

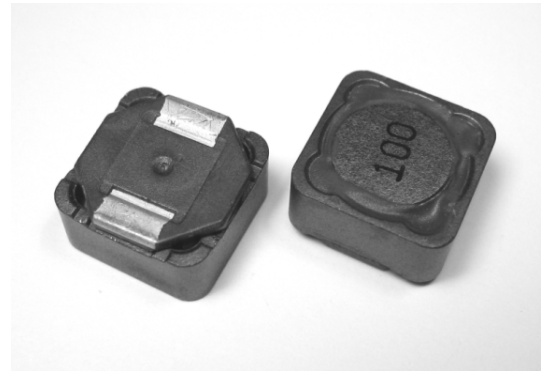
## 5. SPS Series (Shielded Type)

### 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 $\mu$ H	3.00~0.02A (I <sub>rms</sub> ) ; 1.40~0.02A (I <sub>sat</sub> )
* SPS3316	1.0~1000 $\mu$ H	5.80~0.35A (I <sub>rms</sub> ) ; 5.60~0.32A (I <sub>sat</sub> )
* SPS5022	1.0~1000 $\mu$ H	20.00~0.90A (I <sub>rms</sub> ) ; 20.00~0.80A (I <sub>sat</sub> )

(Dimension data (Refer to Fig. 1))

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

(Dimension data (Refer to Fig. 2))

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

(Dimension data (Refer to Fig. 3))

Part Series	Inductances range	Rated Current range
* SPS6028	1.0~1000 $\mu$ H	3.80~0.11A (I <sub>rms</sub> ) ; 3.00~0.09A (I <sub>sat</sub> )
* SPS6038	1.0~1000 $\mu$ H	3.70~0.14A (I <sub>rms</sub> ) ; 4.00~0.13A (I <sub>sat</sub> )
* SPS7032	3.3~1000 $\mu$ H	2.40~0.15A (I <sub>rms</sub> ) ; 2.20~0.14A (I <sub>sat</sub> )
* SPS7045	1.0~680 $\mu$ H	5.20~0.40A (I <sub>rms</sub> ) ; 6.00~0.20A (I <sub>sat</sub> )

(Dimension data (Refer to Fig. 4))

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

(Dimension data (Refer to Fig. 5))

Part Series	Inductances range	Rated Current range
* SPS1240	1.0~1000 $\mu$ H	9.30~0.42A (I <sub>rms</sub> ) ; 9.20~0.40A (I <sub>sat</sub> )
* SPS1260	1.0~1000 $\mu$ H	9.40~0.68A (I <sub>rms</sub> ) ; 10.00~0.60A (I <sub>sat</sub> )
* SPS1280	1.1~1000 $\mu$ H	10.20~0.68A (I <sub>rms</sub> ) ; 14.00~0.80A (I <sub>sat</sub> )

(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 .

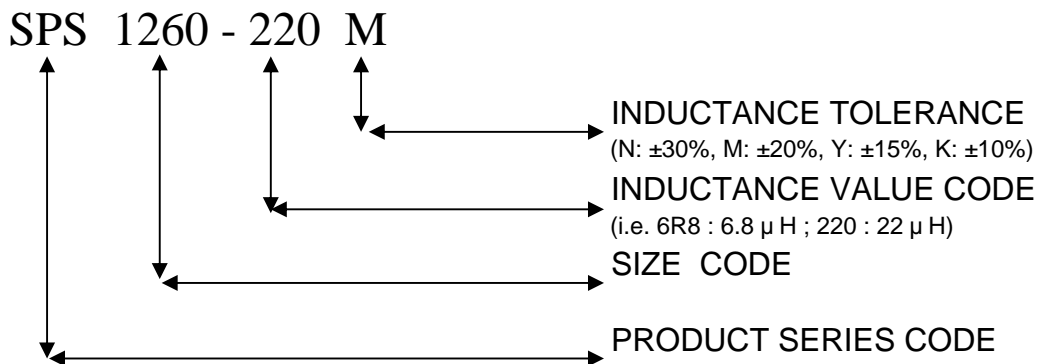
Test equipment :

L: HP4284A LCR meter or equivalent.

DCR: Milli-ohm meter or equivalent.

Electrical specifications at 25 .

**Part Numbering System**



**Dimensions (mm)**

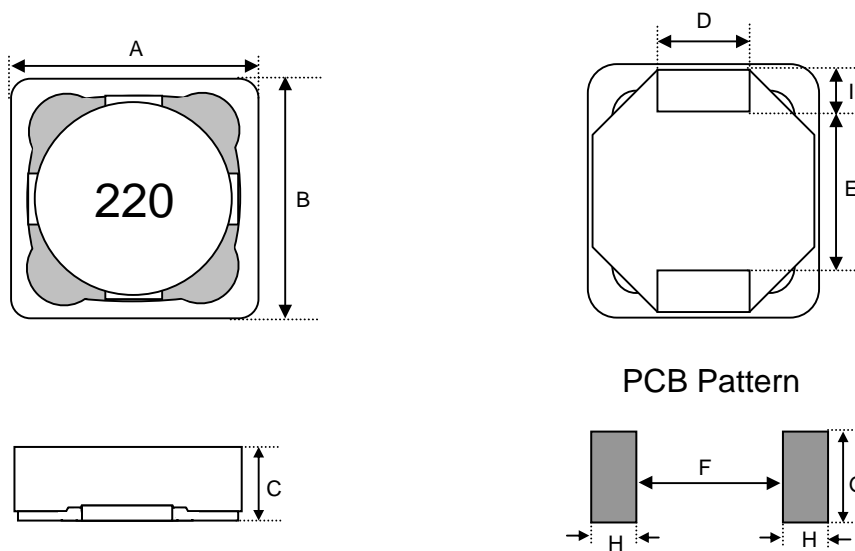


Fig. 6

Codes	A	B	C	D	E (typ)	F (ref)	G (ref)	H (ref)	I
SPS1240	12.50±0.30	12.50±0.30	4.00±0.50	5.00±0.30	7.00	6.80	5.40	2.90	2.50±0.15
SPS1260	12.50±0.30	12.50±0.30	6.00±0.50	5.00±0.30	7.00	6.80	5.40	2.90	2.50±0.15
SPS1280	12.50±0.30	12.50±0.30	7.50±0.50	5.00±0.30	7.00	6.80	5.40	2.90	2.50±0.15

