

SHIELDED SMD POWER INDUCTOR

- SCS SERIES -



FEATURES

- High power, high saturation inductors
- Magnetically shielded against radiation
- Directly connected electrode on ferrite core
- Highly accurate dimensions for surface mounting

APPLICATIONS

- Power Supply for VTRs
- LCD Televisions
- Personal Computers
- Handheld Communication Equipment
- DC/DC Converters, etc.

CHARACTERISTICS

Except SCSH127:

- Rated DC Current: The DC current at which the inductance becomes 25% lower than its initial value or when $\Delta t = 30^\circ\text{C}$, whichever is lower. ($T_a = 25^\circ\text{C}$)
- Operating temperature range: $-40\sim 125^\circ\text{C}$

For SCSH127:

- Rated DC Current: The DC current at which the inductance becomes 30% lower than its initial value. ($T_a = 25^\circ\text{C}$)
- Operating temperature range: $-40\sim 125^\circ\text{C}$

INDUCTANCE AND RATED CURRENT

SCS62B	1.5 μH ~ 330 μH	3.50 ~ 0.19A
SCS64B	10 μH ~ 1000 μH	1.35 ~ 0.14A
SCS73	1.0 μH ~ 1000 μH	7.97 ~ 0.16A
SCS74	1.0 μH ~ 1000 μH	8.0 ~ 0.18A
SCS124	1.5 μH ~ 330 μH	8.75 ~ 0.5A
SCS125	1.3 μH ~ 1000 μH	8.0 ~ 0.4A
SCS127	1.0 μH ~ 1000 μH	10.0 ~ 0.55A
SCS129	1.0 μH ~ 1000 μH	17.0 ~ 0.76A
SCSH127	2.2 μH ~ 1000 μH	25.5 ~ 1.14A

- Test Equipment:

L: HP4284A or HP4528A LCR meter

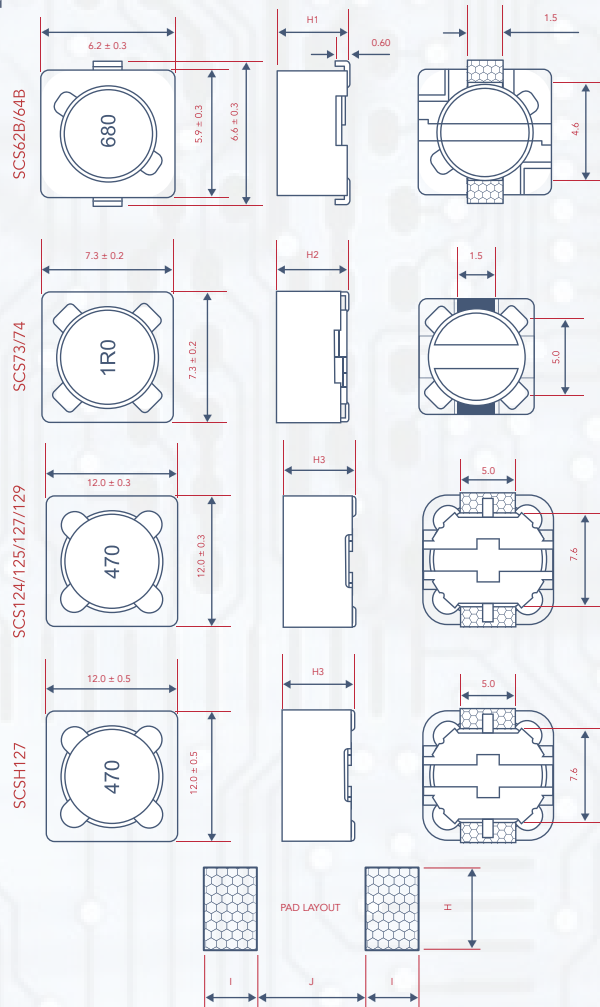
DCR: Milli-ohm meter

- Electrical specifications at 25°C

DIMENSIONS

TYPE	H1 MAX	H2 MAX	H3 MAX	H	I	J
SCS62B	3.0	-	-	1.9	1.4	4.6
SCS64B	5.0	-	-	1.9	1.4	4.6
SCS73	-	3.4	-	2.2	1.6	4.8
SCS74	-	4.5	-	2.2	1.6	4.8
SCS124	-	-	4.5	5.4	2.9	7.0
SCS125	-	-	6.0	5.4	2.9	7.0
SCS127	-	-	8.0	5.4	2.9	7.0
SCS129	-	-	10.0	5.4	2.9	7.0
SCSH127			8.0	5.4	2.9	7.0

