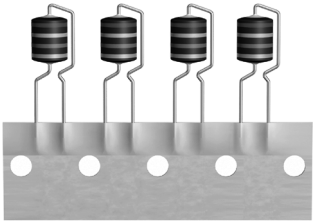
Chokes and inductors

For high frequency and EMC
RF chokes, LBC series, radial

Series/Type: **B82144B**
Date: November 2005

LBC choke, radial leaded
Rated current 20 to 2500 mA
Rated inductance 1 to 100 000 µH



Construction

- Large ferrite drum core
- Winding: enamel copper wire
- Flame-retardant lacquer coating

Features

- Very wide inductance range
- High rated current
- Axial leads on request (B82144F)
- RoHS-compatible (see page 5)

Applications

- RF blocking and filtering
- Decoupling and interference suppression
- For telecommunications, automotive electronics, energy-saving lamps, entertainment electronics

Terminals

- Radially bent to 5 mm lead spacing, lead-free tinned

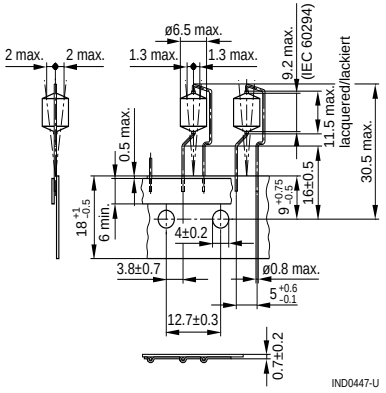
Marking

Inductance indicated by color bands in accordance with IEC 60062

Delivery mode

Taped and reeled (packing see page 7)

Dimensional drawing



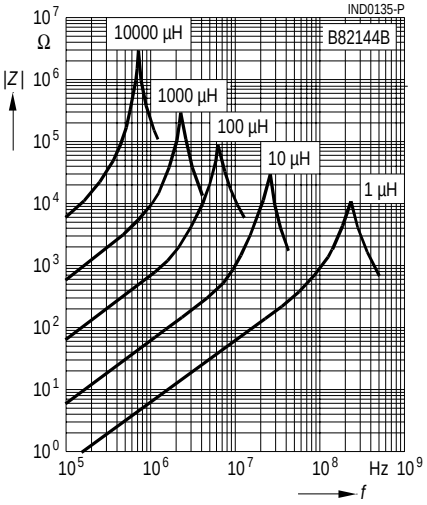
Characteristics and ordering codes

For further technical data see page 5.