## 5. SPS Series (Shielded Type)

### Electrical Characteristics

#### SPS 1240 / 1260 / 1280 TYPE

Inductance value code	L (μH)	Tol.	DC Resistance (mΩ) Max.			Rated DC current (A) Max.					
						Irms			Isat		
			1240	1260	1280	1240	1260	1280	1240	1260	1280
1R0	1.0	N	7.0	7.8	-	9.30	9.40	-	9.20	10.00	-
1R1	1.1	N	-	-	6.5	-	-	10.20	-	-	14.00
1R2	1.2	N	-	8.0	-	-	9.20	-	-	9.80	-
1R4	1.4	N	-	-	9.8	-	-	9.80	-	-	12.00
1R5	1.5	N	9.5	9.5	-	9.20	8.80	-	9.00	9.00	-
2R2	2.2	N	-	10.5	-	-	8.20	-	-	8.50	-
2R4	2.4	N	11.5	11.5	10.0	8.00	7.80	9.20	7.80	8.00	10.50
3R3	3.3	N	15.0	12.0	12.0	6.80	7.60	8.80	6.50	7.80	9.80
3R5	3.5	N	-	13.0	-	-	7.50	-	-	7.60	-
4R5	4.5	N	-	-	13.5	-	-	8.50	-	-	9.00
4R7	4.7	N	18.0	15.5	15.5	6.00	6.80	8.20	5.60	7.00	8.80
5R6	5.6	N	20.0	16.2	16.0	5.40	6.70	8.00	5.10	6.90	8.50
6R1	6.1	N	-	17.0	-	-	6.60	-	-	6.80	-
6R8	6.8	N	23.0	18.0	18.5	5.20	6.30	7.60	4.70	6.50	8.00
7R5	7.5	N	-	-	17.5	-	-	6.40	-	-	7.00
7R6	7.6	N	-	19.0	-	-	6.00	-	-	6.20	-
8R2	8.2	N	27.0	19.5	20.5	4.50	5.70	6.20	4.30	5.80	6.80
100	10	M	32.0	20.0	19.5	4.00	5.50	6.00	4.00	5.50	6.60
120	12	M	38.0	23.0	28.0	3.80	5.20	5.60	3.60	5.00	6.30
150	15	M	47.0	27.0	28.5	3.50	5.00	5.20	3.20	4.60	5.00
180	18	M	55.0	36.0	35.0	3.20	4.20	4.80	3.00	3.90	4.60
220	22	M	67.5	43.0	38.6	3.00	4.00	4.30	2.60	3.70	4.10
270	27	M	85.0	45.0	52.0	2.55	3.60	3.90	2.35	3.30	3.70
330	33	M	97.0	60.0	57.0	2.30	3.00	3.50	2.10	2.80	3.30
390	39	M	120.0	70.0	70.0	2.15	2.80	3.20	2.00	2.70	3.10
470	47	M	135.0	86.0	80.0	2.00	2.60	2.90	1.80	2.50	2.80
560	56	M	170.0	100.0	100.0	1.80	2.30	2.60	1.65	2.20	2.50
680	68	M	200.0	110.0	120.0	1.50	2.10	2.40	1.50	2.10	2.30
820	82	M	250.0	145.0	130.0	1.35	1.95	2.30	1.35	1.90	2.20
101	100	M	300.0	180.0	150.0	1.25	1.70	2.10	1.20	1.70	2.00
121	120	K	370.0	210.0	200.0	1.20	1.65	1.95	1.15	1.65	1.95
151	150	K	440.0	260.0	270.0	1.10	1.55	1.85	1.05	1.55	1.90
181	180	K	550.0	320.0	300.0	0.98	1.40	1.75	0.95	1.40	1.88
221	220	K	600.0	380.0	400.0	0.92	1.38	1.60	0.90	1.30	1.70
271	270	K	780.0	450.0	450.0	0.80	1.30	1.20	0.80	1.20	1.60
331	330	K	950.0	580.0	600.0	0.75	1.15	1.10	0.75	1.10	1.40
391	390	K	1150.0	700.0	680.0	0.70	1.08	1.00	0.65	1.00	1.40
471	470	K	1350.0	820.0	880.0	0.62	0.95	0.90	0.60	0.90	1.25
561	560	K	1500.0	1000.0	960.0	0.55	0.88	0.80	0.52	0.80	1.15
681	680	K	2000.0	1150.0	1300.0	0.50	0.80	0.75	0.48	0.75	0.97
821	820	K	2400.0	1500.0	1500.0	0.45	0.73	0.70	0.42	0.63	0.94
102	1000	K	3000.0	1700.0	1700.0	0.42	0.68	0.68	0.40	0.60	0.80

1. Test Frequency:

- a). SPS1240: @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

2a). Irms: base on temp. rise 40 Typ.

2b). Isat: base on L/L0A = 25% Typ.

3. Tolerance of Inductance value: 4.7μH, 5.6μH, 6.8μH & 8.2μH for SPS1240 series are (M)±20%

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