

Data Sheet

Customer:

Product: Shielded SMD Power Inductor – PCS Series

Sizes.: 62B/64B/73/74/124/125/127/129

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VIKING TECH CORPORATION

光韻科技股份有限公司

No.70, Kuanfu N. Rad.,
Hsin Chu Industrial Park,
Hukou Hsiang, Hsin Chu Hsien,
303, Taiwan

TEL:886-3-5972931

FAX:886-3-5972935•886-3-5973494

E-mail:sales@viking.com.tw

VIKING TECH CORPORATION KAOHSIUNG BRANCH

光韻科技股份有限公司高雄分公司

No.248-3, Sin-Sheng Rd., Cian-Jhen Dist., Kaohsiung,
806, Taiwan

TEL:886-7-8217999

FAX:886-7-8228229

E-mail:sales@viking.com.tw

WUXI TMTEC CO., LTD.

無錫泰銘電子有限公司

No.22 Xixia Road, Machinery & Industry Park,
National Hi-Tech Industrial Development Zone
of Wuxi, Wuxi, Jiangsu Province, China

Zip Code:214028

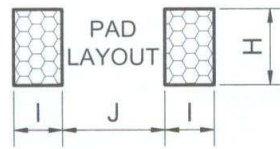
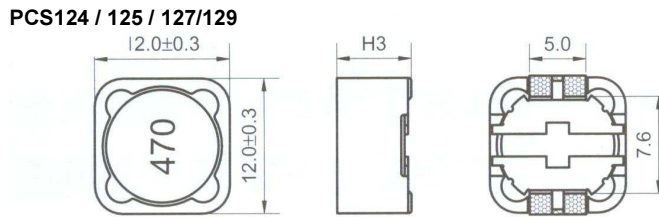
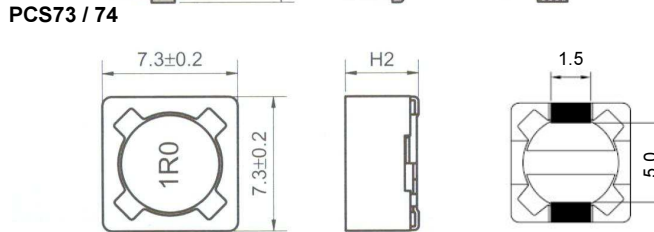
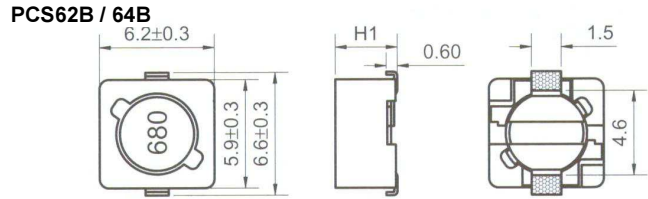
TEL:86-510-85203339

FAX:86-510-85203667•86-510-85203977

E-mail:china@viking.com.tw

Produced by (QC)	Checked (QC)	Approved by (QC)	Prepared by (Sales)	Accepted by (Customer)
13-May-15	13-May-15	13-May-15	13-May-15	
<i>Kris Chen</i>	<i>Ben Chang</i>	<i>Ben Chang</i>		

Shielded SMD Power Inductor



Features

- High power, High saturation inductors
- With 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 PCSH127

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

Characteristics for PCSH127

- 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 ranges

- | | | |
|-----------|---------------------------------------|--------------------------|
| - PCS62B | 1.5 $\mu\text{H}\sim 330\mu\text{H}$ | 3.50 $\sim 0.19\text{A}$ |
| - PCS64B | 10 $\mu\text{H}\sim 1000\mu\text{H}$ | 1.35 $\sim 0.14\text{A}$ |
| - PCS73 | 1.0 $\mu\text{H}\sim 1000\mu\text{H}$ | 7.97 $\sim 0.16\text{A}$ |
| - PCS74 | 1.0 $\mu\text{H}\sim 1000\mu\text{H}$ | 8.0 $\sim 0.18\text{A}$ |
| - PCS124 | 1.5 $\mu\text{H}\sim 330\mu\text{H}$ | 8.75 $\sim 0.5\text{A}$ |
| - PCS125 | 1.3 $\mu\text{H}\sim 1000\mu\text{H}$ | 8.0 $\sim 0.4\text{A}$ |
| - PCS127 | 1.0 $\mu\text{H}\sim 1000\mu\text{H}$ | 10.0 $\sim 0.55\text{A}$ |
| - PCS129 | 1.0 $\mu\text{H}\sim 1000\mu\text{H}$ | 17.0 $\sim 0.76\text{A}$ |
| - PCSH127 | 2.2 $\mu\text{H}\sim 1000\mu\text{H}$ | 25.5 $\sim 1.14\text{A}$ |