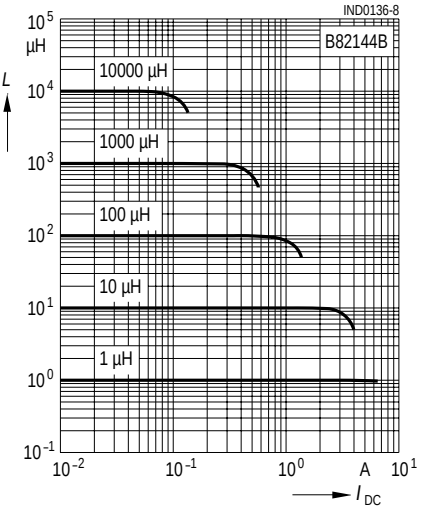
L_R µH	Tolerance[1)]	Q_{min}	f_Q MHz	I_R mA	R_{max} Ω	$f_{res, min}$ MHz	Ordering code
1.0	± 10 %	25	7.96	2500	0.06	200	B82144B1102K000
1.5	≙ K	25	7.96	2300	0.07	180	B82144B1152K000
2.2		25	7.96	2100	0.09	140	B82144B1222K000
3.3		25	7.96	1950	0.10	120	B82144B1332K000
4.7		25	7.96	1800	0.12	100	B82144B1472K000
6.8		25	7.96	1600	0.15	60	B82144B1682K000
10		60	2.52	1500	0.18	24	B82144B1103K000
15		60	2.52	1400	0.22	17	B82144B1153K000
22		50	2.52	1250	0.28	12	B82144B1223K000
33	± 5 %	40	2.52	1100	0.35	8.0	B82144B1333J000
47	≙ J	40	2.52	900	0.41	7.0	B82144B1473J000
68		30	2.52	800	0.52	6.2	B82144B1683J000
100		40	0.796	760	0.70	5.2	B82144B1104J000
150		40	0.796	670	0.90	4.5	B82144B1154J000
220		40	0.796	550	1.30	3.8	B82144B1224J000
330		30	0.796	500	1.70	3.2	B82144B1334J000
470		30	0.796	400	2.20	2.9	B82144B1474J000
680		20	0.796	340	3.10	2.6	B82144B1684J000
1000		60	0.252	280	4.20	2.2	B82144B1105J000
1500		60	0.252	230	6.40	1.9	B82144B1155J000
2200		60	0.252	180	9.50	1.5	B82144B1225J000
3300		60	0.252	150	13.8	1.3	B82144B1335J000
4700		60	0.252	120	21.0	1.1	B82144B1475J000
6800		60	0.252	100	30.0	0.9	B82144B1685J000
10000		50	0.0796	85	42.0	0.75	B82144B1106J000
15000		50	0.0796	50	75.0	0.50	B82144B1156J000
22000		50	0.0796	40	120	0.40	B82144B1226J000
33000		50	0.0796	35	150	0.30	B82144B1336J000
47000		40	0.0796	30	230	0.26	B82144B1476J000
68000		40	0.0796	25	290	0.20	B82144B1686J000
100000		40	0.0796	20	440	0.18	B82144B1107J000

1) Closer tolerances upon request.

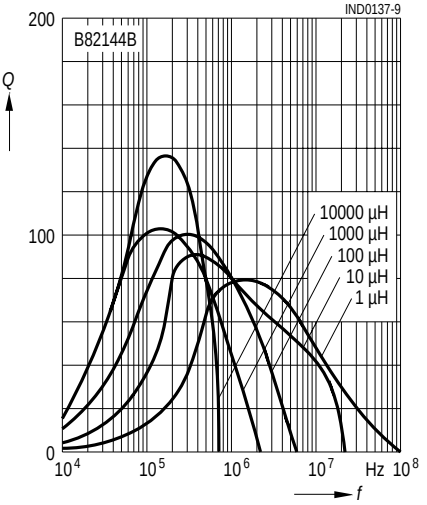
Impedance |Z|
versus frequency f
measured with impedance analyzer
HP 4191A / HP 4194A



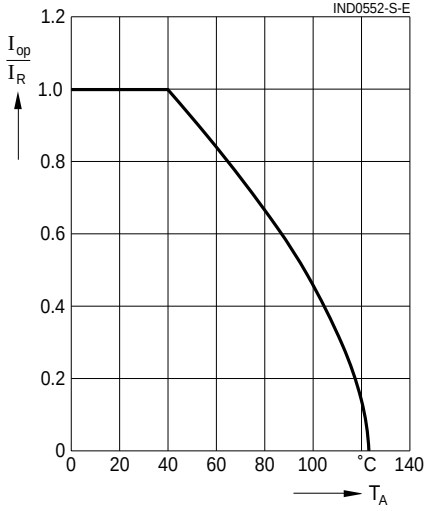
Inductance L
versus DC load current I_{DC}
measured with LCR meter
HP 4275A



Q factor
versus frequency f
measured with impedance analyzer
HP 4194A



Current derating I_{op}/I_R
versus ambient temperature T_A
(rated temperature T_R = 40 °C)



