



Inductors

VHF chokes

Series/Type: B82111E
Date: March 2008

Rated voltage 500 V AC/DC
Rated current 0.1 A to 6 A
Rated inductance 7 μ H to 1200 μ H



Construction

- Ferrite cylinder core
- Winding: single-layer, enamel copper wire
- Polyester insulating sleeve

Features

- High resonant frequency
- Wide inductance range
- Design complies with EN 60938
- Suitable for wave soldering
- RoHS-compatible

Applications

- RF blocking and filtering
- Interference suppression in small appliances
- Decoupling in telecommunications and entertainment electronics

Terminals

- Central axial leads
- Base material Cu
- Hot-dip tinned with pure tin

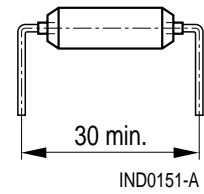
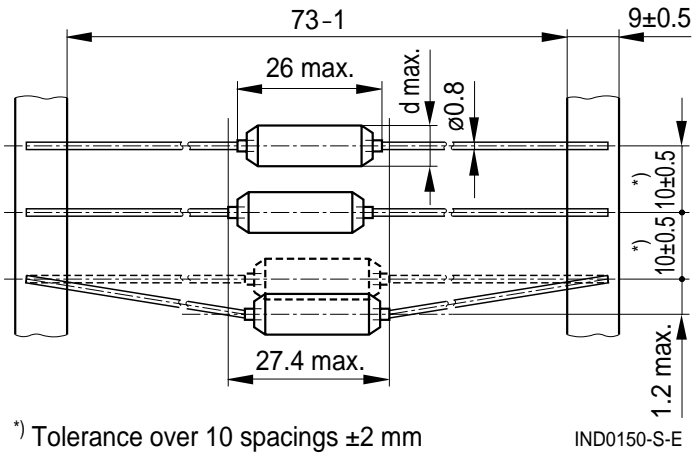
Marking

L_R and I_R in clear text

Delivery mode and packing unit

- Taped and reeled
- Packing unit: 1000 pcs./reel

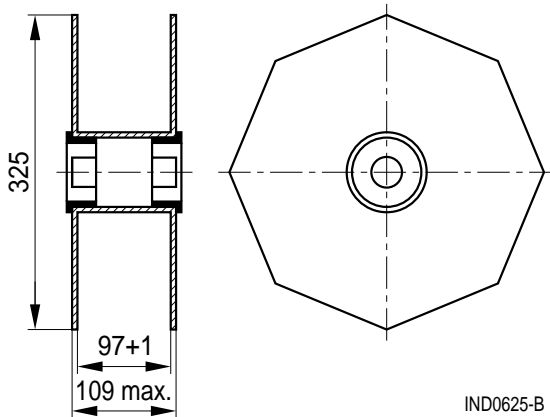
Dimensional drawing



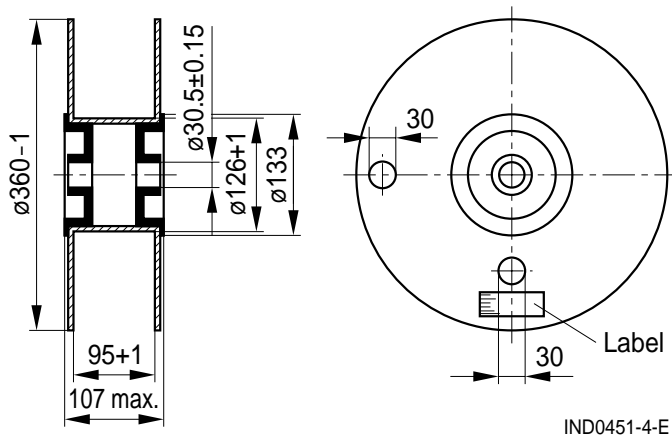
Dimensions in mm

Reel packing

B82111E*C020, C029



B82111E*C021 ... C028



Dimensions in mm

Technical data and measuring conditions

Test voltage V_{test}	2500 V AC, 1 min
Rated inductance L_R	Measured with LCR meter Agilent 4284A or impedance analyzer Agilent 4294A Measuring frequency: $L_R \leq 10 \mu\text{H}$ = 1 MHz $10 \mu\text{H} < L_R \leq 1000 \mu\text{H}$ = 100 kHz $L_R > 1000 \mu\text{H}$ = 10 kHz Measuring voltage: 1 V Measuring temperature: 20 °C
Inductance tolerance	$\pm 20\%$
Rated temperature T_R	60 °C
Rated current I_R	Maximum permissible DC current at rated temperature
DC resistance R_{typ}	Measured at 20 °C, tolerance $\pm 20\%$, typical values
Resonance frequency f_{res}	Measured with Agilent 4294A or 8753ES, 20 °C, tolerance $\pm 30\%$
Solderability (lead-free)	Sn95.5Ag3.8Cu0.7: (245 \pm 5) °C, (3 \pm 0.3) s Wetting of soldering area $\geq 90\%$ (to IEC 60068-2-20, tst Ta)
Resistance to soldering heat (wave soldering)	(260 \pm 5) °C, 10 s (to IEC 60068-2-20, test Tb)
Tensile strength of leads	≥ 30 N (to IEC 60068-2-21, test Ua)
Climatic category	55/125/56 (to IEC 60068-1)
Storage conditions	Mounted: -55 °C ... +125 °C Packaged: -25 °C ... +40 °C, $\leq 75\%$ RH

