

**HIGH FREQUENCY  
MULTILAYER CHIP INDUCTORS  
SERIES SMC**

**FEATURES**

100% NO LEAD terminal components  
 VERY HIGH SRF, excellent for High Frequency applications  
 Multilayer technology, offering magnetically shielded construction, absolutely ZERO CROSS TALK  
 Excellent solderability and very high heat resistance  
 Variety of sizes  
 Low price

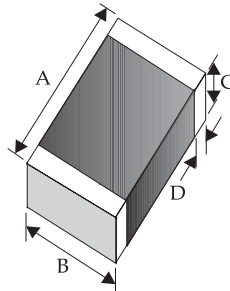
**ELECTRICAL CHARACTERISTICS**

Inductance range	Size 0402 from 1.0 nano Henry to 100 nano Henry Size 0603 from 1.0 nano Henry to 100 nano Henry Size 0805 from 1.5 nano Henry to 470 nano Henry
Tolerance	± 0.3 nano Henry, 5%, 10%
Test frequency	50 MHz or 100 MHz
Test equipment	for Q & L      HP-4291A , HP-4194A for DCR        Digital Milliohm Meter for current    HP-6632DC Power Supply connected to HP-16200A and HP-4291A
Rated current	Obtained when part has temperature rise up to 28°C

**PHYSICAL CHARACTERISTICS**

Operating temperature	-40°C to + 85°C		
Soldering heat resistance	300°C for 5 seconds		
Terminal construction	Electro-plating with 3 layers : Silver, Nickel, Tin		
Solderability	Recommendation: Preheat @ 150°C for 60 seconds Immerse chip into 235°C solder bath for 5 seconds		
Tape and reel specifications	8 mm or 12 mm embossed carrier tape with 178 mm reel		
Quantity per reel	Standard	0402 size	10000 pieces
		0603 size	4000 pieces
		0805 size	4000 pieces

**DIMENSIONS IN MILLIMETERS**



Sizes	A	B	C	D
<b>0402</b>	1.0 ± 0.10	0.50 ± 0.10	0.50 ± 0.10	0.25 ± 0.10
<b>0603</b>	1.6 ± 0.15	0.80 ± 0.15	0.80 ± 0.15	0.30 ± 0.20
<b>0805</b>	2.0 ± 0.20	1.25 ± 0.20	0.85 ± 0.20	0.50 ± 0.30

## ELECTRICAL SPECIFICATIONS

## SMC0402 SERIES

PART NUMBER	L (nH)	TOL (%) ±	TEST FREQ (MHz)	Q (nominal) @ MHz					SRF min (MHz)	DCR max (Ω)	RATED CURRENT (mA)
				100	300	500	800	1000			
SMC0402-1N0S	1.0	0.3nH	100	11	20	26	34	30	10000	0.12	300
SMC0402-1N2S	1.2	0.3nH	100	11	20	26	34	30	10000	0.12	300
SMC0402-1N5S	1.5	0.3nH	100	11	20	26	34	30	6000	0.13	300
SMC0402-1N8S	1.8	0.3nH	100	11	18	24	30	30	6000	0.14	300
SMC0402-2N2S	2.2	0.3nH	100	10	17	24	29	30	6000	0.16	300
SMC0402-2N7S	2.7	0.3nH	100	10	17	23	29	30	6000	0.17	300
SMC0402-3N3J	3.3	5%	100	10	17	23	28	30	6000	0.19	300
SMC0402-3N9J	3.9	5%	100	10	17	23	28	30	4000	0.22	300
SMC0402-4N7J	4.7	5%	100	10	17	23	28	30	4000	0.24	300
SMC0402-5N6J	5.6	5%	100	10	17	22	28	30	4000	0.27	300
SMC0402-6N8J	6.8	5%	100	10	16	22	27	30	3900	0.32	250
SMC0402-8N2J	8.2	5%	100	10	17	22	28	30	3600	0.37	250
SMC0402-10NJ	10	5%	100	10	17	22	30	28	3200	0.42	250
SMC0402-12NJ	12	5%	100	11	18	24	31	28	2700	0.50	250
SMC0402-15NJ	15	5%	100	11	18	24	30	27	2300	0.55	250
SMC0402-18NJ	18	5%	100	11	18	24	30	20	2100	0.65	200
SMC0402-22NJ	22	5%	100	11	18	24	30	13	1900	0.80	200
SMC0402-27NJ	27	5%	100	11	18	23	27	10	1600	0.90	200
SMC0402-33NJ	33	5%	100	11	18	22	25	NA	1300	1.00	200
SMC0402-39NJ	39	5%	100	11	18	22	24	NA	1200	1.20	150
SMC0402-47NJ	47	5%	100	11	18	21	23	NA	1000	1.30	150
SMC0402-56NJ	56	5%	100	11	18	20	21	19	750	1.40	150
SMC0402-68NJ	68	5%	100	11	17	19	19	16	750	1.40	150
SMC0402-82NJ	82	5%	100	10	17	19	16	10	600	1.60	100
SMC0402-R10K	100	10%	100	10	16	18	10	NA	600	1.60	100

