

**SIMID 0603-C**

**Size 0603 (EIA) and/or 1608 (IEC)**  
**Rated inductance 1,0 to 220 nH**  
**Rated current 0,11 to 1,8 A**



**Construction**

- Copper-plated ceramic core
- Laser-cut winding, epoxy-coated

**Features**

- Extremely close tolerance of dimensions
- High resonance frequency
- Free of polarization effect
- Close inductance tolerance
- High mechanical stability
- Suitable for reflow (IR and vapor phase) and wave soldering

**Applications**

Resonant circuits, impedance matching for

- Mobile phones
- DECT systems
- Keyless entry
- GPS (Global Positioning System)
- Video cameras

**Terminals**

- Electro-plated, 2  $\mu\text{m}$  Ni, 10  $\mu\text{m}$  Sn (lead-free)
- Base material  $\text{Al}_2\text{O}_3$  ceramic with Cu layer

**Marking**

No marking on component

Minimum data on reel:

Manufacturer, part number, ordering code,  
 $L$  value and tolerance of  $L$  value,  
quantity, date of packing

**Delivery mode**

8-mm cardboard tape, wound on 180-mm  $\varnothing$  reel

Bulk case on request

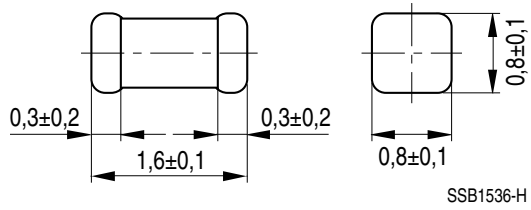
For details on taping, packing and packing units refer to data book 2000 "Chokes and Inductors", page 151.

**General technical data**

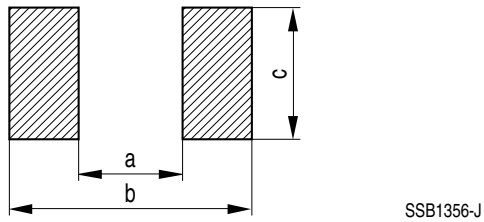
Rated inductance $L_R$	Measured with impedance analyzer HP 4291A and Agilent test fixture 16196 A at frequency $f_L$
Q factor $Q_{min}$ , $Q_{typ}$	Measured with impedance analyzer HP 4291A and Agilent test fixture 16196 A $Q_{min}$ measured at frequency $f_Q$
Rated current $I_R$	Maximum permissible dc with a temperature increase of $\leq 15$ K at rated temperature $125^\circ\text{C}$
Self-resonance frequency $f_{res, min}$	Measured with network analyzer HP 8720
DC resistance $R_{max}$	Measured at $20^\circ\text{C}$ ambient temperature, measuring current $< I_R$
Climatic category	55/125/56 ( $-55^\circ\text{C}/+125^\circ\text{C}/56$ days damp heat test) in accordance with IEC 60068-1
Solderability	$(215 \pm 3)^\circ\text{C}$ , $(3 \pm 0,3)$ s wetting of soldering area: $\geq 95\%$ in accordance with IEC 60068-2-58
Resistance to soldering heat	$260^\circ\text{C}$ , 10 s in accordance with IEC 60068-2-58 $\Delta L/L: \leq \pm 3\%$
Permissible PCB bending	2 mm (100 mm long standard PCB)
Weight	Approx. 4 mg

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Dimensional drawing



Layout recommendation



Dimensions (mm)

