

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

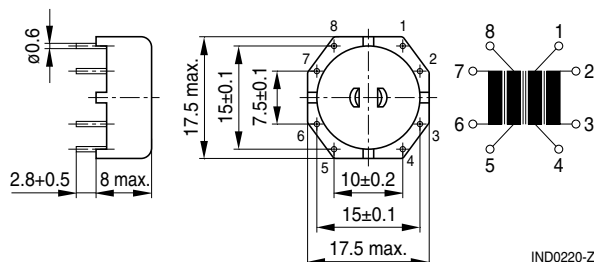
Marking

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.



IND00220-Z

Technical data and measuring conditions

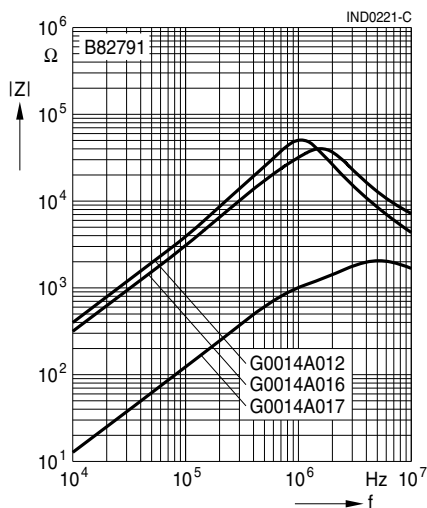
Rated voltage V_R	42 V AC (50/60 Hz) / 80 V DC
Rated temperature T_R	+60 °C
Rated current I_R	Referred to 50 Hz and rated temperature
Rated inductance L_R	Measured with Agilent 4284A at 0.1 mA, 20 °C Measuring frequency: $L_R \leq 1 \text{ mH} = 100 \text{ kHz}$ $L_R > 1 \text{ mH} = 10 \text{ kHz}$ Inductance is specified per winding.
Inductance tolerance	$\pm 30\%$ 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: $L_R \leq 1 \text{ mH} = 100 \text{ kHz}$ $L_R > 1 \text{ mH} = 10 \text{ kHz}$
DC resistance R_{typ}	Measured at +20 °C, typical values
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. 4 g

Characteristics and ordering codes

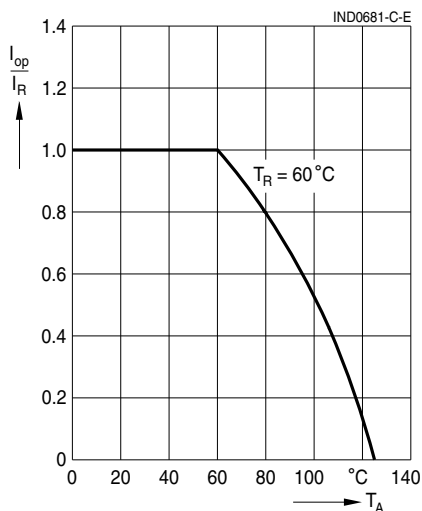
L_R mH	$L_{\text{stray,typ}}$ nH	$I_R^{1)}$ mA	R_{typ} m Ω	V_{test} V DC, 2 s	Ordering code
0.2	150	100	300	750	B82791G0014A017
4.7	500	100	850	750	B82791G0014A016
6	800	100	1200	750	B82791G0014A012

Impedance $|Z|$ versus frequency f

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


Current derating I_{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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