Power line chokes

Ring core chokes wi

Rated voltage 250 V AC / 350 V DC
Rated current 1 ... 5 A
Rated inductance 0.25 ... 5.0 mH

Construction

- Ring core double choke
- Iron powder core with epoxy coating
- Polycarbonate case (UL 94 V-0)
- Polyurethane potting (UL 94 V-0)
- Sector winding

Features

- High suppression of differential-mode interferences at low frequencies
- High thermal stability due to complete potting
- Suitable for wave soldering
- Design complies with EN 60938-2 (VDE 0565-2)
- ENEC (VDE) approval
- RoHS-compatible

Applications

- Suppression of differential-mode interferences
- Filter circuits in switch-mode applications
- Power factor correction (PFC)
- Reduction of harmonics in consumer goods

Terminals

- Base material CuNi18Zn20
- Layer composition Ni, Sn
- Hot-dipped
- Pins 1.0 × 1.0 (mm)
- Lead spacing 15 × 40 (mm)

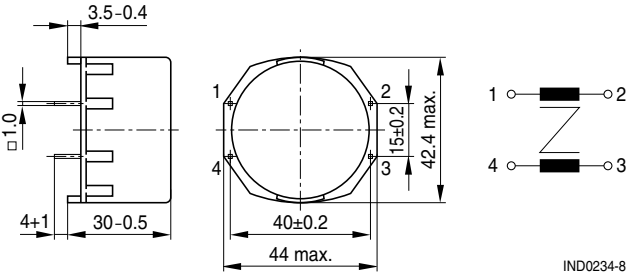
Marking

Manufacturer, approval sign and VDE standard number, ordering code, rated current, rated voltage, graphic symbols, rated inductance, date of manufacture (YYWWD.internal ID code)

Delivery mode

Blister tray in cardboard box

Dimensional drawing and pin configuration



Tolerances to ISO 2768-C unless otherwise noted.
Dimensions in mm.

Technical data and measuring conditions

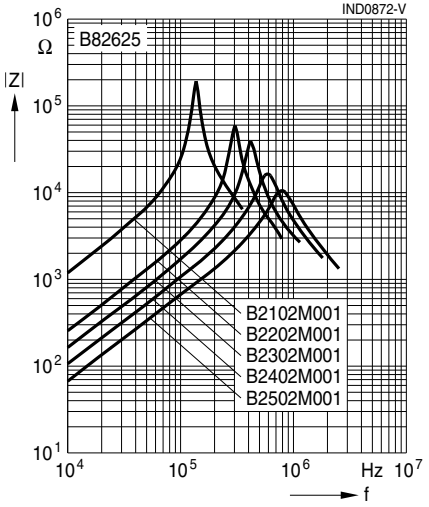
Rated voltage V_R	250 V AC (50/60 Hz) / 350 V DC
Test voltage V_{test}	1500 V AC, 2 s (line/line)
Rated temperature T_R	+40 °C
Rated current I_R	Referred to 50 Hz and rated temperature
Rated inductance L_R	Defined at zero DC current bias Measured with Agilent 4284A at 0.1 mA, +20 °C Measuring frequency: $L_R \leq 1$ mH = 100 kHz $L_R > 1$ mH = 10 kHz Inductance is specified per winding.
Inductance tolerance	±20% at +20 °C
Inductance at rated current	Measured at DC magnetic bias with I_R with Agilent 4284A at 0.1 mA, +20 °C, typical values Measuring frequency: $L_R \leq 1$ mH = 100 kHz $L_R > 1$ mH = 10 kHz
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. 120 g
Approval	EN 60938-2

Characteristics and ordering codes

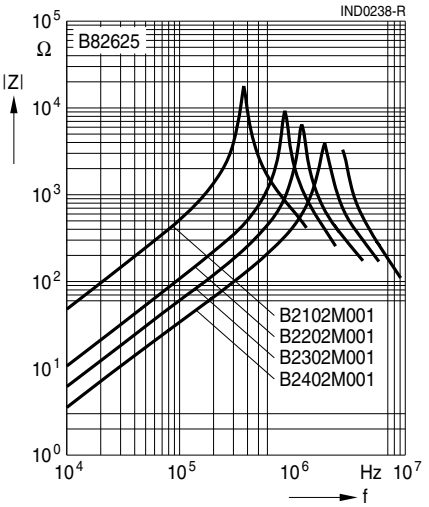
I_R A	L_R mH	L at I_R, typ. mH	R_{typ} Ω	Ordering code	Approvals
1	5.0	2.92	1.45	B82625B2102M001	×
2	1.2	0.67	0.42	B82625B2202M001	×
3	0.7	0.37	0.21	B82625B2302M001	×
4	0.4	0.25	0.12	B82625B2402M001	×
5	0.25	0.15	0.072	B82625B2502M001	×

× = approval granted

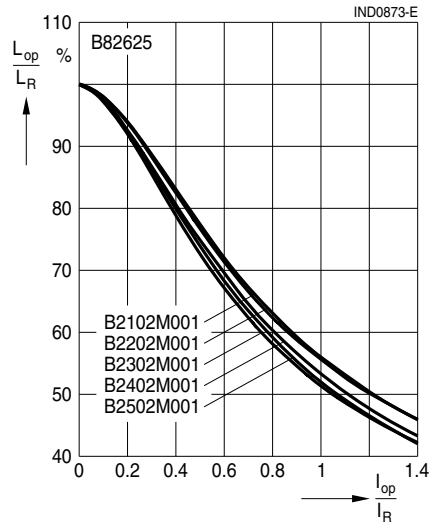
Impedance |Z| versus frequency f (differential-mode) measured with windings in series at +20 °C, typical values



Impedance |Z| versus frequency f (common-mode) measured with windings in parallel at +20 °C, typical values



Relative inductance L_{op}/L_R versus relative current I_{op}/I_R measured at +20 °C, typical values



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

- 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. Derating must be applied in case the ambient temperature in the application exceeds the rated temperature of the component.
  - Ensure the operation temperature (which is the sum of the ambient temperature and the temperature rise caused by losses / self-heating) of the component in the application does not exceed the maximum value specified in the climatic category.
  - 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.
  Washing processes may damage the product due to the possible static or cyclic mechanical loads (e.g. ultrasonic cleaning). They may cause cracks to develop on the product and its parts, which might lead to reduced reliability or lifetime.
- 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:

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 we are 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 a product with the properties described in the product specification is suitable for use in a particular customer application.
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