- Test equipment:

L: HP4284A or HP4285A LCR meter

DCR: Milli-ohm meter

- Electrical specifications at 25°C

Dimensions

Unit: mm

Type	H1 max.	H2 max.	H3 max.	H	I	J
PCS62B	3.0	-	-	1.9	1.4	4.6
PCS64B	5.0	-	-	1.9	1.4	4.6
PCS73	-	3.4	-	2.2	1.6	4.8
PCS74	-	4.5	-	2.2	1.6	4.8
PCS124	-	-	4.5	5.4	2.9	7.0
PCS125	-	-	6.0	5.4	2.9	7.0
PCS127	-	-	8.0	5.4	2.9	7.0
PCS129	-	-	10.0	5.4	2.9	7.0
PCSH127	-	-	8.0	5.4	2.9	7.0

Shielded SMD Power Inductor

Product Identification

PCS	62B	M	T	101
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
PCS :Standard PCSH :High Current	62B: 6.2×6.6×3.0 64B: 6.2×6.6×5.0 73: 7.3×7.3×3.4 74: 7.3×7.3×4.5 124: 12×12×4.5 125: 12×12×6.0 127: 12×12×8.0 129: 12×12×10.0	M: ±20%	T: Tape and Reel	1R0: 1.0μH 470: 47μH 101: 100μH

Standard Electrical Characteristics

PCS62B / 64B / 73 / 74 Type

Codes	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	-	-	0.027	0.028	-	-	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	1.55	-	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 Freq:

PCS62B: 1.5~5.5μH @100KHz 0.25V; 10~330μH @1KHz 0.25V
 PCS64B: 10~1000μH @1KHz 0.25V
 PCS73: 1.0~1000μH @1KHz 0.25V
 PCS74: 1.0~1000μH @1KHz 0.25V

