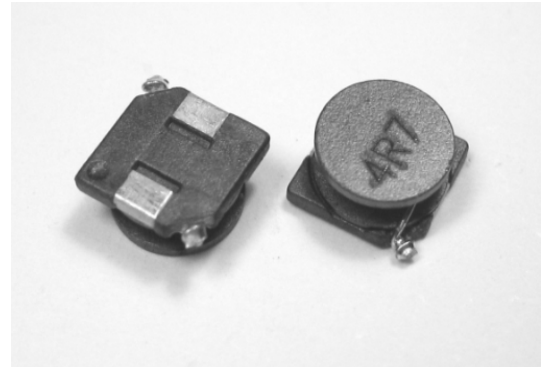


9. SPB Series (Unshielded Type)

Applications

- Portable telephones.
- Personal computers.
- DC/DC converters, etc.
- Other various electronic appliances.



Features

- High power, high saturation inductors.
- SPB1608 series used ceramic base with gold-plating.
- The others used LCP plastic base.
- Ideal inductor for DC-DC conversion in notebook computer, Step-up or Step-down converters, etc.

Inductance and Rated Current ranges

Part Series	Inductances range	Rated Current range
* SPB6028	1.5~1000μH	4.0~0.13A (Irms) ; 3.5~0.14A (Isat)
* SPB7030	1.0~1000μH	3.0~0.15A (Irms) ; 4.3~0.15A (Isat)
* SPB7045	1.2~1000μH	3.8~0.22A (Irms) ; 5.0~0.20A (Isat)
* SPB1030	2.7~1000μH	3.0~0.20A (Irms) ; 4.2~0.23A (Isat)
* SPB1045	2.7~1000μH	4.8~0.38A (Irms) ; 6.2~0.40A (Isat)

(Dimension data (Refer to Fig. 1))

Part Series	Inductances range	Rated Current range
* SPB0805	3.3~330μH	5.0~0.46A (Irms) ; 5.2~0.50A (Isat)
* SPB1005	1.0~10000μH	7.5~0.10A (Irms) ; 9.0~0.10A (Isat)
* SPB1806	1.0~1000μH	10~0.50A (Irms) ; 30~1.00A (Isat)

(Dimension data (Refer to Fig. 2))

Part Series	Inductances range	Rated Current range
* SPB1608	1.0~1000μH	2.9~0.10A
* SPB3308	4.7~1000μH	4.2~0.29A
* SPB3316	1.0~1000μH	9.0~0.30A
* SPB3340	0.47~1000μH	40.0~0.80A
* SPB5022	1.0~1000μH	20.0~1.00A

(Dimension data (Refer to Fig. 3))

9. SPB Series (Unshielded Type)

Inductance and Rated Current ranges (Cont'd)

Part Series	Inductances range	Rated Current range
* SPB0610	1.2~330μH	2.1~0.13A
* SPB0612	1.2~100μH	1.8~0.235A
* SPB0620	1.0~1000μH	2.5~0.08A

(Dimension data (Refer to Fig. 4))

Test equipment:

L: HP4284A LCR meter @100KHz 0.1V

DCR Resistance: Milli-ohm meter or equivalent.

SRF: HP4291B RF Impedance Analyzer.

Electrical Specifications at 25 .

Characteristics

Saturation Rated current : The current when the inductance becomes 10% lower than its initial value. (Ta=25)

Operating temperature range:

-40 ~+125 :

