SMD Power Inductors

SCD Series

PRODUCT IDENTIFICATION

SCD □□□□□-□□□□-□

- Internal No.
- Tolerance
- Inductance
- Packaging Style
- Dimensions
- Product Symbol

■ Packaging: T = Tape and Reel
■ Internal No.: N = Lead-Free

APPLICATIONS

Power Supply for VTRs

OA Equipment

LCD Televisions

Notebook PCs

Portable Communication Equipment

DC-DC Converters, etc.

OUTLINE

Various high power surface mountable type inductors are superior to high saturation. These are also magnetic shielded type for consideration against radiation.

FEATURES

High saturation for surface mounting

Available in magnetically shielded.

Suitable for large currents.

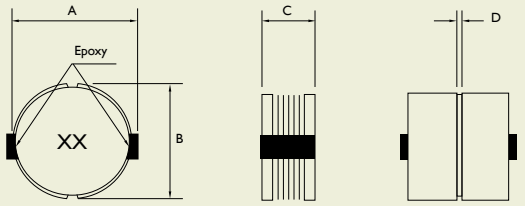
Ideal for a variety of DC-DC converter inductor applications.

Available on tape and reel for auto surface mounting.

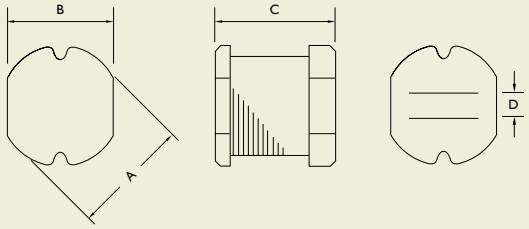
SHAPES AND DIMENSIONS

Unit: mm

SCD0301



SCD03011~SCD1006

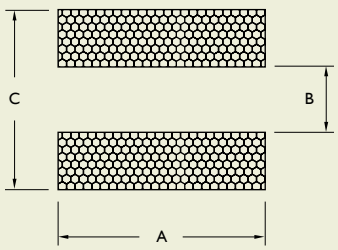


TYPE	A	B	C	D
SCD0301	3.5^{+0}	3.0^{+0}	1.05^{+0}	0.6 typ
SCD03011	3.5 ± 0.3	3.0 ± 0.3	1.1 ± 0.3	1.0 typ
SCD03015	3.3 ± 0.3	3.0 ± 0.3	1.5 ± 0.3	1.0 typ
SCD03021	3.3 ± 0.3	3.0 ± 0.3	2.1 ± 0.3	1.0 typ
SCD0403	4.5 ± 0.3	4.0 ± 0.3	3.2 ± 0.3	1.2
SCD0501	5.8 ± 0.3	5.2 ± 0.3	2.2^{+0}	2.0 typ
SCD0502	5.8 ± 0.3	5.2 ± 0.3	2.5 ± 0.3	2.0 typ
SCD0503	5.8 ± 0.3	5.2 ± 0.3	3.0 ± 0.3	2.0 typ
SCD0504	5.8 ± 0.3	5.2 ± 0.3	4.5 ± 0.4	1.3
SCD0506	5.8 ± 0.3	5.2 ± 0.3	6.0 ± 0.4	1.3
SCD0703	7.8 ± 0.3	7.0 ± 0.3	3.5 ± 0.3	2.1
SCD0705	7.8 ± 0.3	7.0 ± 0.3	5.0 ± 0.3	2.1
SCD0706	7.8 ± 0.3	7.0 ± 0.3	6.0 ± 0.3	2.1
SCD1004	10.0 ± 0.3	9.0 ± 0.3	4.0 ± 0.5	2.1
SCD1005	10.0 ± 0.4	9.0 ± 0.4	5.4 ± 0.4	2.1
SCD1006	10.0 ± 0.4	9.0 ± 0.4	6.5 ± 0.4	2.1