## SMC0603 SERIES

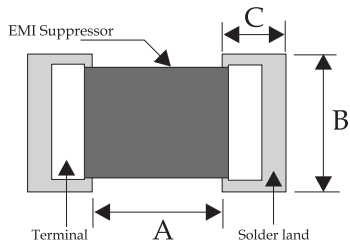
PART NUMBER	L (nH)	TOL (%) ±	TEST FREQ (MHz)	Q (nominal) @ MHz					SRF min (MHz)	DCR max (Ω)	RATED CURRENT (mA)
				100	300	500	800	1000			
SMC0603-1N0S	1.0	0.3nH	100	14	30	40	70	90	10000	0.05	300
SMC0603-1N2S	1.2	0.3nH	100	14	30	40	70	90	10000	0.05	300
SMC0603-1N5S	1.5	0.3nH	100	14	26	34	47	50	6000	0.10	300
SMC0603-1N8S	1.8	0.3nH	100	10	18	24	30	34	6000	0.10	300
SMC0603-2N2S	2.2	0.3nH	100	12	22	29	37	40	6000	0.10	300
SMC0603-2N7S	2.7	0.3nH	100	13	24	32	41	45	6000	0.10	300
SMC0603-3N3J	3.3	5%	100	14	25	33	42	47	6000	0.12	300
SMC0603-3N9J	3.9	5%	100	13	25	33	42	46	6000	0.14	300
SMC0603-4N7J	4.7	5%	100	13	25	33	42	47	4000	0.16	300
SMC0603-5N6J	5.6	5%	100	14	25	33	42	46	4000	0.18	300
SMC0603-6N8J	6.8	5%	100	14	25	33	43	47	4000	0.22	300
SMC0603-8N2J	8.2	5%	100	14	26	34	44	48	3500	0.24	300
SMC0603-10NJ	10	5%	100	14	26	34	43	47	3400	0.26	300
SMC0603-12NJ	12	5%	100	14	27	35	45	49	2600	0.28	300
SMC0603-15NJ	15	5%	100	15	28	37	46	51	2300	0.32	300
SMC0603-18NJ	18	5%	100	15	27	36	44	48	2000	0.35	300
SMC0603-22NJ	22	5%	100	16	28	36	44	47	1600	0.40	300
SMC0603-27NJ	27	5%	100	16	29	37	45	46	1400	0.45	300
SMC0603-33NJ	33	5%	100	17	31	40	46	47	1200	0.35	300
SMC0603-39NJ	39	5%	100	18	31	39	44	44	1100	0.60	300
SMC0603-47NJ	47	5%	100	17	25	34	35	34	900	0.70	300
SMC0603-56NJ	56	5%	100	17	28	34	34	31	900	0.75	300
SMC0603-68NJ	68	5%	100	18	29	34	30	32	700	0.85	300
SMC0603-82NJ	82	5%	100	18	28	33	27	NA	600	0.95	300
SMC0603-R10K	100	10%	100	18	27	28	16	NA	600	1.00	300