<i>a</i>	<i>b</i>	<i>c</i>
0,9 ± 0,1	2,3 ± 0,3	0,8 ± 0,1

**Characteristics and ordering codes**

$L_R$ nH	Tolerance	$Q_{min}$	$Q_{typ}$ (at 800 MHz)	$f_L; f_Q$ MHz	$I_R$ A	$R_{max}$ $\Omega$	$f_{res, min}$ GHz	Ordering code <sup>1)2)</sup>
1,0	$\pm 0,3$ nH	7	60	100	1,8	0,02	16	B82496C3109+
1,2	$\triangleq A$	8	60	100	1,8	0,025	15	B82496C3129+
1,5	$\pm 0,2$ nH	8	50	100	1,5	0,03	13	B82496C3159+
1,8	$\triangleq Z$	12	50	100	1,5	0,033	12	B82496C3189+
2,2		14	50	100	1,5	0,035	10	B82496C3229+
2,7		14	40	100	1,4	0,04	10	B82496C3279+
3,3		14	40	100	1,2	0,06	9	B82496C3339+
3,9	$\pm 5\%$	14	40	100	1,1	0,065	8	B82496C3399+
4,7	$\triangleq J$	14	40	100	0,8	0,10	7	B82496C3479+
5,6	$\pm 0,2$ nH	14	40	100	0,7	0,15	6	B82496C3569+
6,8	$\triangleq Z$	14	40	100	0,7	0,15	6	B82496C3689+
8,2		14	40	100	0,65	0,18	6	B82496C3829+
10	$\pm 5\%$	14	40	100	0,6	0,20	5	B82496C3100+
12	$\triangleq J$	14	40	100	0,45	0,35	5	B82496C3120+
15	$\pm 2\%$	14	40	100	0,42	0,40	4,5	B82496C3150+
18	$\triangleq G$	14	40	100	0,40	0,45	4,0	B82496C3180+
22		14	40	100	0,38	0,50	4,0	B82496C3220+
27		14	35	100	0,36	0,55	3,0	B82496C3270+
33		14	35	100	0,35	0,60	3,0	B82496C3330+
39		14	35	100	0,30	0,80	2,5	B82496C3390+
47		14	35	100	0,27	0,95	2,5	B82496C3470+
56		14	35	100	0,25	1,2	2,5	B82496C3560+
68		14	35	100	0,23	1,3	2,0	B82496C3680+
82		14	35	100	0,22	1,5	2,0	B82496C3820+
100		14	30	100	0,20	1,8	1,8	B82496C3101+
120		5	30	25,2	0,16	3,0	1,8	B82496C3121+
150		5	30	25,2	0,13	5,0	1,6	B82496C3151+
180		4	25	25,2	0,12	6,0	1,4	B82496C3181+
220		4	25	25,2	0,11	7,0	1,3	B82496C3221+

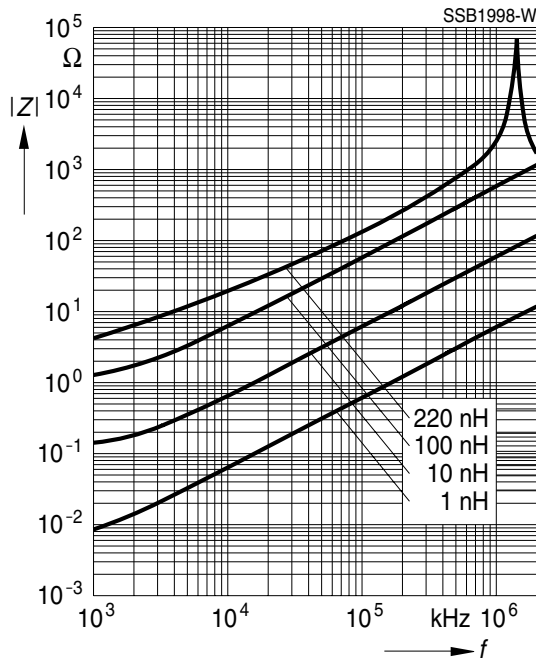
Special values available on request.

1) Replace the + by the code letter for the required inductance tolerance (see table).