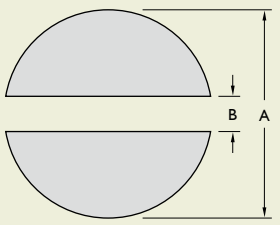
RECOMMENDED PATTERN

Unit: mm

SCD0301



SCD03011~SCD1006



TYPE	SCD 0301	SCD 03011	SCD 03015	SCD 03021	SCD 0403	SCD 0501	SCD 0502	SCD 0503	SCD 0504	SCD 0506	SCD 0703	SCD 0705	SCD 0706	SCD 1004	SCD 1005	SCD 1006
A	2.9	4.5	4.5	4.5	5.5	6.8	6.8	6.8	6.8	6.8	8.8	8.8	8.8	11	11	11
B	1.5	1.5	1.0	1.0	1.2	2.0	2.0	2.0	1.3	1.3	2.1	2.1	2.1	2.1	2.1	2.1
C	2.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ELECTRICAL CHARACTERISTICS DC RESISTANCE

STAMP	INDUCTANCE	DC RESISTANCE (Ω) Max.																
	(µH)	SCD 0301	SCD 03011	SCD 03015	SCD 03021	SCD 0403	SCD 0501	SCD 0502	SCD 0503	SCD 0504	SCD 0506	SCD 0703	SCD 0705	SCD 0706	SCD 1004	SCD 1005	SCD 1006
1R0	1.0		0.084		0.07	0.033	0.034	0.03	0.03								
1R2	1.2								0.03								
1R4	1.4				0.09	0.038	0.048	0.04					0.02				
1R5	1.5		0.126						0.03								
1R8	1.8				0.11	0.042	0.062	0.05	0.03				0.02				
2R2	2.2	0.33	0.18	0.10 ± 30%	0.13	0.047	0.064	0.06	0.03								
2R7	2.7				0.14	0.052	0.078	0.07	0.04				0.02				
3R3	3.3	0.52	0.27		0.17	0.058	0.097	0.08	0.05								
3R9	3.9		0.32		0.19	0.076	0.105	0.09	0.06				0.03				
4R7	4.7	0.62	0.33	0.15 ± 30%	0.21	0.094	0.134	0.14	0.07				0.04			0.04	
5R6	5.6		0.48		0.22	0.101	0.170	0.15	0.08				0.04				
6R8	6.8	0.87	0.56		0.25	0.117	0.187	0.16	0.09				0.04			0.037	
8R2	8.2	1.00	0.62		0.28	0.132	0.225	0.17	0.10				0.05				
100	10	1.14	0.90	0.30 ± 30%	0.32	0.182	0.255	0.18	0.12	0.10		0.08	0.07		0.05	0.06	
120	12	1.44	1.00		0.35	0.210	0.292	0.20	0.13	0.12		0.09	0.08		0.06	0.07	
150	15	1.60	1.10	0.58 ± 30%	0.40	0.235	0.360	0.22	0.15	0.14		0.10	0.09	0.08	0.07	0.08	
180	18		1.24		0.48	0.338	0.430	0.25	0.22	0.15		0.11	0.10		0.08	0.09	
220	22	1.90	1.40	0.71 ± 30%	0.58	0.378	0.492	0.35	0.22	0.18	0.165	0.13	0.11		0.09	0.10	
270	27	2.85	2.18		0.65	0.522	0.603	0.45	0.26	0.20		0.15	0.12		0.10	0.11	
330	33		2.54	1.10 ± 30%	0.80	0.540	0.796	0.56	0.33	0.23		0.17	0.13	0.14	0.12	0.12	
390	39		2.80		0.90	0.587	0.897	0.69	0.42	0.32		0.22	0.16		0.15	0.14	
470	47		3.10	1.30 ± 30%	1.19	0.844	1.020	0.72	0.50	0.37		0.25	0.18		0.17	0.17	
500	50		3.20		1.22		1.040										
560	56		3.50		1.27	0.937	1.164	0.84	0.55	0.42		0.28	0.24		0.20	0.19	
680	68		5.80	2.20 ± 30%	1.73	1.117	1.220	0.90	0.65	0.46		0.33	0.28		0.22	0.22	
750	75		6.10		1.90		1.340										
820	82		6.60		1.99		1.570	1.20	0.80	0.60		0.41	0.37		0.30	0.25	
101	100			3.50 ± 30%	2.52	2.000	1.80	1.30	0.90	0.70		0.48	0.43		0.34	0.35	
121	120				2.90		2.00	1.38	1.00	0.93		0.54	0.47		0.40	0.40	
151	150				3.36		2.80	1.81	1.30	1.10		0.75	0.64		0.54	0.47	
181	180				5.10		3.15	1.95	1.50	1.38		1.02	0.71		0.62	0.63	
221	220				5.80		4.40	3.00	2.00	1.57		1.20	0.96		0.72	0.73	
271	270				7.80		6.40	3.20	2.50	1.85		1.31	1.11		0.95	0.97	
301	300				8.10		6.75										
331	330				9.24		7.20	3.82	3.20	2.00		1.50	1.26		1.10	1.15	
391	390				10.14		8.40	4.68	3.50	2.60			1.77		1.24	1.30	
461	460				11.15		12.0										
471	470				11.48		12.4	5.10	4.20	3.00			1.96		1.53	1.48	
561	560				19.49		13.0	8.50	4.50	4.19					1.90	1.90	
681	680				22.00		17.0	10.0	6.50	4.44						2.25	
821	820				23.98		19.5	12.0	7.50	5.12						2.55	
102	1,000				28.80		24.0	18.0	8.00	10.0							
122	1,200			38 ± 30%													
152	1,500			55 ± 30%													
602	6,000																14
822	8,200																50

