



Power line chokes

Ring core chokes with iron powder core
250 V AC, 1 ... 6 A, 0.7 ... 20 mH

Series/Type: B82615

Date: March 2008

Ring core chokes with iron powder core

Rated voltage 250 V AC/350 V DC

Rated current 1 A to 6 A

Rated inductance 0.7 mH to 20 mH



Construction

- Ring core single choke
- Iron powder core
- Polycarbonate case (UL 94 V-0)
- Polyurethane potting (UL 94 V-0)
- Multilayer 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)
- RoHS-compatible

Applications

- Suppression of differential-mode interferences
- Output filter in switch-mode applications
- Power factor correction (PFC)
- Reduction of harmonics in consumer and white goods

Terminals

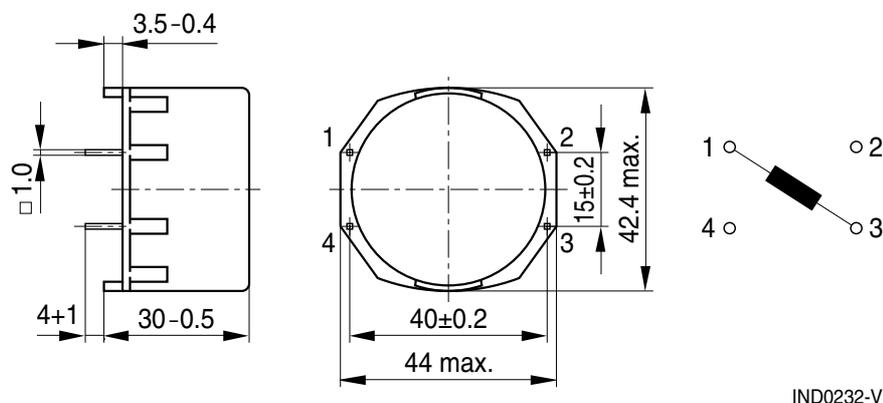
- Base material CuNi18Zn20
- Layer composition Ni, Sn
- Hot-dipped
- Pins 1.0 × 1.0 (mm)
- Lead spacing 15 × 40 (mm)

Marking

Manufacturer, ordering code, rated current, rated inductance, rated voltage, date of manufacture (YYWWD)

Delivery mode

Blister tray in cardboard box

Dimensional drawing and pin configuration


IND0232-V

Dimensions in mm

Technical data and measuring conditions

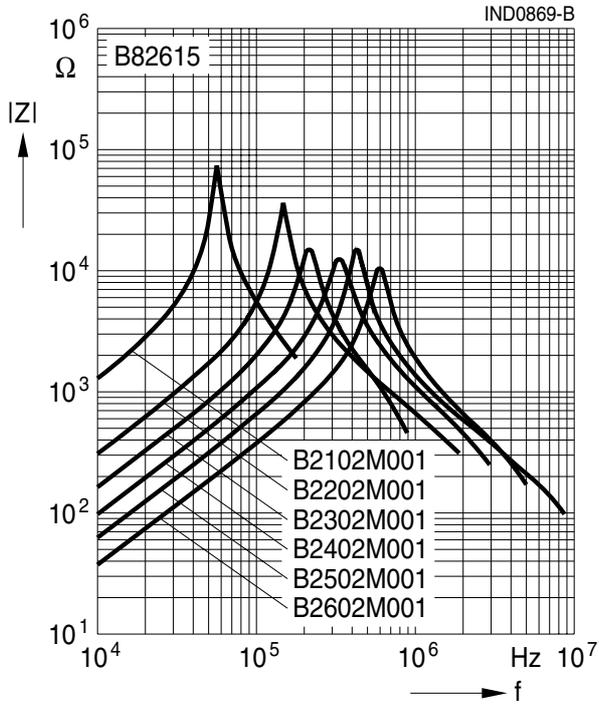
| | |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated voltage V_R | 250 V AC (50/60 Hz) / 350 V DC |
| Rated temperature T_R | 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 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 |
| 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. 115 g |

Characteristics and ordering codes

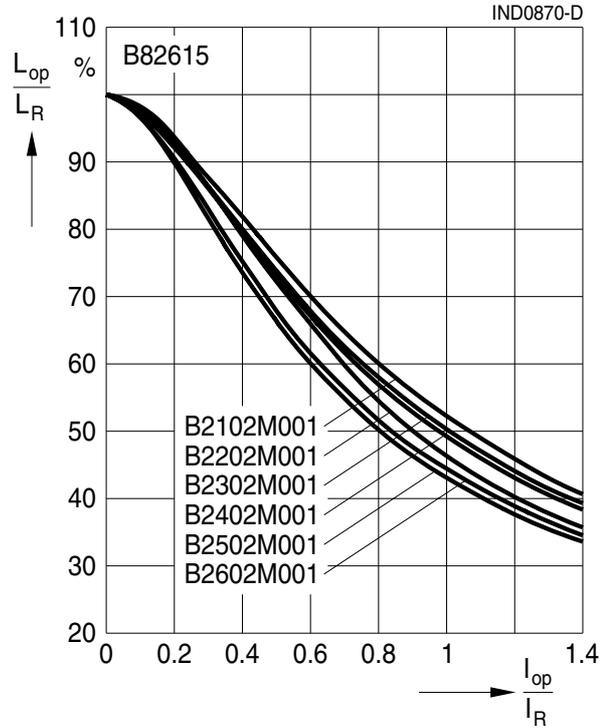
| I_R A | L_R mH | L at I_R , typ. mH | R_{typ} Ω | Ordering code |
|------------|-------------|-------------------------|-----------------------|-----------------|
| 1 | 20 | 11 | 3.0 | B82615B2102M001 |
| 2 | 5.0 | 2.3 | 0.90 | B82615B2202M001 |
| 3 | 2.5 | 1.3 | 0.40 | B82615B2302M001 |
| 4 | 1.5 | 0.76 | 0.22 | B82615B2402M001 |
| 5 | 1.0 | 0.41 | 0.15 | B82615B2502M001 |
| 6 | 0.7 | 0.28 | 0.10 | B82615B2602M001 |

Ring core chokes with iron powder core

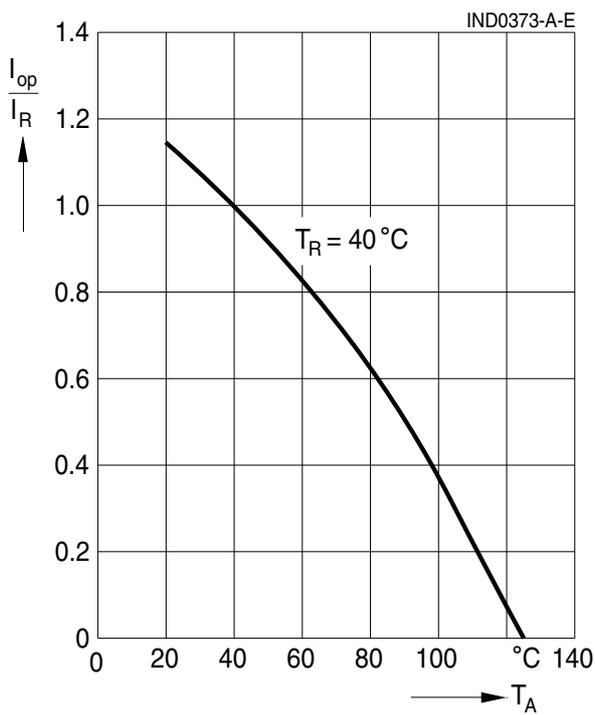
Impedance $|Z|$ versus frequency f
measured at 20 °C, typical values



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



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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