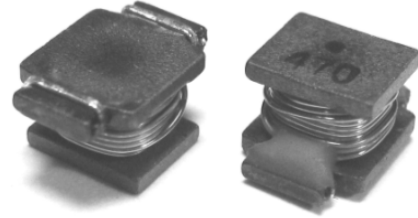


**8. SPQ Series (Unshielded Type)**

**Applications**

- High frequency communication products.
- Personal computers.
- DC/DC converters, etc.
- Other various electronic appliances.



**Features**

- The miniature chip inductors is wound on a special ferrite core.
- Ideal inductors for DC-DC conversion.
- Flat bottom surface allows reliable mounting onto the board.
- Available on tape and reel for auto surface mounting.

**Inductance and Rated Current ranges**

Part Series	Inductances range	Rated Current range
* SPQ0703	1.00~1000μH	2.20~0.08A (I <sub>rms</sub> )
* SPQ0805	0.56~47μH	9.00~1.00A (I <sub>rms</sub> ) ; 12.00~1.30A (I <sub>sat</sub> )

*(Dimension data (Refer to Fig. 1))*

Part Series	Inductances range	Rated Current range
* SPQ1813	0.56~100μH	7.70~0.53A
* SPQ4920	0.47~100μH	25.10~1.80A

*(Dimension data (Refer to Fig. 2))*

Part Series	Inductances range	Rated Current range
* SPQ322515	1.00~100μH	1.00~0.10A
* SPQ322520	1.00~560μH	0.445~0.04A
* SPQ453226	1.00~2200μH	0.50~0.03A
* SPQ322515C	0.47~120μH	3.40~0.17A
* SPQ322520C	1.00~560μH	1.00~0.06A
* SPQ453226C	1.00~470μH	1.08~0.09A
* SPQ575047C	0.12~10000μH	6.00~0.05A

*(Dimension data (Refer to Fig. 3))*

Test equipment:

- L: HP4284A&HP4285A LCR meter
- DCR Resistance: Milli-ohm meter or equivalent.
- SRF: HP4291B RF Impedance Analyzer.
- Electrical Specifications at 25 .

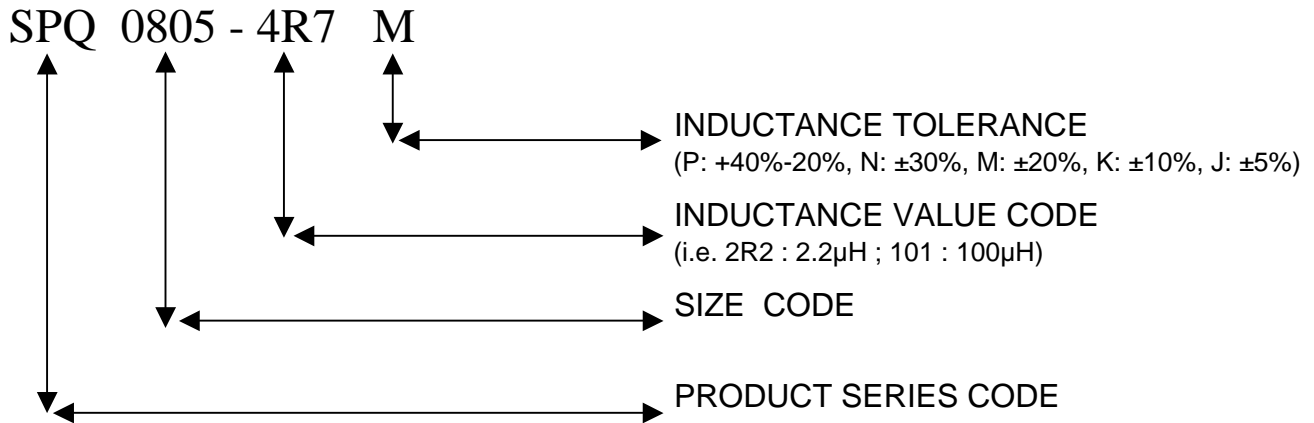
**8. SPQ Series (Unshielded Type)**

**Characteristics**

Operating temperature range: -40~+105 (SPQ0703, SPQ0805, SPQ322515C)

Operating temperature range: -40~+85 (SPQ1813, SPQ4920, SPQ322515, SPQ322520(C), SPQ453226(C), SPQ575047C)

