 5.7mm square and 28 is about 2.8mm height.
- (3)Tolerance: N=30%,M=20%
- (4) Packaging style: T (Tape and Reel)
- (5) Inductance: 1R1=1.1uH ,470=47uH ,101 =100uH

Electrical Characteristics

● SCDS 2D09 / 2D11 / 2D14 / 2D18 / 3D18 TYPE

Part No.	L (μH)	Tol. (%)	DC Resistance (Ω)Max					Rated DC Current (A) Max				
			2D09	2D11	2D14	2D18	3D18	2D09	2D11	2D14	2D18	3D18
1R0	1.0	N	-	0.060	-	-	-	-	1.00	-	-	-
1R2	1.2	N	0.0975	-	-	-	-	0.80	-	-	-	-
1R5	1.5	N	0.1100	0.068	0.063	-	0.056	0.73	0.90	1.80	-	1.55
1R8	1.8	N	0.1313	-	0.075	-	-	0.65	-	1.65	-	-
2R2	2.2	N	0.1438	0.098	0.094	0.041	0.072	0.60	0.78	1.50	0.85	1.20
2R7	2.7	N	0.1500	-	0.106	-	-	0.53	-	1.35	-	-
3R3	3.3	N	0.1938	0.123	0.125	0.054	0.085	0.47	0.60	1.20	0.75	1.10
3R9	3.9	N	0.2250	-	0.138	-	-	0.45	-	1.10	-	-
4R7	4.7	N	0.2875	0.170	0.185	0.078	0.105	0.41	0.50	1.00	0.63	0.90
5R6	5.6	N	0.3250	-	0.220	-	-	0.37	-	0.95	-	-
6R8	6.8	N	0.4250	0.260	0.250	0.106	0.170	0.33	0.44	0.85	0.52	0.73
8R2	8.2	N	0.4750	-	0.281	-	-	0.30	-	0.80	-	-
100	10	N	0.5375	0.400	0.318	0.180	0.210	0.28	0.35	0.70	0.43	0.55
120	12	N	-	-	0.438	-	-	-	-	0.62	-	-
150	15	N	-	0.600	0.520	0.220	0.295	-	0.28	0.55	0.35	0.45
220	22	N	-	0.800	0.650	0.320	0.430	-	0.20	0.48	0.30	0.40
270	27	N	-	-	1.200	-	0.557	-	-	0.32	-	0.38
330	33	N	-	1.300	-	0.460	0.675	-	0.16	-	0.24	0.32
470	47	N	-	2.300	-	0.660	0.900	-	0.14	-	0.20	0.21
560	56	N	-	-	-	-	1.330	-	-	-	-	0.22
101	100	N	-	-	-	-	2.600	-	-	-	-	0.16
221	220	N	-	-	-	-	4.770	-	-	-	-	0.13

Note: 1. Test Frequency 100 kHz 0.1Vrms.

2. Rated DC Current: 2D09 / 2D11 / 3D18 The current when the inductance decrease to 65% of its initial value.(Ta=25°C)
 2D18 The current when the inductance decrease to 70% of its initial value.(Ta=25°C)

