



SMT Inductors

SIMID 1812-T
B82432-T

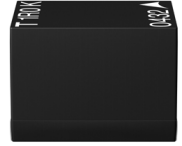
Data Sheet



<http://www.epcos.com>



Size 1812 (EIA) or 4532 (IEC)
Rated inductance 1,0 to 1000 μ H
Rated current 70 to 1300 mA



Construction

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

Features

- High current handling capability
- Suitable for reflow (IR and vapor phase) and wave soldering
- Same measuring frequency for L and Q

Applications

- Filtering of supply voltages, coupling, decoupling
- DC/DC converters
- Automotive electronics (e.g. single-wire CAN)
- Telecommunications

Terminals

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

Marking

Marking on component:

Manufacturer and letter »T«,
 L value (in μ H) 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

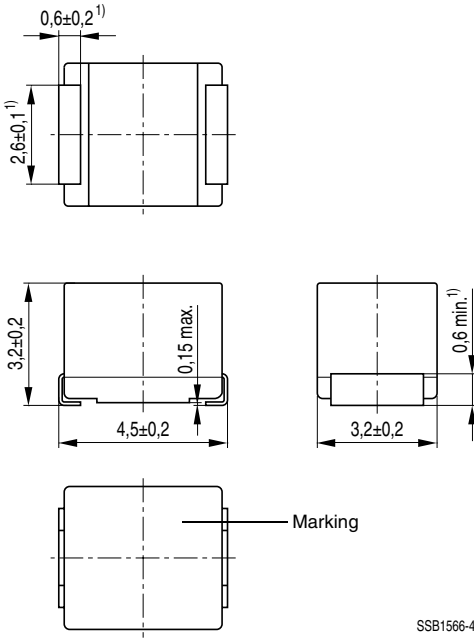
12-mm blister tape, wound on 330-mm \varnothing reel
For details on taping, packing and packing units
see data book "Chokes and Inductors", page 153.


General technical data

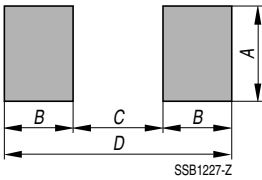
Rated inductance L_R	Measured with impedance analyzer HP 4294A at frequency f_L
Q factor Q_{\min}	Measured with impedance analyzer HP 4294A at frequency f_Q
Rated current I_R	Maximum permissible dc with inductance decrease $\Delta L/L_0 \leq 10\%$ and temperature increase of $\leq 40\text{ K}$ at rated temperature of 85°C
Self-resonance frequency $f_{\text{res, min}}$	Measured with network analyzer HP 8753
DC resistance R_{\max}	Measured at 20°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 ± 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°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

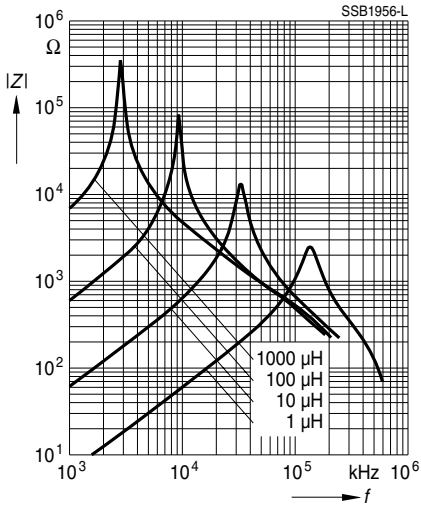
L_R μH	Tolerance	Q_{\min}	$f_L; f_Q$ MHz	I_R mA	R_{\max} Ω	$f_{\text{res, min}}$ MHz	Ordering code
1,0	$\pm 10\%$ $\triangleq K$	10	7,96	1300	0,08	110	B82432-T1102-K
1,2		10	7,96	1200	0,10	100	B82432-T1122-K
1,5		10	7,96	1150	0,11	80	B82432-T1152-K
1,8		10	7,96	1050	0,13	70	B82432-T1182-K
2,2		10	7,96	1000	0,15	60	B82432-T1222-K
2,7		10	7,96	950	0,17	55	B82432-T1272-K
3,3		10	7,96	900	0,19	50	B82432-T1332-K
3,9		10	7,96	850	0,20	45	B82432-T1392-K
4,7		10	7,96	800	0,22	40	B82432-T1472-K
5,6		10	7,96	750	0,26	38	B82432-T1562-K
6,8		10	7,96	700	0,30	36	B82432-T1682-K
8,2		10	7,96	670	0,33	30	B82432-T1822-K
10		10	2,52	650	0,35	25	B82432-T1103-K
12		10	2,52	630	0,45	23	B82432-T1123-K
15		10	2,52	600	0,50	20	B82432-T1153-K
18	10	2,52	550	0,60	18	B82432-T1183-K	
22	10	2,52	450	0,70	15	B82432-T1223-K	
27	10	2,52	430	1,00	14	B82432-T1273-K	
33	10	2,52	400	1,20	13	B82432-T1333-K	
39	10	2,52	380	1,30	12	B82432-T1393-K	
47	10	2,52	350	1,35	11	B82432-T1473-K	
56	10	2,52	300	2,00	10	B82432-T1563-K	
68	10	2,52	250	2,50	8,0	B82432-T1683-K	
82	10	2,52	220	3,00	7,0	B82432-T1823-K	
100	20	0,796	200	3,50	6,5	B82432-T1104-K	
120	20	0,796	180	4,50	6,3	B82432-T1124-K	
150	20	0,796	160	6,00	6,1	B82432-T1154-K	