**Part Numbering System**



**Dimensions (mm)**

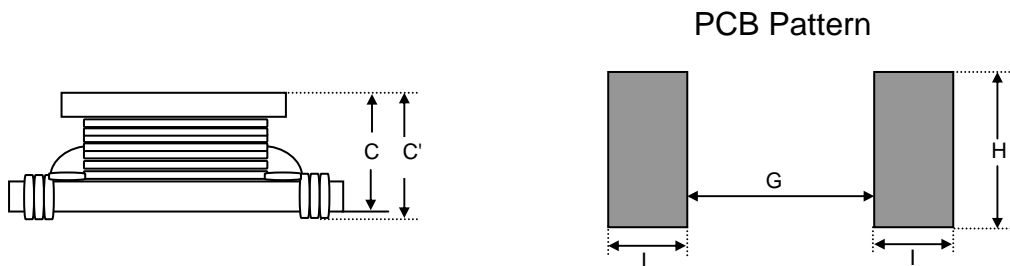
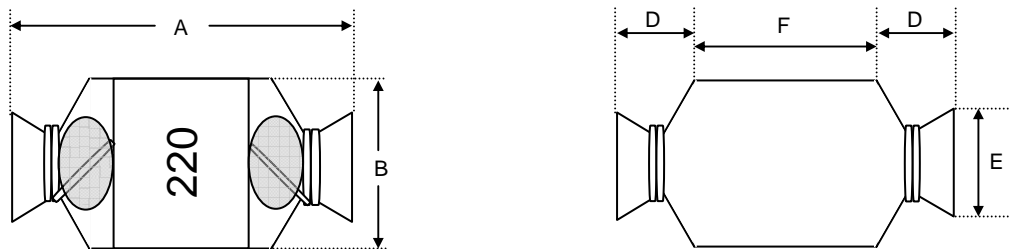


Fig. 1

Series	A	B	C	C'	D (ref.)	E (ref.)	F (ref.)	G (ref.)	H (ref.)	I (ref.)
SPQ0703	6.50±0.30	4.50±0.20	2.50±0.20	2.70±0.30	0.80	2.40	4.90	4.00	3.20	1.50
SPQ0805	8.80±0.30	6.00±0.30	4.50±0.30	5.00±0.70	1.40	3.40	6.00	5.00	4.00	2.00

