

2. SPS Series (Shielded Type)

Applications

- GPS receiver module.
- Personal computers.
- Smart Home Systems.
- Other various electronic appliances.



Features

- Available in magnetically shielded.
- SPS1608 can help achieve significantly longer battery life in handheld communication devices.
- SPS3316 / 5022 designed for the higher current requirements of portable computers.
- SPS1608 used ceramic base with gold-plating.

Inductance and Rated Current ranges

Part Series	Inductances range	Rated Current range
* SPS0603	1.5~1000μH	2.20~0.10A
* SPS0604	1.5~1000μH	2.80~0.12A

(Dimension data (Refer to Fig. 1))

Part Series	Inductances range	Rated Current range
* SPS6028	1.0~1000μH	3.80~0.11A (Irms) ; 3.00~0.09A (Isat)
* SPS6038	1.0~1000μH	3.70~0.14A (Irms) ; 4.00~0.13A (Isat)
* SPS7032	3.3~1000μH	2.40~0.15A (Irms) ; 2.20~0.14A (Isat)
* SPS7045	1.0~1000μH	3.50~0.25A (Irms) ; 4.50~0.15A (Isat)

(Dimension data (Refer to Fig. 2))

Part Series	Inductances range	Rated Current range
* SPS0804	5.0~470μH	1.70~0.16A
* SPS0805	2.2~1000μH	2.50~0.15A
* SPS1005	1.0~3300μH	4.50~0.10A

(Dimension data (Refer to Fig. 3))

Part Series	Inductances range	Rated Current range
* SPS1205	2.5~820μH	5.00~0.30A
* SPS1206	2.5~1500μH	6.20~0.20A
* SPS1208	2.5~1500μH	7.80~0.36A

(Dimension data (Refer to Fig. 4))

2. SPS Series (Shielded Type)

Inductance and Rated Current ranges (Cont'd)

Part Series	Inductances range	Rated Current range
* SPS1240	1.0~1000 μ H	9.30~0.42A (Irms) ; 9.20~0.40A (Isat)
* SPS1260	1.0~1000 μ H	9.40~0.68A (Irms) ; 10.00~0.60A (Isat)
* SPS1280	1.1~1000 μ H	10.20~0.68A (Irms) ; 14.00~0.80A (Isat)

(Dimension data (Refer to Fig. 5))

Part Series	Inductances range	Rated Current range
* SPS0704	10~270 μ H	1.70~0.32A (Irms) ; 1.90~0.35A (Isat)
* SPS1004	10~1500 μ H	3.50~0.26A (Irms) ; 3.00~0.22A (Isat)
* SPS1307	10~1000 μ H	4.60~0.50A (Irms) ; 6.50~0.70A (Isat)

(Dimension data (Refer to Fig. 6))

Part Series	Inductances range	Rated Current range
* SPS1608	1.0~10000 μ H	3.00~0.02A (Irms) ; 1.40~0.02A (Isat)
* SPS3316	1.0~1000 μ H	5.00~0.17A (Irms) ; 5.60~0.32A (Isat)
* SPS5022	10~1000 μ H	3.90~0.53A (Irms) ; 8.00~0.80A (Isat)

(Dimension data (Refer to Fig. 7))

Test equipment:

L: HP4284A LCR meter.

DCR tested by Milli-ohm meter or equivalent.

SRF: HP4291B RF Impedance Analyzer.

Electrical specification at 25 .

Operating temperature range:

-40 ~+105 :

SPS0603, SPS0604, SPS0804, SPS0805, SPS1005, SPS1205, SPS1206, SPS1208, SPS0704, SPS1004, SPS1307, SPS7045

-40 ~+125 :

SPS6028, SPS6038, SPS1240, SPS1260, SPS1280

-25 ~+105 :

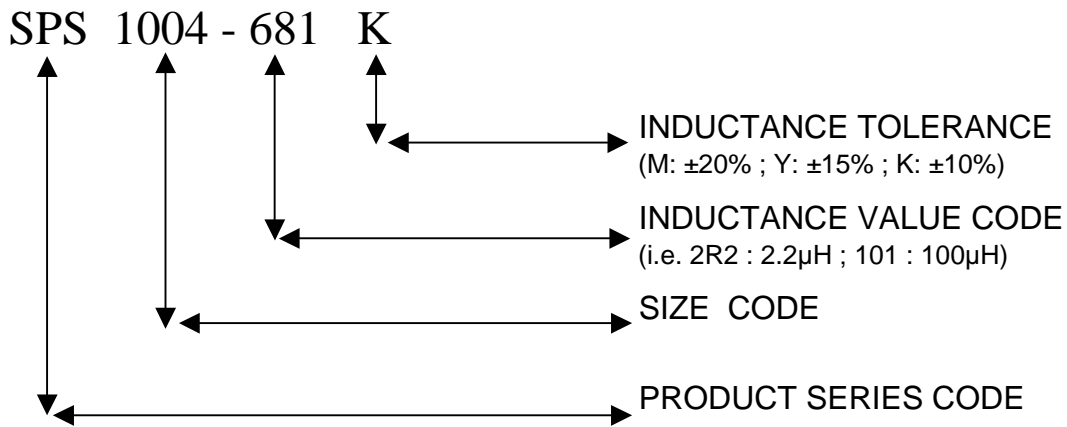
SPS7032

-40 ~+85 :

