

## Data and signal line chokes

Common-mode chokes, ring core  
42 V AC / 80 V DC, 0.2 ... 6 mH, 100 mA, +60 °C

**Series/Type:**            **B82791G14**

**Date:**                    October 2008, October 2011

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**Rated voltage 42 V AC/ 80 V DC**  
**Rated inductance 0.2 mH to 6 mH**  
**Rated current 100 mA**



### Construction

- Current-compensated ring core quad choke
- Ferrite core
- Polycarbonate case (UL 94 V-0)

### Features

- Without potting
- Suitable for automatic insertion
- Suitable for wave soldering
- RoHS-compatible

### Applications

Suppression of asymmetrical interference coupled in on data lines, already effective at 10 kHz, e.g. in:

- Telephone lines (analog, ISDN)
- Interfaces with balance-to-ground data transmission

### Terminals

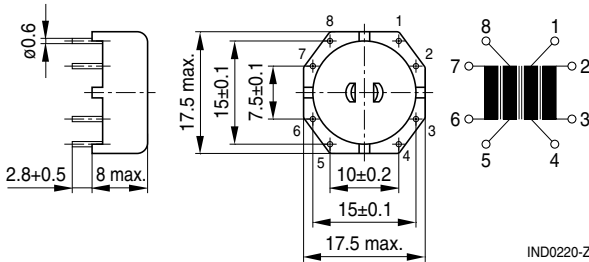
- Base material CuNi18Zn20
- Layer composition Ni, Sn
- Hot-dipped

### Marking

Manufacturer, ordering code, rated voltage, rated inductance, rated current, graphic symbol, date of manufacture (MMYY)

### Packing

Cardboard box

**Dimensional drawing and pin configuration**


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

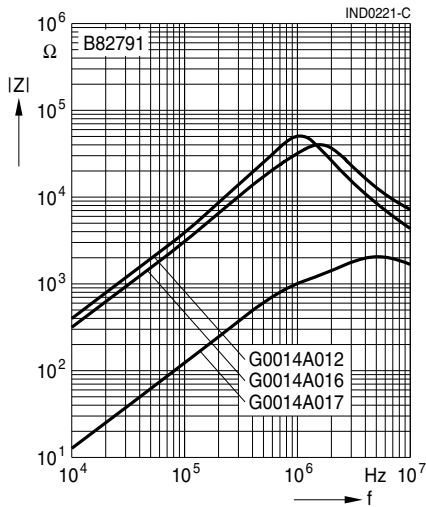
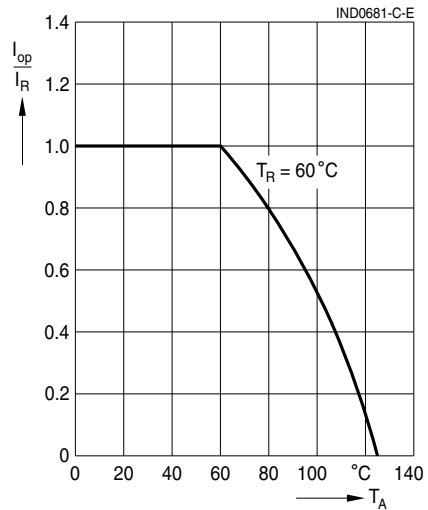

**Technical data and measuring conditions**

Rated voltage $V_R$	42 V AC (50/60 Hz) / 80 V DC
Rated temperature $T_R$	+60 °C
Rated current $I_R$	Referred to 50 Hz and rated temperature
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 is specified per winding.
Inductance tolerance	±30% at +20 °C
Inductance decrease $\Delta L/L_0$	< 10% at DC magnetic bias with $I_R$ , +20 °C
Stray inductance $L_{\text{stray,typ}}$	Measured with Agilent 4284A at 5 mA, +20 °C, typical values Measuring frequency: $L_R \leq 1$ mH = 100 kHz $L_R > 1$ mH = 10 kHz
DC resistance $R_{\text{typ}}$	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. 4 g

**Characteristics and ordering codes**

$L_R$ mH	$L_{\text{stray,typ}}$ nH	$I_R^{1)}$ mA	$R_{\text{typ}}$ m $\Omega$	$V_{\text{test}}$ V DC, 2 s	Ordering code
0.2	150	100	300	750	B82791G0014A017
4.7	500	100	850	750	B82791G0014A016
6	800	100	1200	750	B82791G0014A012

**Impedance  $|Z|$  versus frequency  $f$** 

 measured with windings in parallel at 20 °C,  
typical values

**Current derating  $I_{\text{op}}/I_R$** 
**versus ambient temperature**


1) Types with higher rated current on request.

## 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 the case the ambient temperature in application exceeds the rated temperature of the component.
  - Ensure the operation temperature of the component in application, which is the sum of the ambient temperature and the temperature rise owing to losses ("self-heating"), not to 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.
- 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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