Note:

Test Freq.(L): SCD0301: 0.1V/100KHz; SCD03011: (100KHz/1V), SCD03015: (1MHz/1V)
SCD03021/0403/0501/0502/ 0503: 1.0 to 8.2 µH (7.96MHz/1V), 10 to 82 µH (2.52MHz/1V), 100 to 1,000 µH (1KHz/1V).
SCD0504/0506/0703/0705/0706/1004: 1.0 to 8.2 µH (7.96MHz/1V), 10 to 82 µH (2.52MHz/1V), 100 to 1,000 µH (1KHz/1V).
SCD1005/1006: 1.0 to 8.2 µH (7.96MHz/1V), 10 to 82 µH (2.52MHz/1V), 100 to 1,000 µH (1KHz/1V).

Test Instrument: L- HP 4192A, RDC- CH502BC, Rated D.C. Current- HP4284+42841A or CH1061+CH301A

ELECTRICAL CHARACTERISTICS PERMISSIBLE D.C. CURRENT (A)

STAMP	INDUCTANCE	DC RESISTANCE (Ω) Max.															
	(µH)	SCD 0301	SCD 03011	SCD 03015	SCD 03021	SCD 0403	SCD 0501	SCD 0502	SCD 0503	SCD 0504	SCD 0506	SCD 0703	SCD 0705	SCD 0706	SCD 1004	SCD 1005	SCD 1006
1R0	1.0		1.80		2.080	3.80	4.00	4.50	4.50								
1R2	1.2								4.20								
1R4	1.4				1.860	3.30	3.60	4.00					3.70				
1R5	1.5		1.44						4.10								
1R8	1.8				1.800	2.91	3.00	3.30	3.70				3.70				
2R2	2.2	1.08	1.26	0.79	1.390	2.60	2.65	2.94	3.50								
2R7	2.7				1.320	2.43	2.20	2.50	3.20				3.70				
3R3	3.3	0.92	1.08		1.250	2.15	2.11	2.35	2.80								
3R9	3.9		1.00		1.200	1.98	2.00	2.20	2.60				3.70				
4R7	4.7	0.74	0.90	0.65	1.130	1.70	1.80	2.00	2.50				3.50			2.60	
5R6	5.6		0.76		0.910	1.60	1.60	1.80	2.40				3.30				
6R8	6.8	0.63	0.68		0.850	1.41	1.50	1.70	2.20				3.10			4.33	
8R2	8.2	0.58	0.63		0.820	1.26	1.30	1.40	2.00				2.70				
100	10	0.50	0.56	0.45	0.740	1.15	1.10	1.20	1.80	1.44		1.44	2.30		2.38	2.60	
120	12	0.46	0.52		0.640	1.05	1.05	1.18	1.75	1.40		1.39	2.00		2.13	2.45	
150	15	0.43	0.50	0.30	0.600	0.92	1.00	1.15	1.70	1.30		1.24	1.80	2.80	1.87	2.27	
180	18		0.46		0.540	0.84	0.95	1.10	1.60	1.23		1.12	1.60		1.73	2.15	
220	22	0.35	0.36	0.25	0.500	0.76	0.90	1.00	1.50	1.11	1.60	1.07	1.50		1.60	1.95	
270	27	0.32	0.30		0.430	0.71	0.77	0.86	1.40	0.97		0.94	1.30		1.44	1.76	
330	33		0.28	0.20	0.400	0.64	0.68	0.76	1.10	0.88		0.85	1.20	2.30	1.26	1.50	
390	39		0.26		0.370	0.59	0.67	0.75	1.00	0.80		0.74	1.10		1.20	1.37	
