



## Power line chokes

I core chokes

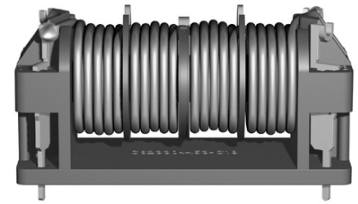
400 V AC, 0.5 and 15 A, 0.025 ... 47 mH

**Series/Type:** B82503U\*E

**Date:** October 2008

## I core chokes

Rated voltage 400 V AC/450 V DC  
Rated current 0.5 A to 15 A  
Rated inductance 0.025 mH to 47 mH

**Construction**

- I core choke
- Enamel copper wire winding
- Polycarbonate coil former (UL 94 V-0)

**Features**

- Low power dissipation
- Suppression of broadband interference
- 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**

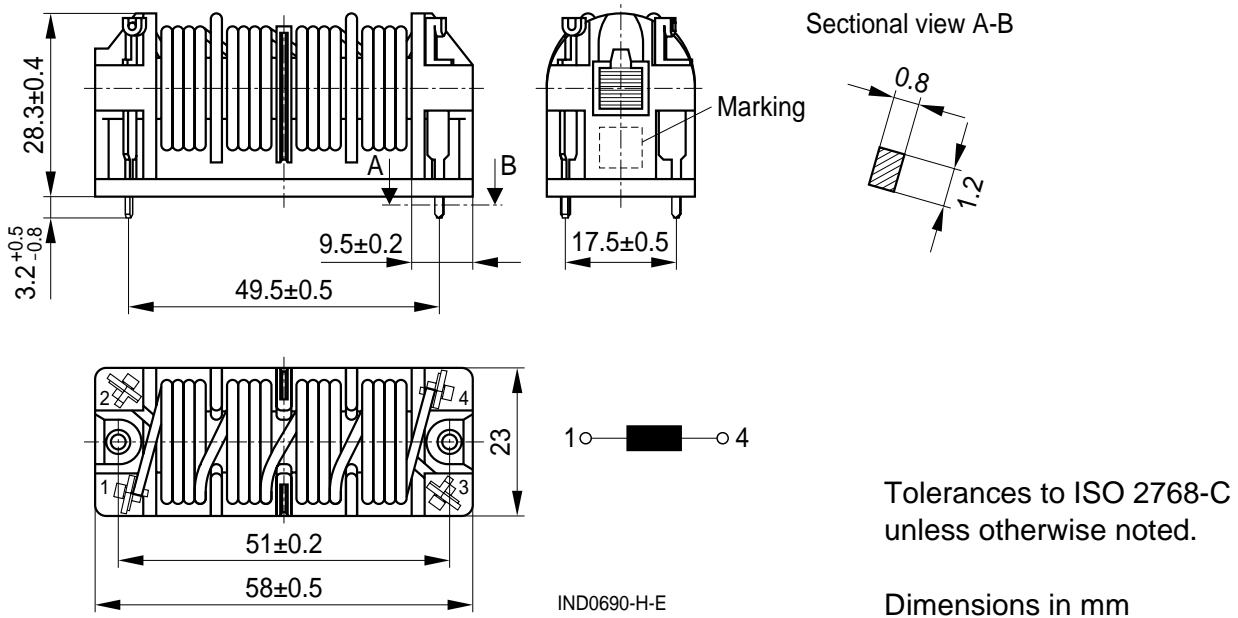
- 4 solder terminals
- Base material CuZn37
- Hot tinned