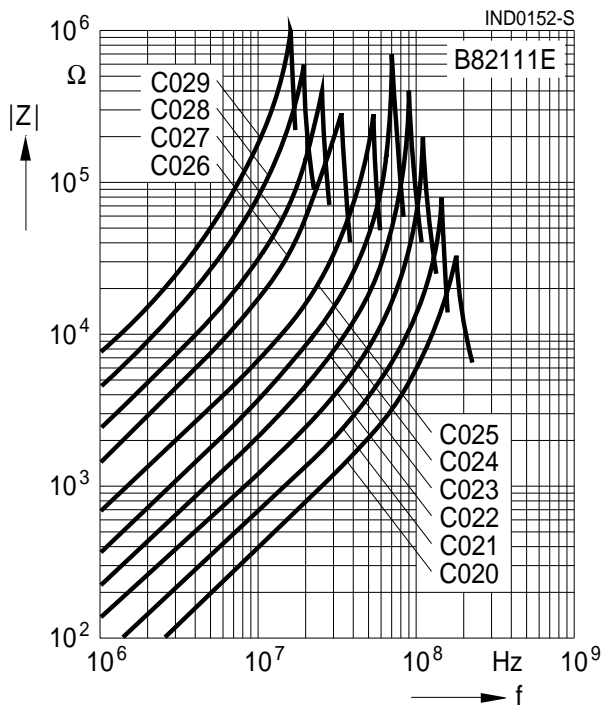
 Mounting information

When bending the leads, take care that the bending point is **at least 3 mm** apart from the face ends of the core and that the start-of-winding areas are not subjected to any mechanical stress.

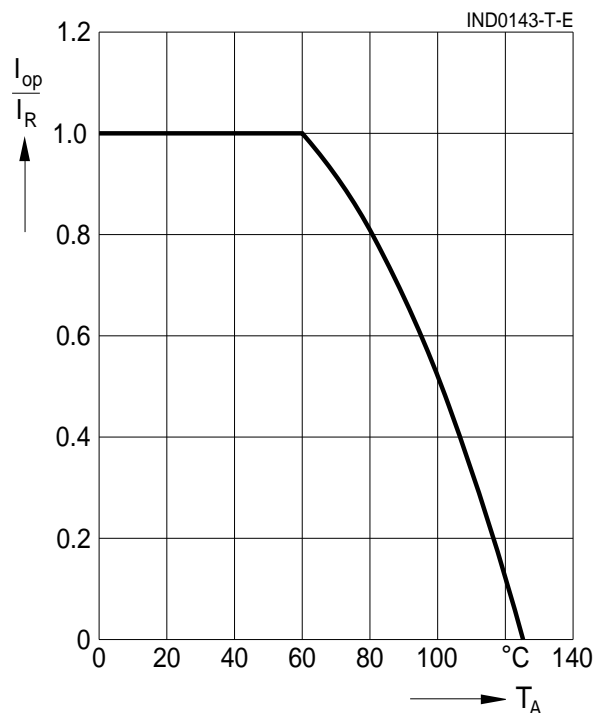
Characteristics and ordering codes

I_R	L_R	R_{typ}	f_{res}	Approx. weight	Dimensions	Ordering code
A	μH	Ω	MHz	g	d_{max} mm	
0.1	1200	34	16	2.2	6.0	B82111E0000C029
0.2	680	14	19	2.2	6.0	B82111E0000C028
0.3	470	6.5	25	2.3	6.0	B82111E0000C027
0.5	220	2.6	32	2.3	6.5	B82111E0000C026
1	100	0.65	55	2.5	6.5	B82111E0000C025
1.5	56	0.30	70	2.7	6.5	B82111E0000C024
2	40	0.18	90	3.0	7.0	B82111E0000C023
3	22	0.07	110	3.3	7.0	B82111E0000C022
4	12	0.04	140	3.5	7.5	B82111E0000C021
6	7	0.02	180	3.6	7.5	B82111E0000C020

Impedance $|Z|$ versus frequency f
 measured with impedance analyzer Agilent 4294A or S-parameter network analyzer Agilent 8753ES, typical values at 20 °C



Current derating I_{op}/I_R versus ambient temperature T_A
 (rated temperature $T_R = 60$ °C)



Cautions and warnings

- Please note the recommendations in our Inductors data book (latest edition) and in the data sheets.
 - Particular attention should be paid to the derating curves given there.
 - The soldering conditions should also be observed. Temperatures quoted in relation to wave soldering refer to the pin, not the housing.
- If the components are to be washed varnished it is necessary to check whether the washing varnish agent that is used has a negative effect on the wire insulation, any plastics that are used, or on glued joints. In particular, it is possible for washing varnish agent residues to have a negative effect in the long-term on wire insulation.
- The following points must be observed if the components are potted in customer applications:
 - Many potting materials shrink as they harden. They therefore exert a pressure on the plastic housing or core. This pressure can have a deleterious effect on electrical properties, and in extreme cases can damage the core or plastic housing mechanically.
 - It is necessary to check whether the potting material used attacks or destroys the wire insulation, plastics or glue.
 - The effect of the potting material can change the high-frequency behaviour of the components.
- Ferrites are sensitive to direct impact. This can cause the core material to flake, or lead to breakage of the core.
- Even for customer-specific products, conclusive validation of the component in the circuit can only be carried out by the customer.

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The following applies to all products named in this publication:

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