470	47		0.25	0.17	0.360	0.54	0.66	0.73	0.90	0.72		0.68	1.10		1.10	1.28	
500	50		0.24		0.330		0.61										
560	56		0.23		0.310	0.50	0.50	0.55	0.85	0.68		0.64	0.94		1.01	1.17	
680	68		0.20	0.13	0.300	0.46	0.47	0.52	0.80	0.61		0.59	0.85		0.91	1.11	
750	75		0.18		0.290		0.46										
820	82		0.17		0.280		0.45	0.50	0.65	0.58		0.54	0.78		0.85	1.00	
101	100			0.10	0.250	0.40	0.36	0.40	0.60	0.52		0.51	0.72		0.74	0.97	
121	120				0.200		0.32	0.36	0.58	0.48		0.49	0.66		0.69	0.89	
151	150				0.190		0.27	0.30	0.43	0.40		0.40	0.58		0.61	0.78	
181	180				0.170		0.23	0.26	0.41	0.38		0.36	0.51		0.56	0.72	
221	220				0.160		0.22	0.25	0.38	0.35		0.31	0.49		0.53	0.66	
271	270				0.140		0.19	0.21	0.35	0.29		0.29	0.42		0.45	0.57	
301	300				0.135		0.18										
331	330				0.130		0.16	0.18	0.28	0.28		0.28	0.40		0.42	0.52	
391	390				0.120		0.15	0.16	0.26	0.26			0.36		0.38	0.48	
461	460				0.090		0.14										
471	470				0.084		0.14	0.15	0.20	0.12			0.34		0.35	0.42	
561	560				0.080		0.13	0.14	0.19	0.10					0.32	0.33	
681	680				0.080		0.12	0.13	0.18	0.08						0.28	
821	820				0.070		0.063	0.07	0.15	0.05						0.24	
102	1,000				0.060		0.045	0.05	0.13	0.03							
122	1,200			0.05													
152	1,500			0.03													
602	6,000																0.27
822	8,200																0.20

Tolerance of Inductance: SCD0301: 2.2 to 27 µH ± 20%; SCD03011: 1.0 to 82 µH ± 20%; SCD03015: 2.2 to 1,500 µH ± 20%; SCD03021: 1.0 to 1,000 µH ± 20%
SCD0403: 1.0 to 27 µH ± 20%, 33 to 100 µH ± 10%; SCD0501: 1.0 to 27 µH ± 20%, 33 to 1,000 µH ± 10%
SCD0502: 1.0 to 27 µH ± 20%, 33 to 1,000 µH ± 10%; SCD0503: 1.0 to 27 µH ± 20%, 33 to 1,000 µH ± 10%
SCD0504: 1.0 to 27 µH ± 20%, 33 to 47 µH ± 15%, 56 to 1,000 µH ± 10%; SCD0506: 22 µH ± 20%
SCD0703: 10 to 27 µH ± 20%, 33 to 330 µH ± 10%; SCD0705; 1.4 to 27 µH ± 20%, 33 to 470 µH ± 10%
SCD0706: 15 µH ± 20%, 33 µH ± 10%; SCD1004: 10 to 27 µH ± 20%, 33 to 560 µH ± 10%; SCD1005: 4.7 to 27 µH ± 20%, 33 to 820 µH ± 10%
SCD1005: 4.7 to 27 µH ± 20%, 33 to 820 µH ± 10%; SCD1006: 6,000 to 8,200 µH ± 20%