3. Operating temperature range -40~105°C.



Electrical Characteristics

● SCDS 4D18 / 4D28 / 5D18 / 5D28 / 6D28 / 6D38 TYPE

Part No.	L (μH)	Tol. (%)	DC Resistance (mΩ)Max						Rated DC Current (A) Max					
			4D18	4D28	5D18	5D28	6D28	6D38	4D18	4D28	5D18	5D28	6D28	6D38
1R0	1.0	N	45	-	-	-	-	-	1.72	-	-	-	-	-
1R2	1.2	N	-	24	-	-	-	-	-	2.56	-	-	-	-
1R8	1.8	N	-	28	-	-	-	-	-	2.20	-	-	-	-
2R2	2.2	N	75	31	-	-	-	-	1.32	2.04	-	-	-	-
2R6	2.6	N	-	-	-	18	-	-	-	-	-	2.60	-	-
2R7	2.7	N	105	43	-	-	-	-	1.28	1.60	-	-	-	-
3R0	3.0	N	-	-	-	24	24	-	-	-	-	2.40	3.00	-
3R3	3.3	N	110	49	-	-	-	20	1.04	1.57	-	-	-	3.50
3R9	3.9	N	155	65	-	-	27	-	0.88	1.44	-	-	2.60	-
4R1	4.1	N	-	-	57	-	-	-	-	-	1.95	-	-	-
4R2	4.2	N	-	-	-	31	-	-	-	-	-	2.20	-	-
4R7	4.7	N	162	72	-	-	-	-	0.84	1.32	-	-	-	-
5R0	5.0	N	-	-	-	-	31	24	-	-	-	-	2.40	2.90
5R3	5.3	N	-	-	-	38	-	-	-	-	-	1.90	-	-
5R4	5.4	N	-	-	76	-	-	-	-	-	1.60	-	-	-
5R6	5.6	N	170	101	-	-	-	-	0.80	1.17	-	-	-	-
6R0	6.0	N	-	-	-	-	35	-	-	-	-	-	2.25	-
6R2	6.2	N	-	-	96	45	-	27	-	-	1.40	1.80	-	2.50
6R8	6.8	N	200	109	-	-	-	-	0.76	1.12	-	-	-	-
7R3	7.3	N	-	-	-	-	54	-	-	-	-	-	2.10	-
7R4	7.4	N	-	-	-	-	-	31	-	-	-	-	-	2.30
8R2	8.2	N	245	118	-	53	-	-	0.68	1.04	-	1.60	-	-
8R6	8.6	N	-	-	-	-	58	-	-	-	-	-	1.85	-
8R7	8.7	N	-	-	-	-	-	34	-	-	-	-	-	2.20
8R9	8.9	N	-	-	116	-	-	-	-	-	1.25	-	-	-
100	10	N	200	128	124	65	65	38	0.61	1.00	1.20	1.30	1.70	2.00
120	12	N	210	132	153	76	70	53	0.56	0.84	1.10	1.20	1.55	1.70
150	15	N	240	149	196	103	84	57	0.50	0.76	0.97	1.10	1.40	1.60
180	18	N	338	166	210	110	95	92	0.48	0.72	0.85	1.00	1.32	1.50
220	22	N	397	235	290	122	128	96	0.41	0.70	0.80	0.90	1.20	1.30
270	27	N	441	261	330	175	142	109	0.35	0.58	0.75	0.85	1.05	1.20
330	33	N	694	378	386	189	165	124	0.32	0.56	0.65	0.75	0.97	1.10
390	39	N	709	384	520	212	210	138	0.30	0.50	0.57	0.70	0.86	1.00
470	47	N	922	587	595	260	238	155	0.28	0.48	0.54	0.62	0.80	0.95
560	56	N	1080	625	665	305	277	202	0.26	0.41	0.50	0.58	0.73	0.85
680	68	N	1300	699	840	355	304	234	0.24	0.35	0.43	0.52	0.65	0.75
820	82	N	1560	915	978	463	390	324	0.22	0.32	0.41	0.46	0.60	0.70
101	100	N	1730	1020	1200	520	535	368	0.20	0.29	0.36	0.42	0.54	0.65
121	120	N	2390	1270	-	-	-	-	0.18	0.27	-	-	-	-
151	150	N	2670	1360	-	-	-	-	0.15	0.24	-	-	-	-
181	180	N	4000	1540	-	-	-	-	0.14	0.22	-	-	-	-

Note: 1. Test Frequency

4D18 1.0~8.2uH :7.96MHz 0.1V 10~180uH :100kHz 0.1V
 4D28 :100kHz 0.1V
 5D18 / 5D28 / 6D28 / 6D38 :10kHz 0.1V

2. Rated DC Current: The current when the inductance decrease to 65% of its initial value or the current when the temperature of coil increases to $\Delta 40^{\circ}\text{C}$. The smaller one is defined as Rated DC Current. (Ta=25°C)

3. Operating temperature range -20~80°C.

SMT Power Inductor Environmental Specifications

General

Items		Specifications
1.	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.
2.	Storage temperature range	Temperature range: -40°C to +85°C.

Environmental test

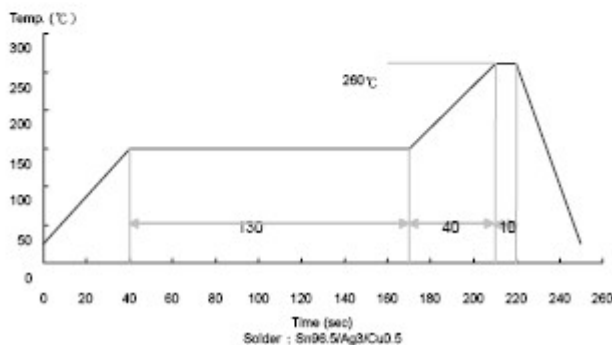
Test Items		Specifications	Test Conditions / Test Methods
1.	High temperature Storage test	No case deformation or change in appearance. $\Delta L/L \leq 10\%$	Temperature 85±2°C, Time: 48±2 hours, Tested after 1 hour at room temperature.
2.	Low temperature Storage test		Temperature -25±2°C, Time: 48±2 hours, Tested after 1 hour at room temperature.
3.	Humidity test		Temperature 40±2°C, 90~95% relative humidity Time: 96±2 hours, apply rated current, Tested after 1 hour at room temperature.
4.	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

