

5. SPS Series (Shielded Type)

Applications

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

Features

- Available in magnetically shielded.
- SPS1608 used ceramic base with gold-plating.
- SPS3316 / 5022 designed for the higher current requirements of portable computers.



Inductance and Rated Current ranges

Part Series	Inductances range	Rated Current range
* SPS1608	1.0~10000 μ H	3.00~0.02A (I _{rms}) ; 1.40~0.02A (I _{sat})
* SPS3316	1.0~1000 μ H	5.80~0.35A (I _{rms}) ; 5.60~0.32A (I _{sat})
* SPS5022	1.0~1000 μ H	20.00~0.90A (I _{rms}) ; 20.00~0.80A (I _{sat})

(Dimension data (Refer to Fig. 1))

Part Series	Inductances range	Rated Current range
* SPS0804	5.0~470 μ H	1.70~0.16A
* SPS0805	2.2~1000 μ H	2.50~0.15A
* SPS1005	1.0~3300 μ H	5.80~0.18A

(Dimension data (Refer to Fig. 2))

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

(Dimension data (Refer to Fig. 3))

Part Series	Inductances range	Rated Current range
* SPS6028	1.0~1000 μ H	3.80~0.11A (I _{rms}) ; 3.00~0.09A (I _{sat})
* SPS6038	1.0~1000 μ H	3.70~0.14A (I _{rms}) ; 4.00~0.13A (I _{sat})
* SPS7032	3.3~1000 μ H	2.40~0.15A (I _{rms}) ; 2.20~0.14A (I _{sat})
* SPS7045	1.0~680 μ H	5.20~0.40A (I _{rms}) ; 6.00~0.20A (I _{sat})

(Dimension data (Refer to Fig. 4))

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

(Dimension data (Refer to Fig. 5))

Part Series	Inductances range	Rated Current range
* SPS1240	1.0~1000 μ H	9.30~0.42A (I _{rms}) ; 9.20~0.40A (I _{sat})
* SPS1260	1.0~1000 μ H	9.40~0.68A (I _{rms}) ; 10.00~0.60A (I _{sat})
* SPS1280	1.1~1000 μ H	10.20~0.68A (I _{rms}) ; 14.00~0.80A (I _{sat})

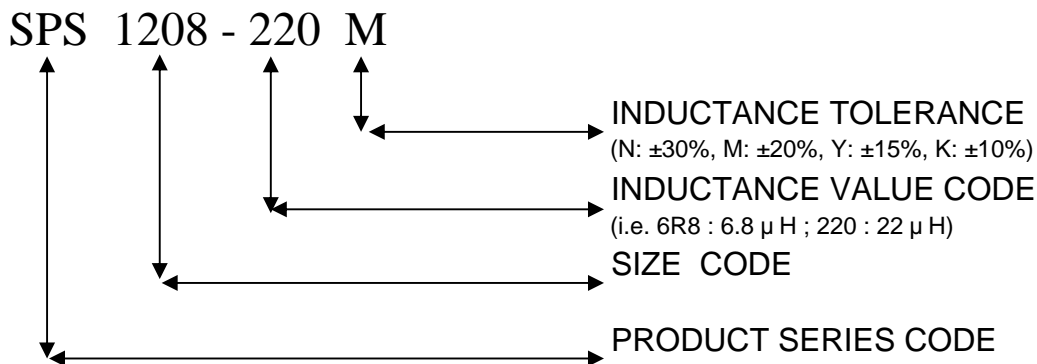
(Dimension data (Refer to Fig. 6))

5. SPS Series (Shielded Type)

Characteristics

Test Frequency : 1KHz
 a). SPS1240, SPS1608, SPS3316, SPS5022: @100KHz 0.1V
 b). SPS1260: 1.0μH~8.2μH @100KHz 0.1V, 10μH~1000μH@1KHz 1V
 c). SPS1280: 1.1μH~8.2μH @100KHz 1V, 10μH~1000μH@1KHz 1V
 Operating temperature range : -40 ~+125 .
 Test equipment :
 L: HP4284A LCR meter or equivalent.
 DCR: Milli-ohm meter or equivalent.
 Electrical specifications at 25 .

Part Numbering System



Dimensions (mm)