SPB6028, SPB7030, SPB7045, SPB1030, SPB1045

SPB1608, SPB3308, SPB3316, SPB3340, SPB5022

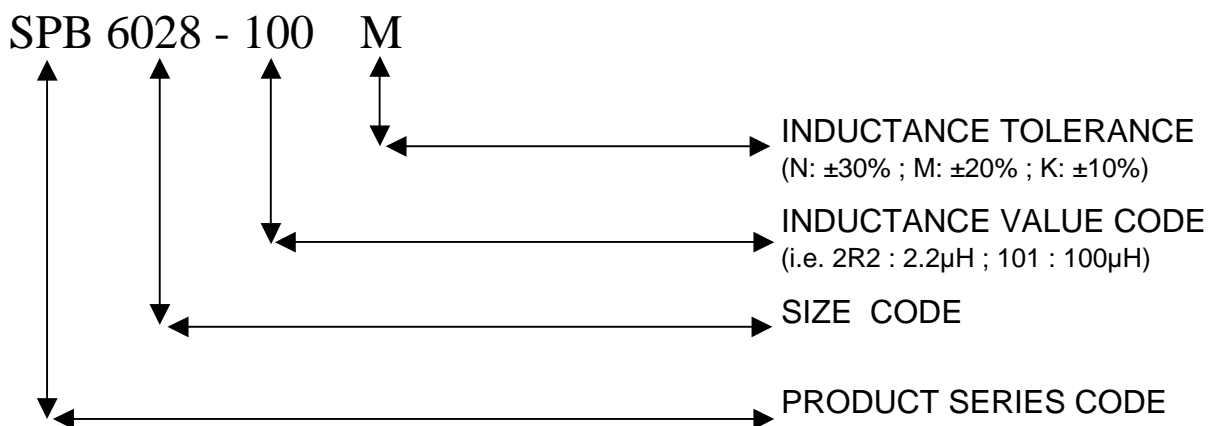
-40 ~+105 :

SPB0805, SPB1005, SPB1806

-40 ~+100 :

SPB0610, SPB0612, SPB0620

Part Numbering System



9. SPB Series (Unshielded Type)

Dimensions (mm)

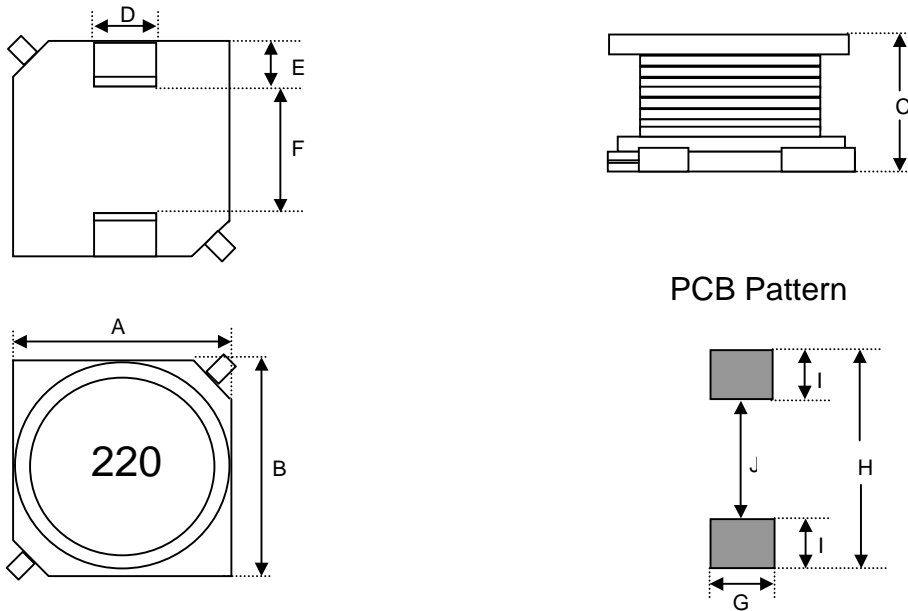


Fig. 1

Series	A	B	C	D	E (typ.)	F (typ.)	G (ref.)	H (ref.)	I (ref.)	J (ref.)
SPB6028	6.0±0.3	6.0±0.3	2.8±0.3	2.0±0.3	1.9	2.2	2.4	6.7	2.3	2.1
SPB7030	7.0±0.3	7.0±0.3	3.0±0.3	2.0 typ.	1.5	4.0	2.4	7.8	1.8	4.2
SPB7045	7.0±0.3	7.0±0.3	4.5±0.3	2.0 typ.	1.5	4.0	2.4	7.8	1.8	4.2
SPB1030	10.0±0.3	10.0±0.3	3.0±0.3	2.4 typ.	2.0	6.0	2.8	10.4	2.4	5.6
SPB1045	10.0±0.3	10.0±0.3	4.5±0.3	2.4 typ.	2.0	6.0	2.8	10.4	2.4	5.6