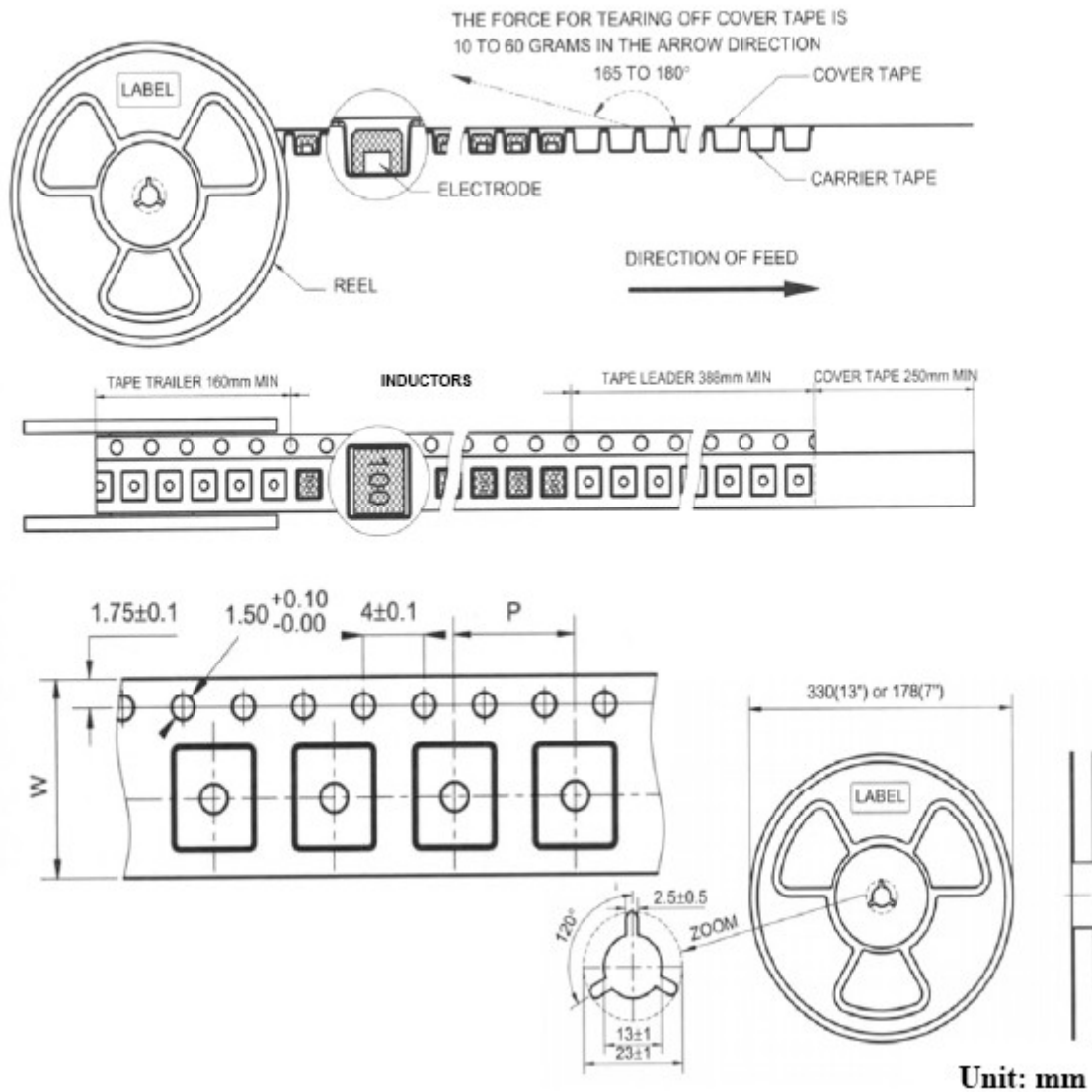
Test Items		Specifications	Test Conditions / Test Methods
1.	Solder ability test	Terminal area must have 90% minimum solder coverage.	Dip pads in flux then dip in solder pot (SnCuNi) at 245±5°C for 5 seconds.
2.	Heat endurance of Reflow soldering	No case deformation or change in appearance. $\Delta L/L \leq 10\%$	Refer to the reflow soldering condition. Go through 3 times.
3.	Vibration test		Apply frequency 10~55Hz. 1.5mm amplitude in each of perpendicular direction for 2 hours.
4.	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):

Lead-free



Tape and Reel specifications



Series	Tape size		Parts Per Reel
	W	P	13"
SCDS2D09 (3.2×3.2×1.0)	12	8	3000
SCDS2D11 (3.2×3.2×1.2)	12	8	3000
SCDS2D14 (3.2×3.2×1.6)	12	8	3000
SCDS2D18 (3.2×3.2×2.0)	12	8	3000
SCDS3D18 (3.8×3.8×2.0)	12	8	2000
SCDS4D18(5.0×5.0×2.0)	12	8	2000
SCDS4D28(5.0×5.0×3.0)	12	8	2000
SCDS5D18(6.0×6.0×2.0)	12	8	2000
SCDS5D28((6.0×6.0×3.0)	12	8	2000
SCDS6D28(7.0×7.0×3.0)	16	12	1500
SCDS6D38(7.0×7.0×4.0)	16	12	1000