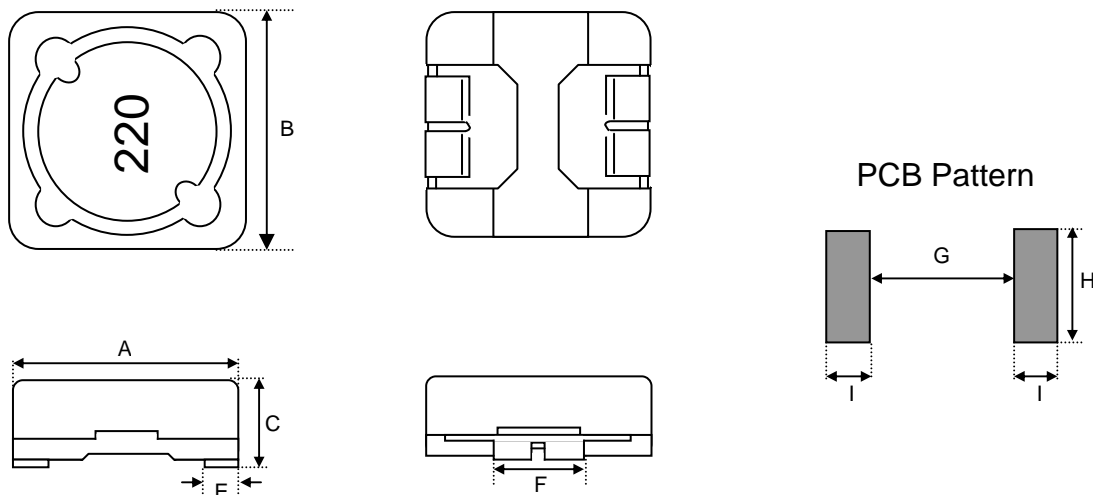


Fig. 5

Series	A	B	C	E	F	G (ref.)	H (ref.)	I (ref.)
SPS1205	12.70±0.30	12.70±0.30	5.00±0.50	2.30±0.20	5.00±0.20	6.00	7.00	4.00
SPS1206	12.70±0.30	12.70±0.30	6.00±0.50	2.30±0.20	5.00±0.20	6.00	7.00	4.00
SPS1208	12.70±0.30	12.70±0.30	8.00±0.50	2.30±0.20	5.00±0.20	6.00	7.00	4.00

5. SPS Series (Shielded Type)

Electrical Characteristics

SPS 1205 / 1206 / 1208 TYPE

Inductance value code	L (μH)	Tol.*	DC Resistance (mΩ) Max.			Rated DC current (A) Max.		
			1205	1206	1208	1205	1206	1208
2R5	2.5	M	24	16	11.4	5.00	6.20	7.80
4R5	4.5	M	-	-	14.0	-	-	6.80
5R0	5.0	M	35	22	-	4.00	4.70	-
6R5	6.5	M	-	-	18.0	-	-	6.50
7R5	7.5	M	40	25	-	3.50	3.80	-
100	10	M	54	35	21.0	3.00	3.30	5.40
120	12	M	65	38	25.0	2.80	3.00	4.90
150	15	M	70	42	36.0	2.70	2.80	4.50
180	18	M	82	50	40.0	2.60	2.50	3.90
220	22	M	95	62	43.0	2.40	2.30	3.60
250	25	M	120	-	-	2.00	-	-
270	27	M	-	68	48.0	-	2.00	3.40
330	33	M,Y	145	90	62.0	1.80	1.90	3.00
390	39	M,Y	160	100	76.0	1.65	1.75	2.70
470	47	Y	-	130	85.0	-	1.60	2.50
500	50	Y	200	-	-	1.50	-	-
560	56	Y	240	155	110.0	1.40	1.45	2.30
680	68	Y	280	170	135.0	1.30	1.30	2.10
750	75	Y	330	-	-	1.20	-	-
820	82	Y	-	185	150.0	-	1.20	1.90
101	100	Y,K	400	220	170.0	1.00	1.10	1.70
121	120	Y,K	500	260	190.0	0.90	1.00	1.50
151	150	Y,K	580	320	240.0	0.80	0.90	1.40
181	180	Y,K	750	380	270.0	0.70	0.80	1.30
221	220	K	840	460	380.0	0.65	0.70	1.10
271	270	K	1000	520	400.0	0.60	0.65	1.00
331	330	K	1340	660	650.0	0.54	0.60	0.90
391	390	K	1500	870	670.0	0.50	0.55	0.85
471	470	K	1980	970	850.0	0.45	0.50	0.80
561	560	K	2200	1320	900.0	0.40	0.45	0.70
681	680	K	2400	1500	1000.0	0.35	0.40	0.65
821	820	K	3000	1700	1150.0	0.30	0.35	0.60
102	1000	K	-	2300	1650.0	-	0.30	0.55
122	1200	K	-	2650	2000.0	-	0.25	0.40
152	1500	K	-	3500	2350.0	-	0.20	0.36

1. Test Frequency: 1 KHz

2a). Irms: base on temp. rise 40 °C Max.

2b). Isat: base on ΔL/L0A = 10% Max.

3. Tolerance of Inductance:

*SPS1205 : 2.5μH~39μH (M)±20%, 50μH~75μH (Y)±15%, 100μH~820μH (K)±10%

*SPS1206 : 2.5μH~27μH (M)±20%, 33μH~120μH (Y)±15%, 150μH~1500μH (K)±10%

*SPS1208 : 2.5μH~27μH (M)±20%, 33μH~180μH (Y)±15%, 220μH~1500μH (K)±10%

4. Operating temperature range : -40 °C ~ +125 °C