CONSTRUCTION



PART NUMBERING

SCS	62B	M	T	101
PRODUCT TYPE	DIMENSIONS (AxBxC)	INDUCTOR TOLERANCE	PACKAGING STYLE	INDUCTANCE
SCS: Standard SCSH: High Current	62B: 6.2 x 6.6 x 3.0 64B: 6.2 x 6.6 x 5.0 73: 7.3 x 7.3 x 3.4 74: 7.3 x 7.3 x 4.5 124: 12 x 12 x 4.5 125: 12 x 12 x 6.0 127: 12 x 12 x 8.0 129: 12 x 12 x 10.0	M: ±20%	T: Tape and Reel	1R0: 1.0 µH 470: 47µH 101: 100µH

STANDARD ELECTRICAL CHARACTERISTICS

SCS62B / 64B / 73 / 74 TYPE

CODE	L (µH)	TOLERANCE	RDC (Ω) MAX.				IDC (A) MAX.			
			62B	64B	73	74	62B	64B	73	74
1R0	1.0	M	-	-	0.016	0.020	-	-	7.970	8.000
1R5	1.5	M	0.049	-	0.023	0.018	3.500	-	5.500	7.000
2R2	2.2	M	0.050	-	0.027	0.028	2.200	-	4.500	6.000
2R9	2.9	M	0.070	-	-	-	1.940	-	-	-
3R3	3.3	M	0.075	-	0.031	0.032	1.800	-	4.000	4.800
3R9	3.9	M	-	-	0.041	0.035	-	-	3.800	4.400
4R0	4.0	M	0.080	-	-	-	1.630	-	-	-
4R7	4.7	M	0.090	-	0.048	0.038	1.550	-	3.500	4.000
5R5	5.5	M	0.100	-	-	-	1.400	-	-	-
5R6	5.6	M	-	-	0.056	0.040	-	-	3.000	3.500
6R8	6.8	M	0.100	-	0.062	0.045	1.300	-	2.000	3.000
100	10	M	0.150	0.120	0.072	0.049	1.100	1.350	1.680	1.840
120	12	M	0.200	0.130	0.098	0.058	1.000	1.220	1.520	1.710
150	15	M	0.230	0.180	0.130	0.081	0.900	1.110	1.330	1.470
180	18	M	0.270	0.240	0.140	0.091	0.800	1.020	1.200	1.310
220	22	M	0.340	0.270	0.190	0.110	0.740	0.910	1.070	1.230
270	27	M	0.380	0.300	0.210	0.150	0.660	0.820	0.960	1.120
330	33	M	0.450	0.330	0.240	0.170	0.590	0.740	0.910	0.960
390	39	M	0.490	0.370	0.320	0.230	0.540	0.690	0.770	0.910
470	47	M	0.690	0.520	0.360	0.260	0.500	0.620	0.760	0.880
560	56	M	0.780	0.560	0.470	0.350	0.460	0.580	0.680	0.750
680	68	M	1.070	0.630	0.520	0.380	0.420	0.510	0.610	0.690
820	82	M	1.210	0.710	0.690	0.430	0.380	0.460	0.570	0.610
101	100	M	1.390	1.030	0.790	0.610	0.340	0.420	0.500	0.600
121	120	M	1.900	1.150	0.890	0.660	0.310	0.380	0.490	0.520
151	150	M	2.180	1.680	1.270	0.880	0.280	0.350	0.430	0.460
181	180	M	2.770	1.870	1.450	0.980	0.260	0.320	0.390	0.420
221	220	M	3.120	2.080	1.650	1.170	0.230	0.290	0.350	0.360
271	270	M	4.380	2.370	2.310	1.640	0.220	0.260	0.320	0.340
331	330	M	4.940	2.670	2.620	1.860	0.190	0.230	0.280	0.320
391	390	M	-	2.940	2.940	2.850	-	0.220	0.260	0.290
471	470	M	-	3.930	4.180	3.010	-	0.200	0.240	0.260
561	560	M	-	5.430	4.670	3.620	-	0.180	0.220	0.230
681	680	M	-	7.320	5.730	4.630	-	0.170	0.190	0.220
821	820	M	-	8.240	6.540	5.200	-	0.150	0.180	0.200
102	1000	M	-	9.260	9.440	6.000	-	0.140	0.160	0.180



MEASURING FREQUENCY
 SCS62B - 1.5 ~ 5.5µH @100KHz; 0.25V 10-330µH @1KHz; 0.25V
 SCS64B - 10 ~ 1000µH @1KHz 0.25V
 SCS73 - 1.0 ~ 1000µH @1KHz 0.25V
 SCS74 - 1.0 ~ 1000µH @1KHz 0.25V

Cal-Chip
 Electronics Inc.