Shielded SMD Power Inductor

Standard Electrical Characteristics

PCS124 / 125 / 127 / 129 Type

Codes	L (μ H)	Tolerance	DCR (Ω) max.				IDC (A) max.			
			124	125	127	129	124	125	127	129
1R0	1.0	M	-	-	0.007	0.007	-	-	10.00	17.00
1R2	1.2	M	-	-	0.007	-	-	-	9.80	-
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	-	-	-	8.50	-
2R1	2.1	M	-	0.014	-	-	-	7.00	-	-
2R2	2.2	M	-	0.014	0.010	-	-	7.00	8.50	-
2R4	2.4	M	-	-	0.012	0.006	-	-	8.00	15.00
2R5	2.5	M	0.013	-	-	-	8.00	-	-	-
2R7	2.7	M	-	-	0.012	-	-	-	8.00	-
3R1	3.1	M	-	0.017	-	-	-	6.00	-	-
3R3	3.3	M	0.015	0.014	0.013	0.009	6.50	6.75	7.80	14.00
3R5	3.5	M	-	-	0.014	0.009	-	-	7.50	14.00
3R9	3.9	M	0.015	-	-	-	6.50	-	-	-
4R4	4.4	M	-	0.020	-	-	-	5.00	-	-
4R7	4.7	M	0.018	0.018	0.016	-	5.70	6.20	6.80	-
5R6	5.6	M	-	-	0.014	-	-	-	6.70	-
5R8	5.8	M	-	0.021	-	-	-	4.40	-	-
6R1	6.1	M	-	-	0.018	-	-	-	6.60	-
6R8	6.8	M	0.023	0.023	0.014	0.013	4.90	5.90	6.40	10.00
7R5	7.5	M	-	0.024	-	-	-	4.20	-	-
7R6	7.6	M	-	-	0.020	-	-	-	5.90	-
8R2	8.2	M	0.026	-	0.016	0.015	4.60	-	6.32	8.20
100	10	M	0.028	0.025	0.022	0.018	4.50	4.00	5.40	7.50
120	12	M	0.038	0.027	0.024	0.019	4.00	3.50	4.90	7.00
150	15	M	0.050	0.030	0.027	0.024	3.20	3.30	4.50	6.00
180	18	M	0.057	0.034	0.039	0.031	3.10	3.00	3.90	5.50
220	22	M	0.066	0.036	0.043	0.039	2.90	2.80	3.60	5.00
270	27	M	0.080	0.051	0.046	0.045	2.80	2.30	3.40	4.50
330	33	M	0.097	0.057	0.065	0.050	2.70	2.10	3.00	4.00
390	39	M	0.132	0.068	0.073	0.059	2.10	2.00	2.75	3.80
470	47	M	0.150	0.075	0.100	0.069	1.90	1.80	2.50	3.50
560	56	M	0.190	0.110	0.110	0.079	1.80	1.70	2.35	3.20
680	68	M	0.220	0.120	0.140	0.088	1.50	1.50	2.10	3.00
820	82	M	0.260	0.140	0.160	0.110	1.30	1.40	1.95	2.60
101	100	M	0.308	0.160	0.220	0.140	1.20	1.30	1.70	2.20
121	120	M	0.380	0.170	0.250	0.160	1.10	1.10	1.60	2.00
151	150	M	0.530	0.230	0.280	0.200	0.95	1.00	1.42	1.80
181	180	M	0.620	0.290	0.350	0.270	0.85	0.90	1.30	1.60
221	220	M	0.700	0.400	0.390	0.300	0.80	0.80	1.16	1.50
271	270	M	0.876	0.460	0.560	0.400	0.60	0.75	1.06	1.30
331	330	M	0.990	0.510	0.640	0.450	0.50	0.68	0.95	1.20
391	390	M	-	0.690	0.700	0.550	-	0.65	0.88	1.10
471	470	M	-	0.770	0.980	0.600	-	0.58	0.79	1.00
561	560	M	-	0.860	1.070	0.700	-	0.54	0.73	0.90
681	680	M	-	1.200	1.460	0.840	-	0.48	0.67	0.82
821	820	M	-	1.340	1.640	1.060	-	0.43	0.60	0.80
102	1000	M	-	1.530	1.820	1.270	-	0.40	0.55	0.76

■ Measuring Freq:

PCS124: 1.5~331 μ H @100KHz 0.25V

PCS125: 1.3~7.5 μ H @100KHz 0.25V; 10~1000 μ H @1KHz 0.25V

PCS127/129: 1.0~8.2 μ H @100KHz 0.25V; 10~1000 μ H @1KHz 0.25V

Shielded SMD Power Inductor

High Current Electrical Characteristics

PCSH127 Type

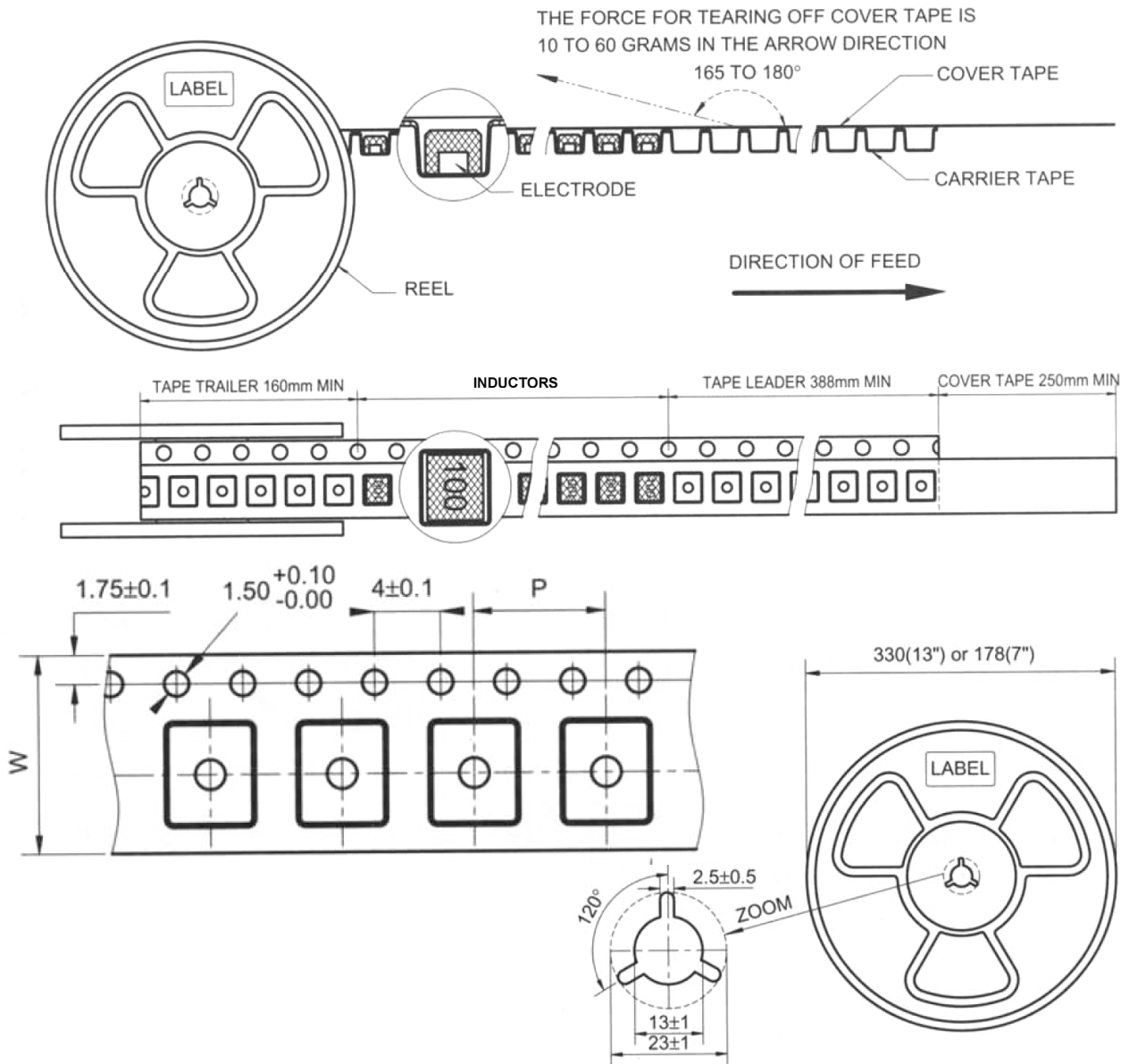
Codes	L (uH)	Tolerance	DCR (Ω) Max	IDC (A) Max
2R2	2.2	M	0.007	25.5
4R7	4.7	M	0.016	15.9
5R6	5.6	M	0.020	14.0
6R8	6.8	M	0.021	13.3
8R2	8.2	M	0.023	12.2
100	10	M	0.024	11.2
150	15	M	0.031	9.00
180	18	M	0.035	5.10
220	22	M	0.040	7.57
330	33	M	0.070	6.22
390	39	M	0.075	4.50
470	47	M	0.080	5.28
560	56	M	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
331	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 Freq:

PCSH127: 2.2~1000μH @100KHz 0.25V

Shielded SMD Power Inductor

■Tape and Reel specifications



Unit: mm

Type	Tape size		Parts Per Reel
	W	P	13"
PCS62B	16	12	1500
PCS64B	16	12	1000
PCS73	16	12	1000
PCS74	16	12	1000
PCS124	24	16	500
PCS125	24	16	400
PCS127	24	16	400
PCS129	24	16	300
PCSH127	24	16	500

Shielded SMD Power Inductor

■ SMT 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.
Storage temperature range	Temperature range: -40°C to +85°C.

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 -25±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
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 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	$\Delta L/L \leq 10\%$	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)