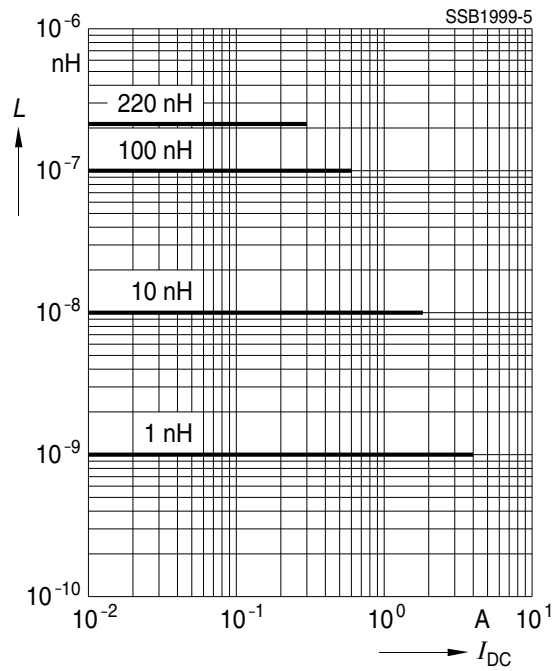
2) Ordering code for cardboard tape/reel packing. For bulk case append code number »1«.

Example: B82496C3109A1

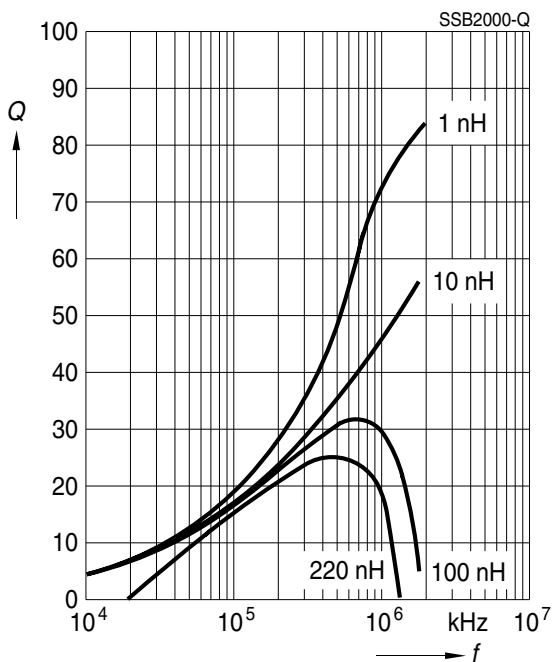
Impedance  $|Z|$   
versus frequency  $f$   
measured with impedance analyzer  
HP 4291A/16196A



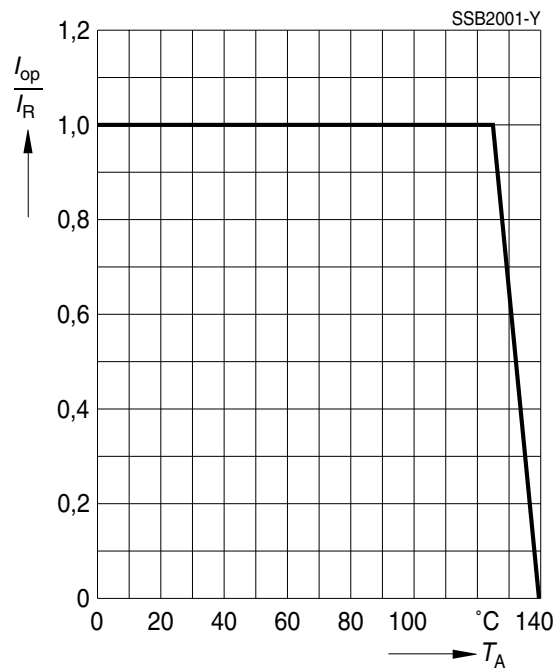
Inductance  $L$   
versus dc load current  $I_{DC}$   
measured with LCR meter  
HP 4275A



$Q$  factor versus frequency  $f$   
measured with impedance analyzer  
HP 4291A/16196A



Current derating  $I_{op}/I_R$   
versus ambient temperature  $T_A$





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