STANDARD ELECTRICAL CHARACTERISTICS

SCS124 / 125 / 127 / 129 TYPE

CODE	L (μ H)	TOLERANCE	RCD (Ω) MAX.				IDC (A) MAX.			
			124	125	127	129	124	125	127	129
1R0	1	M	-	-	0.007	0.007	-	-	10	17.00
1R2	1.2	M	-	-	0.007	-	-	-	9.8	-
1R3	1.3	M	-	0.012	-	-	-	8.00	-	-
1R5	1.5	M	0.008	-	-	0.005	8.75	-	-	16.00
1R8	1.8	M	-	-	0.011	-	-	-	8.5	-
2R1	2.1	M	-	0.014	-	-	-	7.00	-	-
2R2	2.2	M	-	0.014	0.01	-	-	7.00	8.5	-
2R4	2.4	M	-	-	0.012	0.006	-	-	8	15.00
2R5	2.5	M	0.013	-	-	-	8.00	-	-	-
2R7	2.7	M	-	-	0.012	-	-	-	8	-
3R1	3.1	M	-	0.017	-	-	-	6.00	-	-
3R3	3.3	M	0.015	0.014	0.013	0.009	6.50	6.75	7.8	14.00
3R5	3.5	M	-	-	0.014	0.009	-	-	7.5	14.00
3R9	3.9	M	0.015	-	-	-	6.50	-	-	-
4R4	4.4	M	-	0.02	-	-	-	5.00	-	-
4R7	4.7	M	0.018	0.018	0.016	-	5.70	6.20	6.8	-
5R6	5.6	M	-	-	0.014	-	-	-	6.7	-
5R8	5.8	M	-	0.021	-	-	-	4.40	-	-
6R1	6.1	M	-	-	0.018	-	-	-	6.6	-
6R8	6.8	M	0.023	0.023	0.014	0.013	4.90	5.90	6.4	10.00
7R5	7.5	M	-	0.024	-	-	-	4.20	-	-
7R6	7.6	M	-	-	0.020	-	-	-	5.9	-
8R2	8.2	M	0.026	0.024	0.016	0.015	4.60	4.100	6.32	8.20
100	10	M	0.028	0.025	0.022	0.018	4.50	4.000	5.40	7.50
120	12	M	0.038	0.027	0.024	0.019	4.00	3.500	4.90	7.00
150	15	M	0.05	0.03	0.027	0.024	3.20	3.300	4.50	6.00
180	18	M	0.057	0.034	0.039	0.031	3.10	3.000	3.90	5.50
220	22	M	0.066	0.036	0.043	0.039	2.90	2.800	3.60	5.00
270	27	M	0.08	0.051	0.046	0.045	2.80	2.300	3.40	4.50
330	33	M	0.097	0.057	0.065	0.050	2.70	2.100	3.00	4.00
390	39	M	0.132	0.068	0.073	0.059	2.10	2.000	2.75	3.80
470	47	M	0.15	0.075	0.100	0.069	1.90	1.800	2.50	3.50
560	56	M	0.19	0.11	0.110	0.079	1.80	1.700	2.35	3.20
680	68	M	0.22	0.12	0.140	0.088	1.50	1.500	2.10	3.00
820	82	M	0.26	0.14	0.160	0.110	1.30	1.400	1.95	2.60
101	100	M	0.308	0.16	0.220	0.140	1.20	1.300	1.70	2.20
121	120	M	0.38	0.17	0.250	0.160	1.10	1.100	1.60	2.00
151	150	M	0.53	0.23	0.280	0.200	0.95	1.000	1.42	1.80
181	180	M	0.62	0.29	0.350	0.270	0.85	0.900	1.30	1.60
221	220	M	0.7	0.4	0.390	0.300	0.80	0.800	1.16	1.50
271	270	M	0.876	0.46	0.560	0.400	0.60	0.750	1.06	1.30
331	330	M	0.99	0.51	0.640	0.450	0.50	0.680	0.95	1.20
391	390	M	-	0.69	0.700	0.550	-	0.650	0.88	1.10
471	470	M	-	0.77	0.980	0.600	-	0.580	0.79	1.00
561	560	M	-	0.86	1.070	0.700	-	0.540	0.73	0.90
681	680	M	-	1.2	1.460	0.840	-	0.480	0.67	0.82
821	820	M	-	1.34	1.640	1.060	-	0.430	0.60	0.80
102	1000	M	-	1.53	1.820	1.270	-	0.400	0.55	0.76

