



# SMT Inductors

SIMID 1812-C  
B82432-C

Data Sheet



<http://www.epcos.com>



**Size 1812 (EIA) or 4532 (IEC)**  
**Rated inductance 1,0 to 1000  $\mu$ H**  
**Rated current 55 to 600 mA**



### Construction

- Upright ferrite drum core
- Laser-welded winding
- Flame-retardant encapsulation

### Features

- High Q factor
- Suitable for reflow (IR and vapor phase) and wave soldering
- Different measuring frequency for *L* and *Q*

### Applications

- Filtering of supply voltages, coupling, decoupling
- Antenna systems
- Automotive electronics
- Telecommunications

### Terminals

- Lead-free tinned
- Finish: 0,4  $\mu$ m Cu, 1–2  $\mu$ m Ag, 5–7  $\mu$ m Sn
- Base material CuSn6
- No leaching during wave soldering

### Marking

Marking on component:

Manufacturer and letter »C«,  
*L* value (in nH) and tolerance of *L* value (coded),  
date of manufacture (coded)

Minimum data on reel:

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

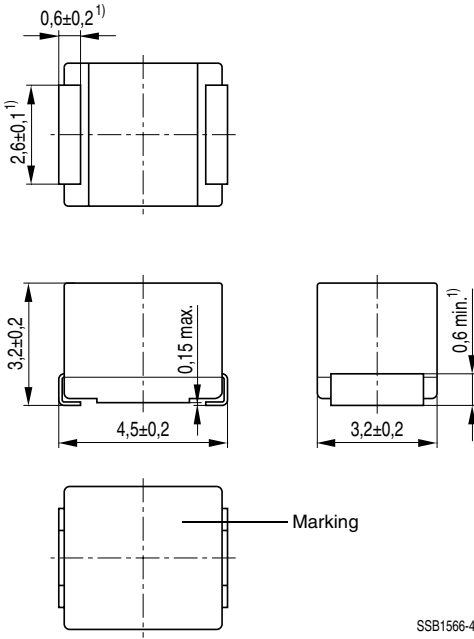
### Delivery mode

12-mm blister tape, wound on 330-mm  $\varnothing$  reel  
For details on taping, packing and packing units  
see data book "Chokes and Inductors", page 153.

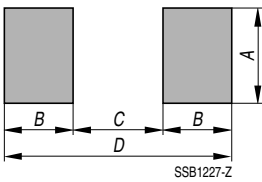

**General technical data**

Rated inductance $L_R$	Measured with impedance analyzer HP 4294A at frequency $f_L$
Q factor $Q_{\min}$	Measured with impedance analyzer HP 4294A at frequency $f_Q$
Rated current $I_R$	Maximum permissible dc with inductance decrease $\Delta L/L_0 \leq 10\%$ and temperature increase of $\leq 30\text{ K}$ at rated temperature of $85^\circ\text{C}$
Self-resonance frequency $f_{\text{res, min}}$	Measured with network analyzer HP 8753
DC resistance $R_{\text{max}}$	Measured at $20^\circ\text{C}$ ambient temperature, measuring current $< I_R$
Climatic category	In accordance with IEC 60068-1 55/125/56 ( $-55^\circ\text{C}/+125^\circ\text{C}/56$ days damp heat test)
Solderability	In accordance with IEC 60062-2-58 ( $215 \pm 3$ ) $^\circ\text{C}$ , ( $3 \pm 0,3$ ) s Wetting of soldering area: $\geq 90\%$
Resistance to soldering heat	In accordance with IEC 60068-2-20 $260^\circ\text{C}$ , 10 s $\Delta L/L \leq \pm 3\%$
Permissible PCB bending	2 mm (100 mm long standard PCB)
Weight	Approx. 130 mg

Dimensional drawing



Layout recommendation



Dimensions (mm)	A	B	C	D
Wave soldering	3,1	1,7	3,2	6,6
Reflow soldering	3,6	1,3	3,2	5,8

1) Soldering area, tinned


**Characteristics and ordering codes**

$L_R$ $\mu\text{H}$	Tolerance	$f_L$ MHz	$Q_{\min}$	$f_Q$ MHz	$I_R$ mA	$R_{\max}$ $\Omega$	$f_{\text{res, min}}$ MHz	Ordering code
1,0	$\pm 10\%$ $\triangleq K$	1	40	7,96	600	0,28	200	B82432-C1102-K
1,2		1	40	7,96	560	0,32	160	B82432-C1122-K
1,5		1	40	7,96	535	0,35	120	B82432-C1152-K
1,8		1	40	7,96	490	0,41	100	B82432-C1182-K
2,2		1	40	7,96	480	0,43	90	B82432-C1222-K
2,7		1	40	7,96	450	0,49	75	B82432-C1272-K
3,3		1	40	7,96	425	0,55	60	B82432-C1332-K
3,9		1	40	7,96	410	0,59	50	B82432-C1392-K
4,7		1	40	7,96	390	0,65	40	B82432-C1472-K
5,6		1	40	7,96	375	0,71	40	B82432-C1562-K
6,8		1	40	7,96	360	0,78	35	B82432-C1682-K
8,2		1	40	7,96	330	0,92	30	B82432-C1822-K
10		1	40	7,96	320	0,98	28	B82432-C1103-K
12		0,1	30	2,52	300	1,10	24	B82432-C1123-K
15		0,1	30	2,52	280	1,25	21	B82432-C1153-K
18	0,1	30	2,52	270	1,35	18	B82432-C1183-K	
22	0,1	30	2,52	260	1,45	16	B82432-C1223-K	
27	0,1	30	2,52	245	1,65	13	B82432-C1273-K	


