

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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Data and signal line chokes

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Common-mode chokes, ring core

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

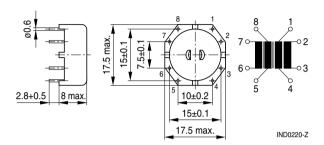
Cardboard box



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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: $L_R \le 1$ mH = 100 kHz $L_R > 1$ mH = 10 kHz Inductance is specified per winding.			
Inductance tolerance	±30% at +20 °C			
Inductance decrease ΔL/L ₀	< 10% at DC magnetic bias with I _R , +20 °C			
Stray inductance L _{stray,typ}	Measured with Agilent 4284A at 5 mA, +20 °C, typical values $\label{eq:LR} \begin{tabular}{l} Measuring frequency: $L_R \le 1$ mH = 100 kHz $$L_R > 1$ mH = -10 kHz $$$			
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 ±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			



Data a	 A 4 1 12 A		
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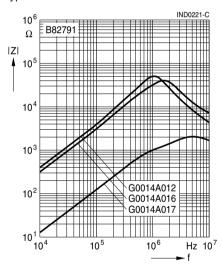
Common-mode chokes, ring core

Characteristics and ordering codes

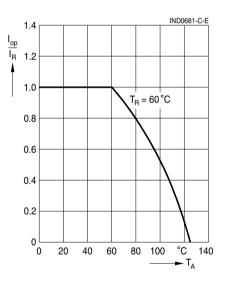
L _R	L _{stray,typ}	I _R ¹⁾	R _{typ}	V _{test}	Ordering code
mH	nH	mA	m $Ω$	V DC, 2 s	
0.2	150	100	300	750	B82791G0014A017
4.7	500	100	850	750	B82791G0014A016
6	800	100	1200	750	B82791G0014A012

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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Release 2018-10

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