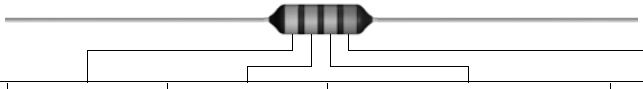
General technical data

Rated inductance L_R	Measuring frequency: L ≤ 10 µH = 1 MHz 10 µH < L ≤ 4700 µH = 100 kHz L > 4700 µH = 10 kHz Measuring current: ≤ 1 mA Distance between measuring clamps: 25.4 mm
Q factor Q_{min}	Measured with HP 4342A
Rated current I_R	Maximum permissible DC current referred to 40 °C ambient temperature, for derating see below
Inductance decrease $\Delta L/L_0$	≤10% (referred to initial value) at I_R at 20 °C ambient temperature
DC resistance R_{max}	Measured at 20 °C ambient temperature, distance between measuring clamps: 25.4 mm
Resonance frequency $f_{res, min}$	Measured with Scalar Network Analyzer ZAS from Rohde & Schwarz
Climatic category	55/125/56 (–55 °C/+125 °C/56 days damp heat test) to IEC 60068-1
Solderability	235 °C, 2 s, ≥90% wetting to IEC 60068-2–20, test Ta
Resistance to soldering heat	To IEC 60068-2-20, test Tb 260 °C, 10 s
Tensile strength of leads	To IEC 60068-2-21, test Ua ≥20 N
RoHS-compatible	RoHS-compatible is defined as compatible with the following documents: DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 February 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment COM (2004) 606 final Proposal for a COUNCIL DECISION amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment.
⚠ Mounting information	When bending the leads, take care that the start-of-winding areas at the face ends (protected by glue and lacquer) are not subjected to any mechanical stress.

Color coding of the inductance value

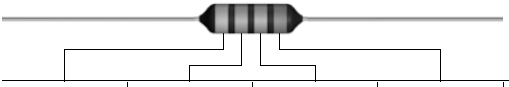
The inductance value and tolerance are encoded by means of colored bands in accordance with IEC 60062. The basic unit is µH.

1st band 1st digit of inductance value
2nd band 2nd digit of inductance value
3rd band multiplier, i.e. the power of ten, by which the first two digits have to be multiplied.
4th band tolerance of the inductance value.



Color code	1st band = 1st digit	2nd band = 2nd digit	3rd band = multiplier	4th band = tolerance
Colorless	—	—	—	± 20 % (M)
Silver	—	—	× 10^{-2} µH = 0.01 µH	± 10 % (K)
Gold	—	—	× 10^{-1} µH = 0.1 µH	± 5 % (J)
Black	—	0	× 10^{0} µH = 1 µH	—
Brown	1	1	× 10^{1} µH = 10 µH	
Red	2	2	× 10^{2} µH = 100 µH	± 2 % (G)
Orange	3	3	× 10^{3} µH = 1000 µH	
Yellow	4	4	× 10^{4} µH = 10000 µH	
Green	5	5	× 10^{5} µH = 100000 µH	Special designs manufactured to customer specifications are identified by a white tolerance band.
Blue	6	6		
Violet	7	7		
Grey	8	8		
White	9	9		

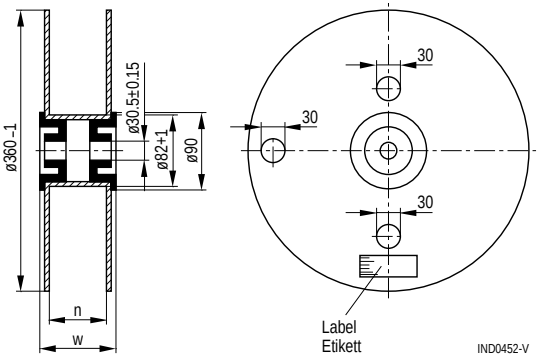
Examples:



1st band	2nd band	3rd band	4th band	Decoding
Yellow 4	Violet 7	Gold × 0.1 µH	Silver ± 10 %	= 47 × 0.1 µH ± 10 % = 4.7 µH ± 10 %
Brown 1	Green 5	Red × 100 µH	Gold ± 5 %	= 15 × 100 µH ± 5 % = 1500 µH ± 5 %

Packing

Reel packing



	Axial
n (mm)	72 +1
w (mm)	84 max.

Packing unit: 1250 pcs./reel

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