Characteristics and ordering codes (cont'd)

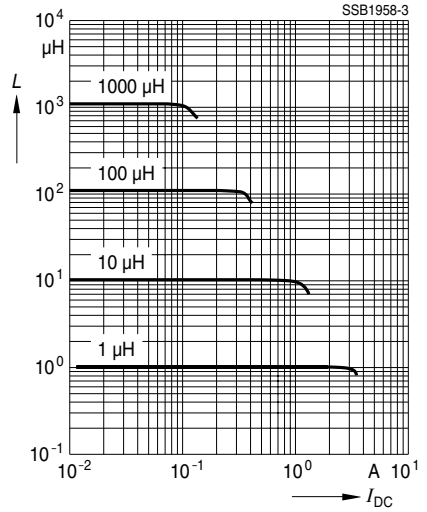
L_R μH	Tolerance	Q_{\min}	$f_L; f_Q$ MHz	I_R mA	R_{\max} Ω	$f_{\text{res, min}}$ MHz	Ordering code
180	$\pm 10\%$ $\triangleq K$	20	0,796	140	7,00	5,5	B82432-T1184-K
220		20	0,796	130	7,50	4,5	B82432-T1224-K
270		20	0,796	120	10,5	4,3	B82432-T1274-K
330		20	0,796	120	11,0	4,1	B82432-T1334-K
390		20	0,796	110	13,0	3,9	B82432-T1394-K
470		20	0,796	100	15,0	3,5	B82432-T1474-K
560		20	0,796	90	20,0	3,0	B82432-T1564-K
680		20	0,796	80	23,0	2,6	B82432-T1684-K
820		20	0,796	80	27,0	2,4	B82432-T1824-K
1000		20	0,252	70	30,0	2,3	B82432-T1105-K



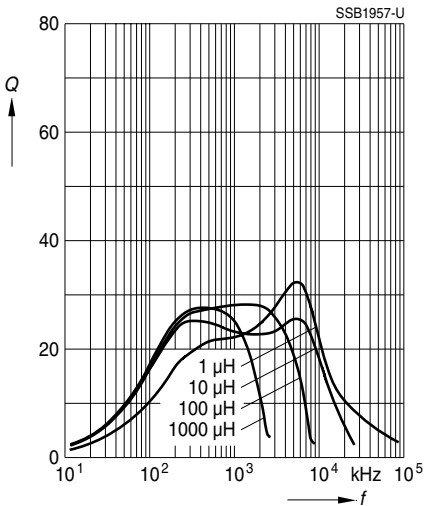
Impedance $|Z|$
versus frequency f
measured with impedance analyzer
HP 4291A; test fixture 16193A



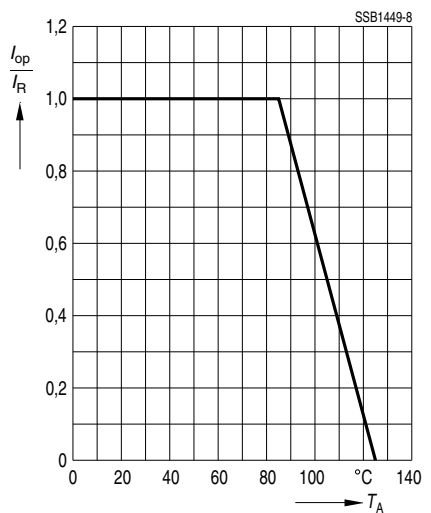
Inductance L
versus dc load current I_{DC}
measured with LCR meter
HP 4275A



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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