Tolerance: K = ± 10%, M = ± 20%

This indicates the value of current when the inductance is 10% lower than its initial value at D.C superposition or D.C current when at ΔT = 40 °C whichever is lower

TAPE DIMENSIONS

Figure 1

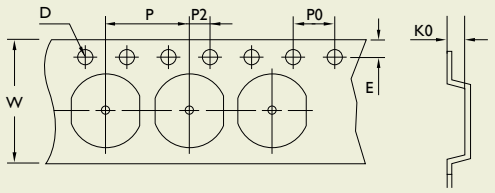
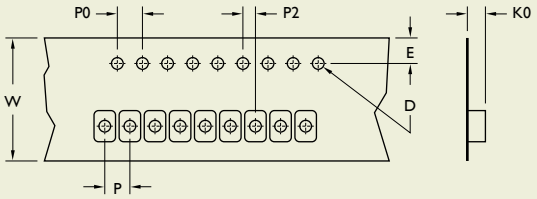
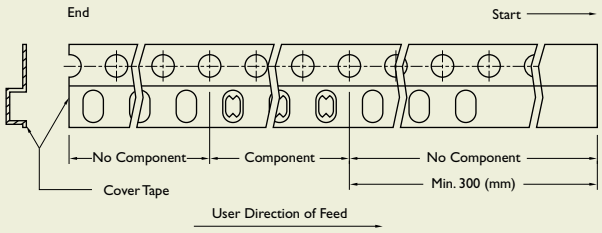


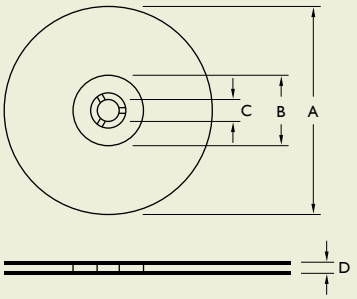
Figure 2



TAPE MATERIAL



REEL DIMENSIONS



Dimensions: mm

TYPE	FIGURE	TAPE DIMENSIONS							REEL DIMENSIONS				QUANTITY/ REEL
		K0	D	E	W	P	P0	P2	A	B	C	D	
SCD0301	2	1.40	1.55	1.75	12	8	4	2	178	60	13	13.2	1,000
SCD03011	1	1.40	1.50	1.75	12	8	4	2	330	100	13	13.4	3,000
SCD03015	1	1.80	1.55	1.75	12	8	4	2	330	100	13	13.4	3,000
SCD03021	1	2.50	1.55	1.75	12	8	4	2	330	100	13	13.4	3,000
SCD0403	1	3.55	1.55	1.75	12	8	4	2	330	100	13	13.4	2,000
SCD0501	1	2.35	1.55	1.75	12	8	4	2	330	100	13	13.4	2,000
SCD0502	1	3.30	1.50	1.75	16	8	4	2	330	100	13	17.4	2,000
SCD0503	1	3.30	1.50	1.75	16	8	4	2	330	100	13	17.4	2,000
SCD0504	1	4.80	1.55	1.75	16	8	4	2	330	100	13	17.4	1,500
SCD0506	1	6.40	1.55	1.75	16	8	4	2	330	100	13	17.4	1,500
SCD0703	1	3.80	1.55	1.75	16	12	4	2	330	100	13	17.4	1,000
SCD0705	1	5.20	1.55	1.75	16	12	4	2	330	100	13	17.4	700
SCD0706	1	6.40	1.55	1.75	16	12	4	2	330	100	13	17.4	700
SCD1004	1	4.50	1.55	1.75	24	12	4	2	330	100	13	24.4	700
SCD1005	1	5.80	1.55	1.75	24	12	4	2	330	100	13	24.4	700
SCD1006	1	7.00	1.55	1.75	24	12	4	2	330	100	13	24.4	700