MEASURING FREQUENCY

SCS124 - 1.5 ~ 331 μ H @100KHz 0.25V
 SCS125 - 1.3 ~ 7.5 μ H @100KHz 0.25V; 10 ~ 1000 μ H @100KHz 0.25V
 SCS127 - 1.0 ~ 8.2 μ H @100KHz 0.25V; 10 ~ 1000 μ H @1KHz 0.25V
 SCS129 - 1.0 ~ 8.2 μ H @100KHz 0.25V; 10 ~ 1000 μ H @1KHz 0.25V





HIGH CURRENT ELECTRICAL CHARACTERISTICS

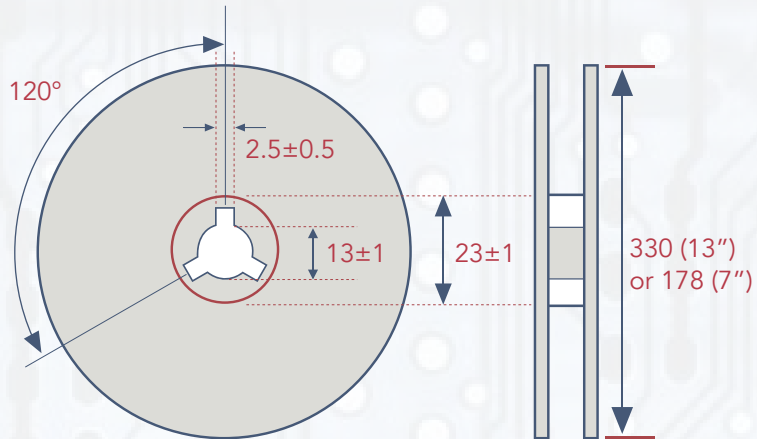
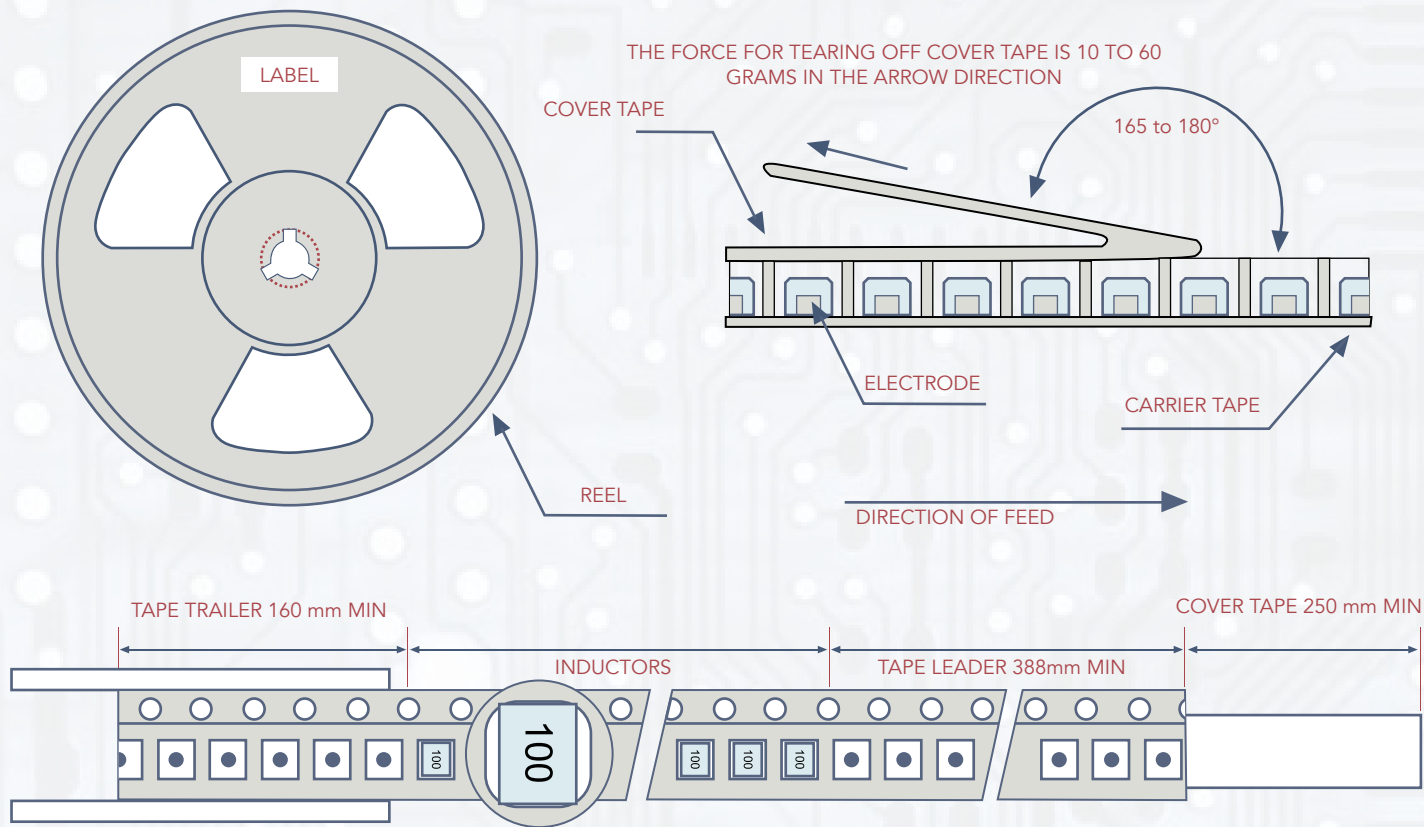
SCSH127 TYPE