**Marking**

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

**Delivery mode**

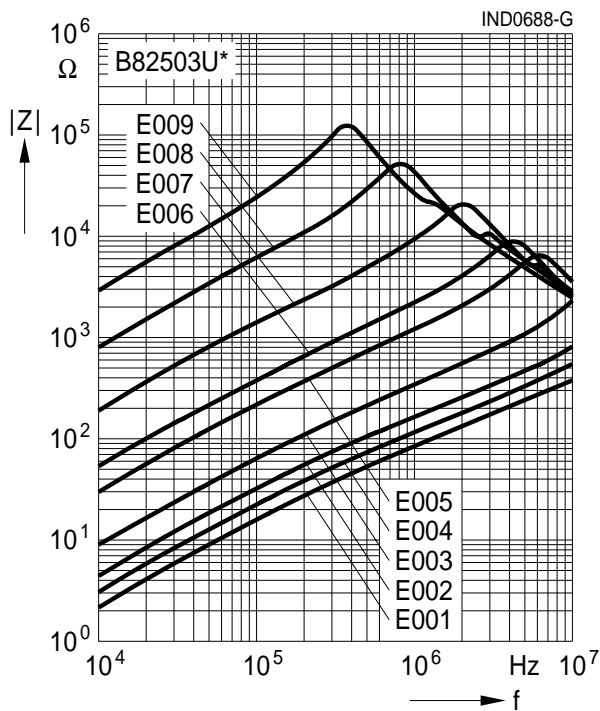
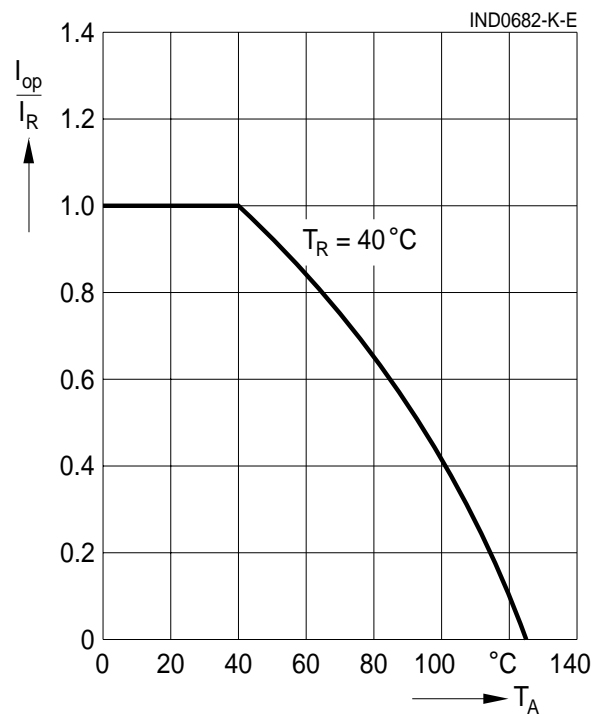
Cardboard box

**Dimensional drawing**

**Technical data and measuring conditions**

Rated voltage $V_R$	400 V AC (50/60 Hz) / 450 V DC During operation between winding and metal parts (VDE 0565-2).
Test voltage $V_{test}$	2800 V AC, 2 s (winding/core)
Rated temperature $T_R$	40 °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: $L_R \leq 1 \text{ mH} = 100 \text{ kHz}$ $L_R > 1 \text{ mH} = 10 \text{ kHz}$
Inductance tolerance	$\pm 20\%$ 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 $\geq 95\%$ (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, $\leq 75\%$ RH
Climatic category	40/125/56 (to IEC 60068-1)

**Characteristics and ordering codes**

$I_R$ A	$L_R$ mH	$R_{typ}$ $\Omega$	Approx. weight g	Ordering code
0.5	47	10	80	B82503U0000E009
1	15	2.7	80	B82503U0000E008
2	3.3	0.7	80	B82503U0000E007
4	0.68	0.2	80	B82503U0000E006
6	0.33	0.1	85	B82503U0000E005
10	0.10	0.03	75	B82503U0000E003
10	0.05	0.025	55	B82503U0000E002
10	0.035	0.018	65	B82503U0000E004
15	0.025	0.015	50	B82503U0000E001

**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.
  - 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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