Power line chokes

I core chokes
500 V AC, 0.2 … 2 A, 0.68 … 82 mH

Series/Type: **B82502W**

Date: July 2012

Rated voltage 500 V AC/600 V DC
Rated current 0.2 ... 2 A
Rated inductance 0.68 ... 82 mH

Construction

- I core choke
- Ferrite core
- Rectangular plastic case
- Resin potting

Features

- Low power dissipation
- Suppression of broadband interference
- Compact design
- Suitable for wave soldering
- Design complies with EN 60938-2 (VDE 0565-2)
- RoHS-compatible

Applications

- Suppression of symmetrical and asymmetrical interference
- High-performance power supplies
- Industrial applications

Terminals

- 4 solder pins
- Base material CuNi18Zn20
- Layer composition Ni, Sn

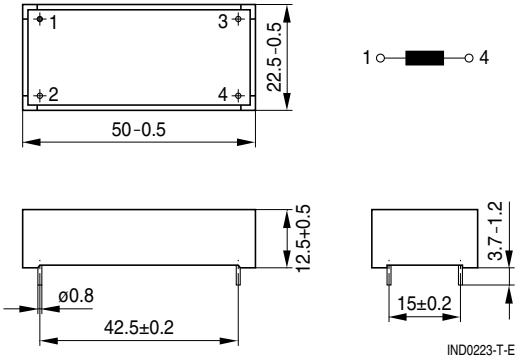
Marking

Manufacturer, ordering code, rated inductance, rated voltage, rated current, date of manufacture (MM.YY)

Delivery mode

Cardboard box

Dimensional drawing and pin configuration



Tolerances to ISO 2768-C unless otherwise noted.

Dimensions in mm

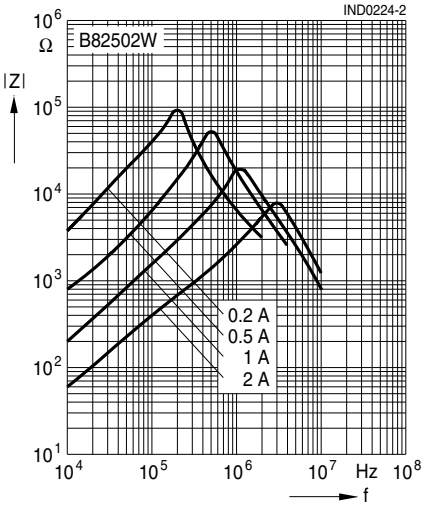
Technical data and measuring conditions

Rated voltage V_R	500 V AC (50/60 Hz) / 600 V DC During operation between winding and metal parts (VDE 0565-2).
Test voltage V_{test}	2800 V AC, 2 s (winding/core) 2800 V AC, 2 s (winding/case)
Rated temperature T_R	+60 °C
Rated current I_R	Referred to 50 Hz and rated temperature
Permissible operating current at 400 Hz	$0.75 \cdot I_R$
Rated inductance L_R	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
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)
Storage conditions (packaged)	–25 °C … +40 °C, ≤ 75% RH
Climatic category	40/125/56 (to IEC 60068-1)
Weight	Approx. 40 g

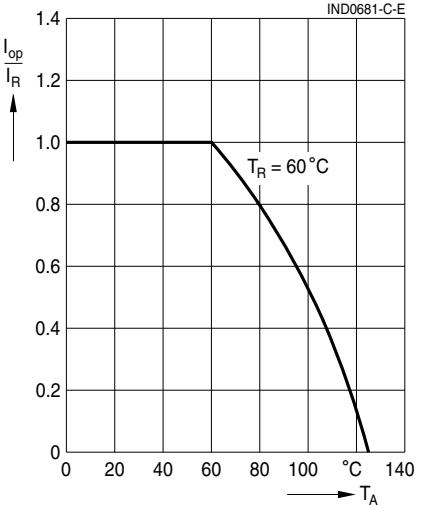
Characteristics and ordering codes

I_R A	L_R mH	R_{typ} Ω	Ordering code
0.2	82	45	B82502W0000C002
0.5	15	8.5	B82502W0000C005
1	3.3	1.9	B82502W0000C008
2	0.68	0.55	B82502W0000C010

Impedance |Z| versus frequency f
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. 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.

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 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 an 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 an electronic component.

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