Power line chokes

Current-compensated frame core double chokes
250 V AC, 0.45 … 1.6 A, 10 … 100 mH

Series/Type: **B82732F**

Date: March 2008

Rated voltage 250 V AC
Rated current 0.45 A to 1.6 A
Rated inductance 10 mH to 100 mH

Construction

- Current-compensated double choke
- Closed magnetic circuit with frame construction
- 4-section winding with direct winding of the core
- Optional magnetic bypass to increase stray inductance
- Height 14 mm
- Clearance and creepage distances >3 mm

Features

- High inductance with low resistance
- Excellent differential-mode suppression
- High pulse-handling capability
- Industry best inductance/rated current ratio
- Suitable for wave soldering
- Design complies with EN 60938-2 (VDE 0565-2)
- VDE and UL approval (pending)
- RoHS-compatible

Applications

- Electronic ballasts for lamps
- High power switch-mode power supplies for consumer electronics

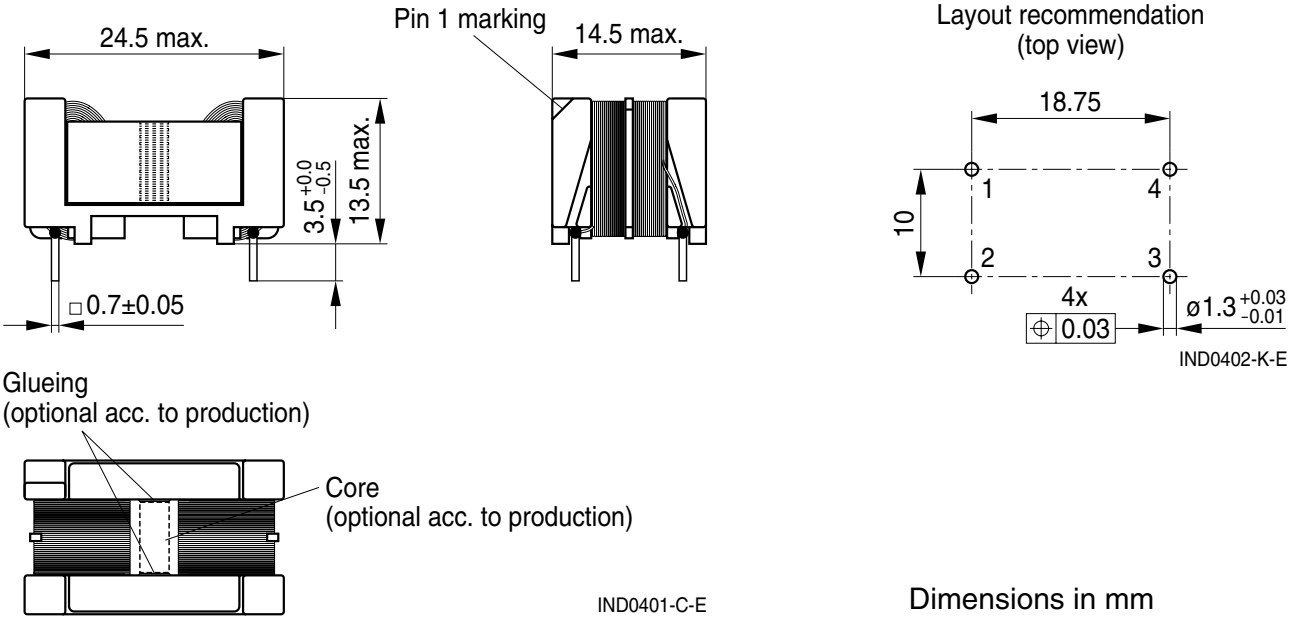
Terminals

- Lead-free
- Pins 0.7 × 0.7 (mm)
- Pins in the lead spacing 10 × 18.75 (mm)

Marking

Manufacturer, date of manufacture (YYWW), production place, rated inductance, rated current, ordering code, pin 1 marking