## ELECTRICAL SPECIFICATIONS

### SMC0805 SERIES

PART NUMBER	L (nH)	TOL (%) ±	TEST FREQ (MHz)	Q (nominal) @ MHz					SRF min (MHz)	DCR max (Ω)	RATED CURRENT (mA)
				100	300	500	800	1000			
SMC0805-1N5S	1.5	0.3nH	100	21	39	57	61	68	4000	0.10	300
SMC0805-1N8S	1.8	0.3nH	100	18	35	49	55	59	4000	0.10	300
SMC0805-2N2S	2.2	0.3nH	100	18	33	46	53	58	4000	0.10	300
SMC0805-2N7S	2.7	0.3nH	100	19	36	50	56	60	4000	0.10	300
SMC0805-3N3J	3.3	5%	100	16	29	40	47	51	4000	0.13	300
SMC0805-3N9J	3.9	5%	100	18	33	46	54	60	4000	0.15	300
SMC0805-4N7J	4.7	5%	100	18	34	46	55	60	3500	0.20	300
SMC0805-5N6J	5.6	5%	100	20	38	51	60	66	3200	0.23	300
SMC0805-6N8J	6.8	5%	100	20	39	52	63	69	2800	0.25	300
SMC0805-8N2J	8.2	5%	100	21	40	54	63	70	2400	0.28	300
SMC0805-10NJ	10	5%	100	20	38	51	60	67	2100	0.30	300
SMC0805-12NJ	12	5%	100	21	39	52	60	67	1900	0.35	300
SMC0805-15NJ	15	5%	100	22	42	55	63	72	1600	0.40	300
SMC0805-18NJ	18	5%	100	24	44	57	63	72	1500	0.45	300
SMC0805-22NJ	22	5%	100	23	43	55	60	69	1400	0.50	300
SMC0805-27NJ	27	5%	100	23	42	53	58	68	1300	0.55	300
SMC0805-33NJ	33	5%	100	24	43	54	55	60	1200	0.60	300
SMC0805-39NJ	39	5%	100	23	41	50	47	47	1000	0.65	300
SMC0805-47NJ	47	5%	100	23	41	49	43	41	900	0.70	300
SMC0805-56NJ	56	5%	100	23	42	48	39	38	800	0.75	300
SMC0805-68NJ	68	5%	100	25	42	45	30	NA	700	0.80	300
SMC0805-82NJ	82	5%	100	24	41	41	NA	NA	600	0.90	300
SMC0805-R10K	100	10%	100	23	37	37	NA	NA	600	0.90	300
SMC0805-R12K	120	10%	50	22	33	29	NA	NA	500	0.95	300
SMC0805-R15K	150	10%	50	22	34	26	NA	NA	500	1.00	300
SMC0805-R18K	180	10%	50	23	34	20	NA	NA	400	1.10	300
SMC0805-R22K	220	10%	50	20	23	NA	NA	NA	350	1.20	300
SMC0805-R27K	270	10%	50	20	19	NA	NA	NA	300	1.30	300
SMC0805-R33K	330	10%	50	22	NA	NA	NA	NA	250	1.40	300
SMC0805-R39K	390	10%	50	17	NA	NA	NA	NA	250	1.30	300
SMC0805-R47K	470	10%	50	17	NA	NA	NA	NA	200	1.50	300

### LAND PATTERN



#### NOTE

Items SMC0805-R10K to SMC0805-R47K the thickness is 1.25 mm instead of 0.85 mm. For these items the quantity per reel are 2000 pieces instead of 4000 pieces.

Series	A	B	C
SMC0402	0.50 mm	0.70 mm	0.75 mm
SMC0603	0.80 mm	1.00 mm	0.90 mm
SMC0805	1.00 mm	1.50 mm	1.60 mm