CODE	L (μ H)	TOLERANCE	RCD (Ω) MAX.	IDC (A) MAX.
2R2	2.2	M	0.007	25.50
4R7	4.7	M	0.016	15.90
5R6	5.6	M	0.020	14.00
6R8	6.8	M	0.021	13.30
8R2	8.2	M	0.023	12.20
100	10	M	0.024	11.20
150	15	M	0.031	9.00
180	18	M	0.035	5.10
220	22	M	0.040	7.57
330	33	M	0.070	6.22
390	39	M	0.075	4.50
470	47	M	0.080	5.28
560	56	M	0.130	4.50
680	68	M	0.105	4.26
820	82	M	0.143	3.80
101	100	M	0.163	3.52
121	120	M	0.170	1.90
151	150	M	0.247	3.01
221	220	M	0.376	2.36
332	330	M	0.574	2.00
391	390	M	0.650	1.50
471	470	M	0.861	1.64
681	680	M	1.080	1.38
821	820	M	1.470	1.26
102	1000	M	1.660	1.14

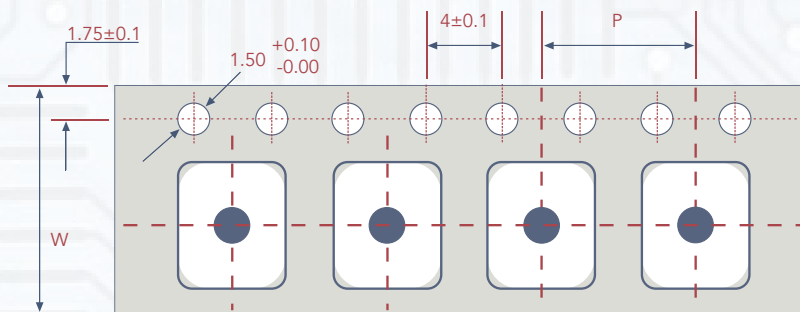
MEASURING FREQUENCY
SCS127- 2.2 ~ 1000 μ H @100KHz 0.25V



TAPE AND REEL SPECIFICATIONS



TAPE	TAPE SIZE		PARTS PER REEL
	W	P	
SCS62B	16	12	1500
SCS64B	16	12	1000
SCS73	16	12	1000
SCS74	16	12	1000
SCS124	24	16	500
SCS125	24	16	400
SCS127	24	16	400
SCS129	24	16	300
SCSH127	24	16	500





SMT POWER INDUCTOR ENVIRONMENTAL SPECIFICATIONS

GENERAL

ITEMS	SPECIFICATIONS
SHELF STORAGE CONDITIONS	<ul style="list-style-type: none"> - 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		<ul style="list-style-type: none"> - Temperature 85±2°C, - Time: 48±2 hours, - Tested after 1 hour at room temperature.
LOW TEMPERATURE STORAGE TEST	<ul style="list-style-type: none"> - No case deformation or change in appearance. - $\Delta L/L \leq 10\%$ 	<ul style="list-style-type: none"> - Temperature -25±2°C, - Time: 48±2 hours, - Tested after 1 hour at room temperature.
HUMIDITY TEST		<ul style="list-style-type: none"> - Temperature 40±2°C, 90~95% relative humidity - Time: 96±2 hours, - Tested after 1 hour at room temperature.
THERMAL SHOCK TEST		<ul style="list-style-type: none"> - 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 ITEM	SPECIFICATIONS	TEST CONDITIONS / TEST METHODS
SOLDERABILITY TEST	- Terminal area must have 90% minimum solder coverage.	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	<ul style="list-style-type: none"> - 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):