9. SPB Series (Unshielded Type)**Electrical Characteristics****SPB 6028 / 7030 / 7045 TYPE**

Inductance value code	L (μH)	Tol.	DC Resistance () Max.			Rated DC current (A) Max.					
						I rms			I sat		
			6028	7030	7045	6028	7030	7045	6028	7030	7045
1R0	1.0	M	-	0.022	-	-	3.00	-	-	4.30	-
1R2	1.2	M	-	-	0.022	-	-	3.80	-	-	5.00
1R5	1.5	M	0.028	0.027	0.027	4.00	2.75	3.50	3.50	3.60	4.50
2R2	2.2	M	0.030	0.030	0.032	3.30	2.60	3.30	2.80	3.20	4.00
3R3	3.3	M	0.058	-	0.036	2.50	-	2.80	2.30	-	3.70
3R5	3.5	M	-	0.038	-	-	2.20	-	-	2.60	-
4R7	4.7	M	0.065	0.048	0.042	2.20	1.85	2.60	2.00	2.25	3.40
6R2	6.2	M	-	0.058	-	-	1.65	-	-	2.00	-
6R8	6.8	M	0.085	-	0.054	2.00	-	2.25	1.70	-	2.70
100	10	M	0.115	0.075	0.070	1.70	1.50	2.00	1.50	1.60	2.30
150	15	M	0.160	0.115	0.086	1.40	1.20	1.60	1.15	1.30	1.90
220	22	M	0.210	0.160	0.125	1.25	1.02	1.40	0.95	1.10	1.62
330	33	M	0.320	0.230	0.150	1.00	0.85	1.22	0.80	0.90	1.32
470	47	K	0.450	0.340	0.230	0.75	0.70	1.00	0.70	0.78	1.10
680	68	K	0.650	0.480	0.280	0.65	0.58	0.90	0.60	0.64	0.92
101	100	K	0.880	0.720	0.430	0.52	0.46	0.75	0.50	0.52	0.72
151	150	K	1.280	0.920	0.580	0.40	0.40	0.62	0.38	0.42	0.58
221	220	K	1.920	1.600	0.930	0.33	0.32	0.50	0.30	0.34	0.48
331	330	K	2.850	2.200	1.240	0.28	0.26	0.42	0.26	0.28	0.40
471	470	K	4.350	2.800	1.850	0.22	0.22	0.34	0.21	0.23	0.30
681	680	K	6.500	4.350	2.400	0.18	0.18	0.30	0.18	0.18	0.26
102	1000	K	12.50	6.200	4.000	0.13	0.15	0.22	0.14	0.15	0.20

1a). Irms: base on temp. rise 40 <Max.> (SPB7030: 30 <Max.>)

1b). Isat: base on L/LOA = 10% <Typ.>

SPB 1030 / 1045 TYPE

Inductance value code	L (μH)	Tol.	DC Resistance (Ω) Max.		Rated DC current (A) Max.			
					I rms		I sat	
			1030	1045	1030	1045	1030	1045
2R7	2.7	M	0.028	0.026	3.00	4.80	4.20	6.20
4R5	4.5	M	-	0.033	-	4.20	-	5.20
4R7	4.7	M	0.040	-	2.60	-	3.50	-
6R8	6.8	M	0.052	0.040	2.20	3.50	2.80	4.20
100	10	M	0.064	0.050	2.00	3.20	2.40	3.60
150	15	M	0.100	0.068	1.65	2.50	1.85	3.00
220	22	M	0.145	0.088	1.38	2.20	1.60	2.60
330	33	M	0.220	0.110	1.10	1.90	1.25	2.10
470	47	M	0.270	0.165	0.96	1.60	1.10	1.85
680	68	M	0.360	0.225	0.82	1.30	0.90	1.50
101	100	K	0.540	0.300	0.70	1.10	0.75	1.30
151	150	K	0.700	0.500	0.60	0.85	0.58	1.05
221	220	K	1.150	0.680	0.46	0.72	0.48	0.85
331	330	K	1.700	0.950	0.38	0.62	0.40	0.70
471	470	K	2.250	1.280	0.28	0.52	0.32	0.58
681	680	K	3.300	1.920	0.23	0.43	0.27	0.46
102	1000	K	4.700	2.700	0.20	0.38	0.23	0.40

1a). Irms: base on temp. rise (SPB1030: 30 <Max.>; SPB1045: 40 <Max.>)

1b). Isat: base on L/LOA = 10% <Typ.>