SPS1608, SPS3316, SPS5022

2. SPS Series (Shielded Type)

Part Numbering System



Dimensions (mm)

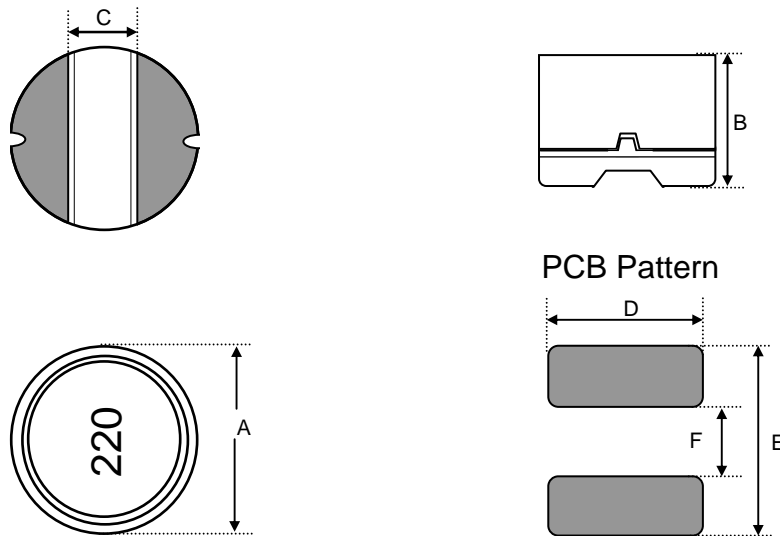


Fig. 6

Series	A	B	C (typ)	D (ref)	E (ref)	F (ref)
SPS0704	7.50±0.30	4.00±0.30	2.60	8.00	7.80	2.40
SPS1004	9.90±0.30	4.50±0.30	2.90	10.00	10.00	2.80
SPS1307	13.00±0.30	7.00±0.30	5.00	14.00	14.00	4.50

2. SPS Series (Shielded Type)**Electrical Characteristics****SPS 0704 / 1004 / 1307 TYPE**

Inductance value code	L (μH)	DC Resistance () Max.			Rated DC current (A) Max					
					I _{rms}			I _{sat}		
		0704	1004	1307	0704	1004	1307	0704	1004	1307
100	10	0.065	0.035	0.040	1.70	3.50	4.60	1.90	3.00	6.50
120	12	0.070	-	-	1.60	-	-	1.80	-	-
150	15	0.095	0.058	0.050	1.40	2.70	4.00	1.60	2.40	5.60
180	18	0.105	-	-	1.30	-	-	1.40	-	-
220	22	0.136	0.065	0.060	1.20	2.50	3.50	1.30	2.10	4.50
270	27	0.165	-	-	1.10	-	-	1.25	-	-
330	33	0.180	0.095	0.080	1.05	2.00	2.80	1.15	1.60	3.70
390	39	0.200	-	-	0.92	-	-	1.00	-	-
470	47	0.260	0.132	0.120	0.80	1.80	2.40	0.90	1.40	3.20
560	56	0.280	-	-	0.70	-	-	0.72	-	-
680	68	0.350	0.180	0.160	0.65	1.50	2.00	0.68	1.20	2.70
820	82	0.450	-	-	0.62	-	-	0.65	-	-
101	100	0.560	0.270	0.210	0.55	1.10	1.60	0.62	1.00	2.00
121	120	0.670	-	-	0.50	-	-	0.58	-	-
151	150	0.800	0.420	0.300	0.46	0.90	1.30	0.54	0.78	1.70
181	180	1.150	-	-	0.40	-	-	0.45	-	-
221	220	1.250	0.590	0.500	0.36	0.72	1.10	0.40	0.65	1.50
271	270	1.400	-	-	0.32	-	-	0.35	-	-
331	330	-	0.800	0.750	-	0.60	0.80	-	0.54	1.20
471	470	-	1.200	1.100	-	0.50	0.72	-	0.47	0.95
681	680	-	1.680	1.450	-	0.42	0.60	-	0.38	0.85
102	1000	-	2.650	2.100	-	0.35	0.50	-	0.32	0.70
152	1500	-	4.000	-	-	0.26	-	-	0.22	-

1. Test Frequency: 100 KHz

2a). I_{rms}: base on temp. rise <Typ.> (SPS0704: 30 ; SPS1004, SPS1307: 40)

2b). I_{sat}: base on L/L0A <Typ.> (SPS0704, SPS1307: 10%; SPS1004: 25%)

3. Tolerance of Inductance:

SPS0704 : 10μH~27μH (Y)±15%, 33μH~270μH (K)±10%

SPS1004 : 10μH~33μH (M)±20%, 47μH~330μH (Y)±15%, 470μH~1500μH (K)±10%

SPS1307 : 10μH~1000μH (M)±20%