**8. SPQ Series (Unshielded Type)****Electrical Characteristics****SPQ0703 TYPE**

Part No.	Inductance ( $\mu$ H)	Q ref.	Test Freq. (MHz)		SRF (MHz) nom.	DCR (Max.)	I <sub>rms1</sub> (mA) Max. T=20	I <sub>rms2</sub> (mA) Max. T=40
			L	Q				
SPQ0703-1R0M	1.0 $\pm$ 20%	25	100K/0.1V	7.96	160.0	0.042	2200	3200
SPQ0703-1R2M	1.2 $\pm$ 20%	25	100K/0.1V	7.96	145.0	0.047	2000	3000
SPQ0703-1R8M	1.8 $\pm$ 20%	25	100K/0.1V	7.96	105.0	0.052	1900	2700
SPQ0703-2R2M	2.2 $\pm$ 20%	24	100K/0.1V	7.96	95.0	0.060	1800	2600
SPQ0703-2R7M	2.7 $\pm$ 20%	23	100K/0.1V	7.96	80.0	0.065	1700	2500
SPQ0703-3R3M	3.3 $\pm$ 20%	23	100K/0.1V	7.96	65.0	0.075	1650	2350
SPQ0703-3R9M	3.9 $\pm$ 20%	22	100K/0.1V	7.96	70.0	0.080	1580	2250
SPQ0703-4R7M	4.7 $\pm$ 20%	20	100K/0.1V	7.96	60.0	0.100	1500	2100
SPQ0703-5R6M	5.6 $\pm$ 20%	20	100K/0.1V	7.96	56.0	0.105	1400	2000
SPQ0703-6R8M	6.8 $\pm$ 20%	20	100K/0.1V	7.96	45.0	0.115	1300	1900
SPQ0703-8R2M	8.2 $\pm$ 20%	20	100K/0.1V	7.96	40.0	0.150	1100	1500
SPQ0703-100K	10.0 $\pm$ 10%	23	100K/0.1V	2.52	36.0	0.170	1000	1400
SPQ0703-120K	12.0 $\pm$ 10%	20	100K/0.1V	2.52	36.0	0.180	900	1300
SPQ0703-150K	15.0 $\pm$ 10%	23	100K/0.1V	2.52	30.0	0.240	750	1120
SPQ0703-180K	18.0 $\pm$ 10%	20	100K/0.1V	2.52	30.0	0.280	700	1050
SPQ0703-220K	22.0 $\pm$ 10%	20	100K/0.1V	2.52	26.0	0.300	650	950
SPQ0703-270K	27.0 $\pm$ 10%	20	100K/0.1V	2.52	20.0	0.400	600	880
SPQ0703-330K	33.0 $\pm$ 10%	17	100K/0.1V	2.52	20.0	0.450	560	820
SPQ0703-390K	39.0 $\pm$ 10%	18	100K/0.1V	2.52	18.0	0.550	500	730
SPQ0703-470K	47.0 $\pm$ 10%	20	100K/0.1V	2.52	15.0	0.720	400	640
SPQ0703-560K	56.0 $\pm$ 10%	20	100K/0.1V	2.52	13.0	0.800	390	600
SPQ0703-680K	68.0 $\pm$ 10%	18	100K/0.1V	2.52	13.0	0.900	380	560
SPQ0703-820K	82.0 $\pm$ 10%	18	100K/0.1V	2.52	12.0	1.180	330	470
SPQ0703-101K	100.0 $\pm$ 10%	33	100K/0.1V	0.796	11.0	1.560	270	400
SPQ0703-121K	120.0 $\pm$ 10%	32	100K/0.1V	0.796	10.0	1.750	260	365
SPQ0703-151K	150.0 $\pm$ 10%	30	100K/0.1V	0.796	9.0	2.000	250	340
SPQ0703-181K	180.0 $\pm$ 10%	33	100K/0.1V	0.796	7.0	2.700	190	300
SPQ0703-221K	220.0 $\pm$ 10%	31	100K/0.1V	0.796	7.0	3.000	180	280
SPQ0703-271K	270.0 $\pm$ 10%	30	100K/0.1V	0.796	7.0	3.600	170	250
SPQ0703-331K	330.0 $\pm$ 10%	33	100K/0.1V	0.796	6.0	4.800	160	220
SPQ0703-391K	390.0 $\pm$ 10%	36	100K/0.1V	0.796	5.5	6.200	140	190
SPQ0703-471K	470.0 $\pm$ 10%	33	100K/0.1V	0.796	5.0	7.000	130	180
SPQ0703-561K	560.0 $\pm$ 10%	36	100K/0.1V	0.796	4.2	9.200	110	155
SPQ0703-681K	680.0 $\pm$ 10%	32	100K/0.1V	0.796	4.0	10.500	100	145
SPQ0703-821K	820.0 $\pm$ 10%	32	100K/0.1V	0.796	3.6	12.000	90	135
SPQ0703-102K	1000.0 $\pm$ 10%	30	100K/0.1V	0.252	3.2	14.200	80	125

**8. SPQ Series (Unshielded Type)**

**Electrical Characteristics (Cont'd)**

**SPQ0805 TYPE**

Part No.	Inductance (μH)	SRF(MHz) nom.	DCR (mΩ) Max.	I <sub>rms</sub> (A)	I <sub>sat</sub> (A)
SPQ0805-R56M	0.56 ± 20%	200	4.5	9.0	12.0
SPQ0805-1R2M	1.20 ± 20%	100	8.2	6.0	8.8
SPQ0805-2R2M	2.20 ± 20%	75	16.0	4.5	6.5
SPQ0805-4R7M	4.70 ± 20%	35	35.0	3.0	4.2
SPQ0805-100M	10 ± 20%	26	60.0	2.4	3.0
SPQ0805-150M	15 ± 20%	19	90.0	2.0	2.4
SPQ0805-220M	22 ± 20%	15	160.0	1.6	2.0
SPQ0805-330M	33 ± 20%	10	185.0	1.2	1.6
SPQ0805-470M	47 ± 20%	8	260.0	1.0	1.3

1. Test Freq: 100KHz 0.25V

2 a). Rated DC current (I<sub>sat</sub>): The current when the inductance becomes 30% typical its initial value. (T<sub>a</sub> = 25 °C)

2 b). Temperature rise current (I<sub>rms</sub>): The actual current when the temp. of coil becomes T = 40 °C. (T<sub>a</sub> = 25 °C)