**Characteristics and ordering codes (cont'd)**

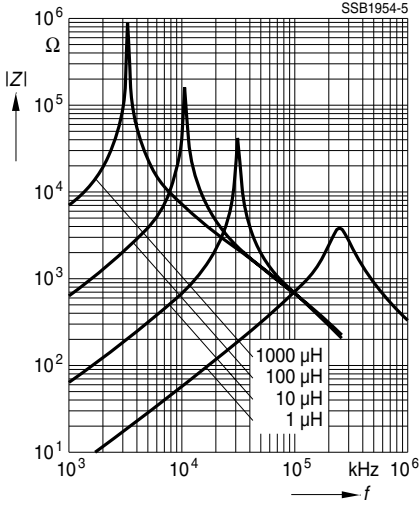
$L_R$ $\mu\text{H}$	Tolerance	$f_L$ MHz	$Q_{\min}$	$f_Q$ MHz	$I_R$ mA	$R_{\max}$ $\Omega$	$f_{\text{res, min}}$ MHz	Ordering code <sup>1)</sup>
33	$\pm 5\%$	0,1	30	2,52	230	1,85	13,0	B82432-C1333-+
39	$\triangleq J$	0,1	30	2,52	220	2,05	12,0	B82432-C1393-+
47	$\pm 10\%$	0,1	30	2,52	210	2,3	12,0	B82432-C1473-+
56	$\triangleq K$	0,1	30	2,52	200	2,5	11,0	B82432-C1563-+
68		0,1	30	2,52	190	2,8	10,0	B82432-C1683-+
82		0,1	30	2,52	175	3,2	9,0	B82432-C1823-+
100		0,1	30	0,796	145	4,7	8,0	B82432-C1104-+
120		0,1	30	0,796	140	5,2	8,0	B82432-C1124-+
150		0,1	30	0,796	130	6,1	7,0	B82432-C1154-+
180		0,1	30	0,796	120	6,9	6,0	B82432-C1184-+
220		0,1	30	0,796	115	7,5	6,0	B82432-C1224-+
270		0,1	30	0,796	90	12,5	5,0	B82432-C1274-+
330		0,1	30	0,796	85	14,1	4,5	B82432-C1334-+
390		0,1	30	0,796	80	15,3	4,2	B82432-C1394-+
470		0,1	30	0,796	75	17,5	4,0	B82432-C1474-+
560		0,1	30	0,796	70	23,0	3,5	B82432-C1564-+
680		0,1	30	0,796	65	25,0	3,3	B82432-C1684-+
820		0,1	30	0,796	60	28,0	3,0	B82432-C1824-+
1000		0,1	30	0,796	55	32,0	2,8	B82432-C1105-+

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

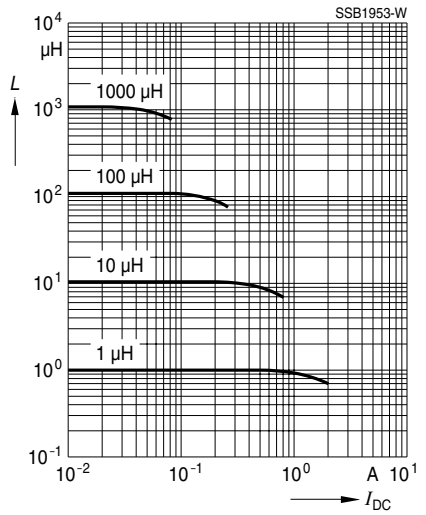
SIMID 1812-C



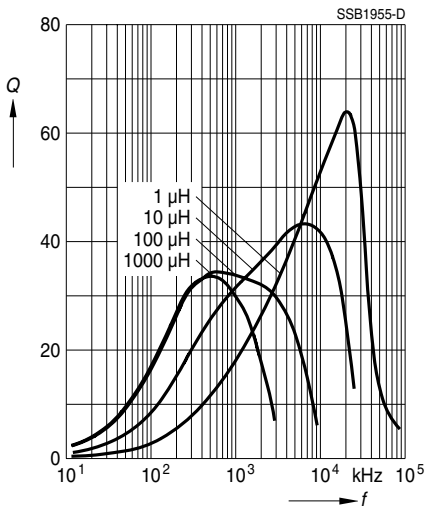
Impedance  $|Z|$   
versus frequency  $f$   
measured with impedance analyzer  
HP 4291A; test fixture 16193A



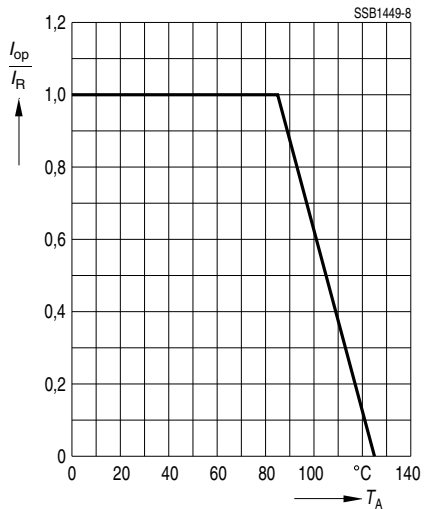
Inductance  $L$   
versus dc load current  $I_{DC}$   
measured with LCR meter  
HP 4275A



Q factor versus frequency  $f$   
measured with impedance analyzer  
HP 4294A; test fixture 16193A



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



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