Dimensional drawing and layout recommendation



Dimensions in mm

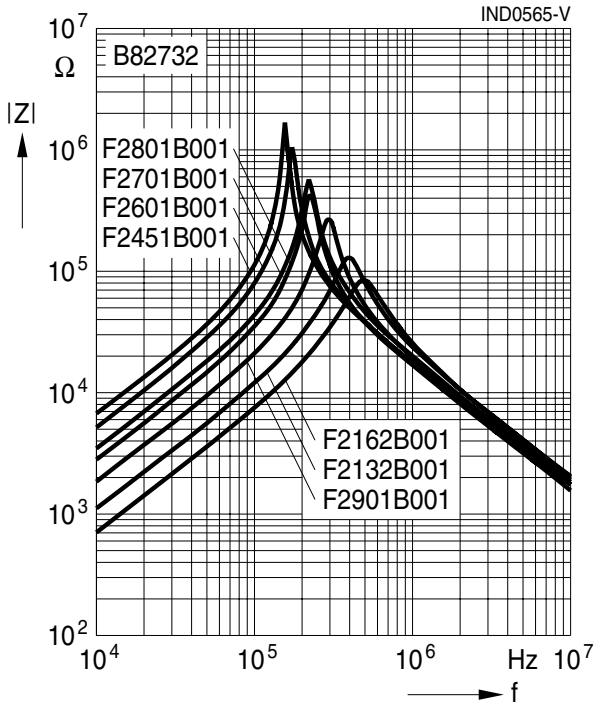
Technical data and measuring conditions

Rated voltage V_R	250 V AC (50/60 Hz)
Test voltage V_{test}	1500 V AC, 2 s (line/line)
Rated temperature T_R	40 °C
Rated current I_R	Referred to 50 Hz and rated temperature
Rated inductance L_R	Measured with Agilent 4284A at 10 kHz, 0.1 mA, 20 °C Inductance is specified per winding.
Inductance tolerance	+30/–50% at 20 °C
Inductance decrease $\Delta L/L_0$	< 10% at DC magnetic bias with I_R, 20 °C
Stray inductance $L_{stray,typ}$	Measured with Agilent 4284A at 10 kHz, 5 mA, 20 °C, typical values
DC resistance R_{typ}	Measured at 20 °C, typical values, specified per winding
Solderability (lead-free)	Sn96.5Ag3.0Cu0.5: (245 ±5) °C, (3 ±0.3) s Wetting of soldering area ≥ 95% (to IEC 60068-2-20, test Ta)
Resistance to soldering heat (wave soldering)	(260 ±5) °C, (10 ±1) s (to IEC 60068-2-20, test Tb)
Climatic category	40/125/56 (to IEC 60068-1)
Storage conditions (packaged)	–25 °C … +40 °C, ≤ 75% RH
Weight	Approx. 18 g
Approvals	EN 60938-2, UL 1283

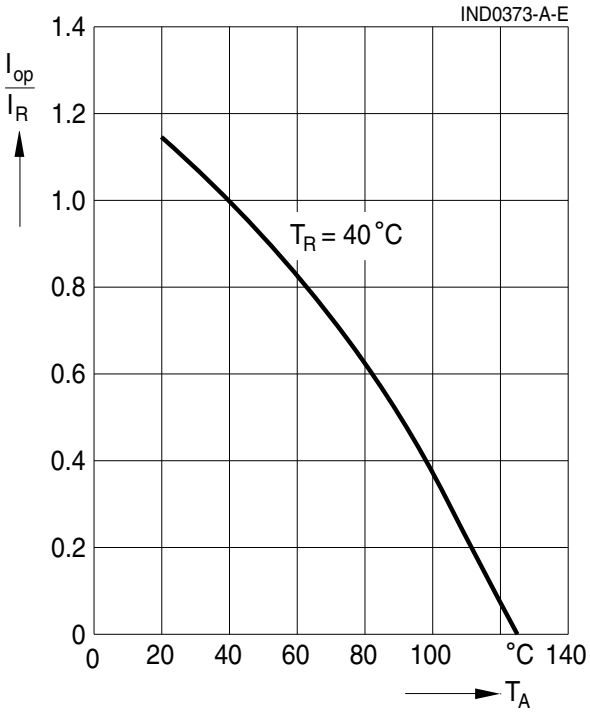
Characteristics and ordering codes

I_R A	L_R mH	$L_{stray,typ}$ µH	R_{typ} mΩ	Ordering code	Approvals	
0.45	100	1930	2930	B82732F2451B001	pending	pending
0.6	68	1340	1970	B82732F2601B001		
0.7	47	920	1260	B82732F2701B001		
0.8	39	760	1100	B82732F2801B001		
0.9	27	520	770	B82732F2901B001		
1.3	15	290	430	B82732F2132B001		
1.6	10	200	290	B82732F2162B001		

Impedance |Z| versus freuency f
measured with windings in parallel at 20 °C
typical values



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



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.

Important notes

The following applies to all products named in this publication:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application.**

   As a rule, EPCOS is either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether an EPCOS product with the properties described in the product specification is suitable for use in a particular customer application.

2. We also point out that **in individual cases, a malfunction of passive electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified.** In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of a passive electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of a passive electronic component.

3. **The warnings, cautions and product-specific notes must be observed**.

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