

## Power line chokes

Ring core chokes with iron powder core  
250 V AC, 0.3 ... 3 A, 0.033 ... 1.2 mH, +60 °C

**Series/Type:**            **B82623**

**Date:**                    July 2012

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**Ring core chokes with iron powder core**
**Rated voltage 250 V AC/350 V DC**
**Rated current 0.3 ... 3 A**
**Rated inductance 0.033 ... 1.2 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**

- Effective suppression of differential-mode interferences at higher frequencies
- Moderate inductance decrease at current load
- Suitable for wave soldering
- Design complies with EN 60938-2 (VDE 0565-2) and UL 1283
- UL and ENEC (VDE) approvals   
- RoHS-compatible

**Applications**

- Suppression of differential-mode interferences
- Compact switch-mode applications
- Reduction of harmonics and PFC

**Terminals**

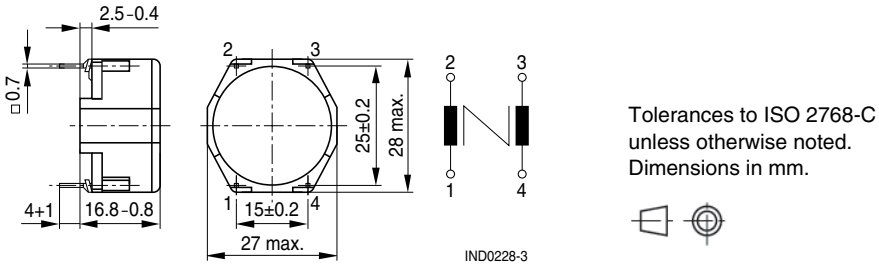
- Base material CuNi18Zn20
- Layer composition Ni, Sn
- Hot-dipped
- Pins 0.7 × 0.7 (mm)
- Lead spacing 15 × 25 (mm)

**Marking**

Manufacturer, approval signs and VDE standard number, ordering code, rated current, rated inductance, rated voltage, "GKC", graphic symbol, date of manufacture (YYWWWD.internal ID code)



**Delivery mode**

Blister tray in cardboard box

**Dimensional drawing and pin configuration**

**Technical data and measuring conditions**

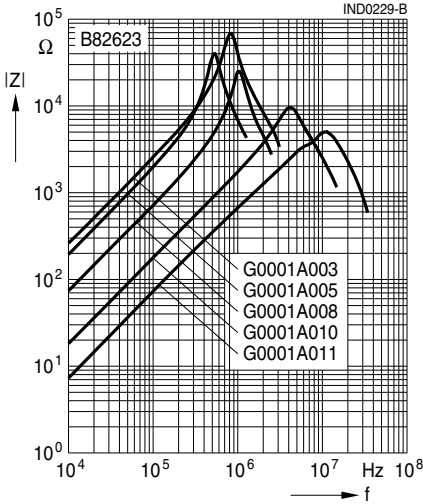
Rated voltage $V_R$	250 V AC (50/60 Hz) / 350 V DC
Test voltage $V_{test}$	1500 V AC, 2 s (winding/winding)
Rated temperature $T_R$	+60 °C
Rated current $I_R$	Referred to 50 Hz and rated temperature
Rated inductance $L_R$	Defined at zero DC current bias Measured with Agilent 4284A at 0.1 mA, +20 °C Measuring frequency: $L_R \leq 1$ mH = 100 kHz $L_R > 1$ mH = 10 kHz Inductance is specified per winding.
Inductance tolerance	$\pm 20\%$ 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 $\pm$ 5) °C, (3 $\pm$ 0.3) s Wetting of soldering area $\geq 95\%$ (to IEC 60068-2-20, test Ta)
Resistance to soldering heat (wave soldering)	+(260 $\pm$ 5) °C, (10 $\pm$ 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, $\leq 75\%$ RH
Weight	Approx. 20 g
Approvals	EN 60938-2, UL 1283

**Characteristics and ordering codes**

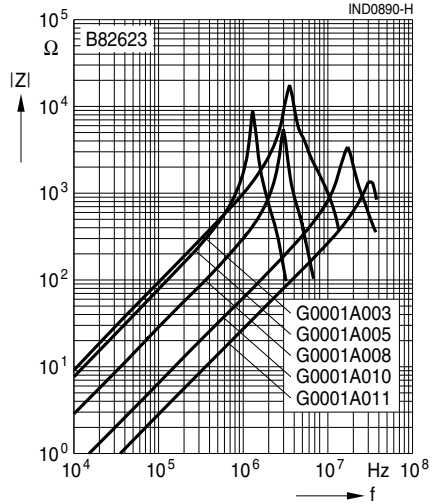
$I_R$ A	$L_R$ mH	L at $I_R$ , typ. mH	$R_{typ}$ $\Omega$	Ordering code	Approvals	
						
0.3	1.2	1.05	1.9	B82623G0001A003	×	×
0.5	1.0	0.75	1.1	B82623G0001A005	×	×
1	0.33	0.25	0.4	B82623G0001A008	×	×
2	0.082	0.062	0.1	B82623G0001A010	×	×
3	0.033	0.025	0.045	B82623G0001A011	×	×

× = approval granted

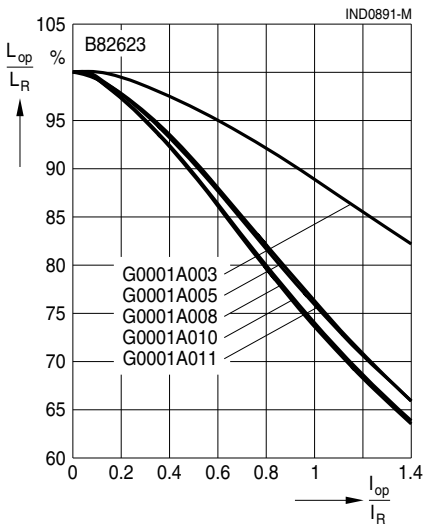
**Impedance  $|Z|$  versus frequency  $f$  (differential-mode)** measured with windings in series at +20 °C, typical values



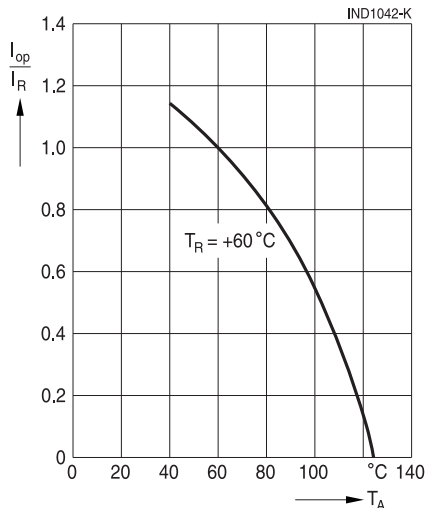
**Impedance  $|Z|$  versus frequency  $f$  (common-mode)** measured with windings in parallel at +20 °C, typical values



**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  $T_A$**



## Cautions and warnings

### Current-compensated ring core double chokes

- 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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