

Data and signal line chokes

Common-mode chokes, ring core
2.2 ... 47 mH, 100 mA, +60 °C

Series/Type: B82791G15/H15

Date: October 2008, October 2011

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Rated voltage 42 V AC/80 V DC

Rated inductance 2.2 mH to 47 mH

Rated current 100 mA

Construction

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

Features

- Without potting
- Vertical or horizontal version
- Suitable for wave soldering
- RoHS-compatible

Application

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

- Telephone lines (analog, ISDN)
- Interfaces with symmetrical data transmission
- Building services automation (EIB bus)
- Automation engineering

Terminals

- Base material CuNi18Zn20
- Layer composition Ni, Sn
- Hot-dipped
- Lead spacing 10 × 15 (mm) or 12.7 × 5.08/2.54 (mm)

Marking

Manufacturer, ordering code, rated inductance, rated current, graphic symbol (for B82791G15), date of manufacture (MMYY)

Delivery mode

Cardboard box



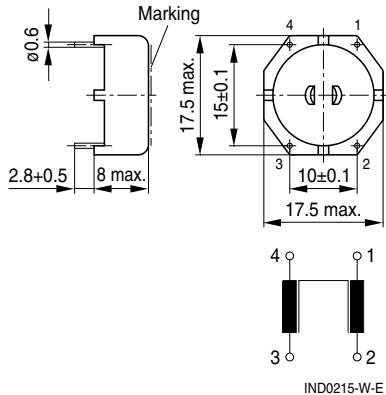
B82791G15



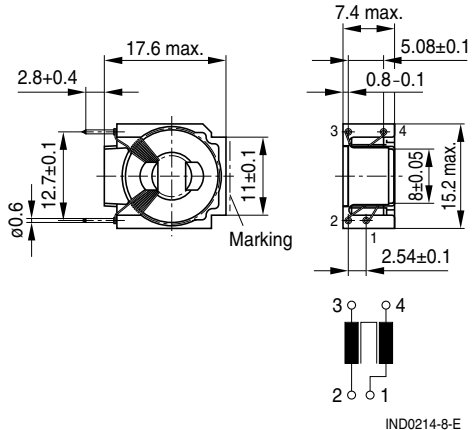
B82791H15

Dimensional drawings and pin configurations

Horizontal version (B82791G15)



Vertical version (B82791H15)


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

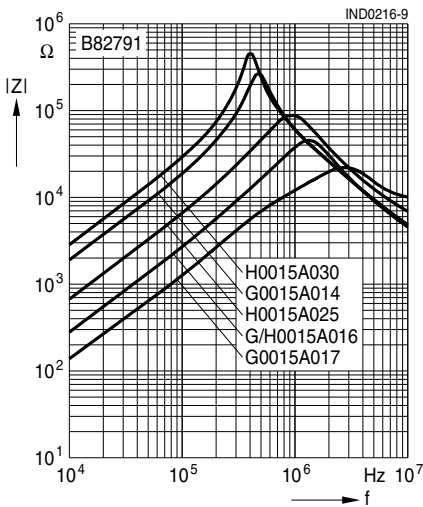
Technical data and measuring conditions

| | |
|--|---|
| 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 10 kHz, 0.1 mA, +20 °C Inductance is specified per winding. |
| Inductance tolerance | ±30% at +20 °C B82791H0015A016: -25/+35% 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 4275A at 10 kHz, 5 mA, +20 °C, typical values |
| DC resistance R_{typ} | Measured at +20 °C, typ. values, specified per winding |
| 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. 3 g |

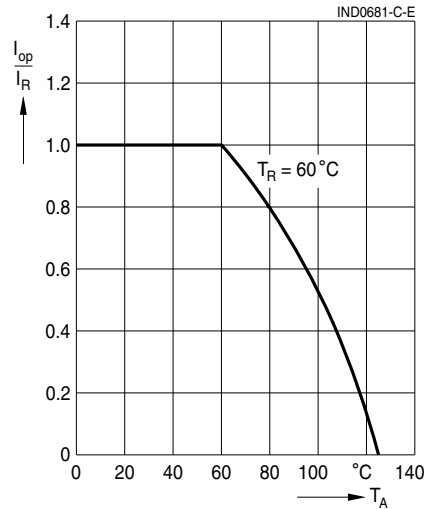
Characteristics and ordering codes

| L_R mH | $L_{\text{stray,typ}}$ nH | I_R mA | R_{typ} m Ω | V_{test} V DC, 2 s | Ordering code | |
|-------------|------------------------------|-------------|--------------------------------|--------------------------------|--------------------|------------------|
| | | | | | horizontal version | vertical version |
| 2.2 | 500 | 100 | 300 | 1200 | B82791G0015A017 | — |
| 4.7 | 900 | 100 | 850 | 1200 | B82791G0015A016 | B82791H0015A016 |
| 10 | 1200 | 100 | 1200 | 1200 | — | B82791H0015A025 |
| 38 | 3300 | 100 | 5000 | 750 | B82791G0015A014 | — |
| 47 | 2100 | 100 | 5100 | 750 | — | B82791H0015A030 |

Impedance $|Z|$ versus frequency f
measured with windings in parallel at 20 °C,
typical values



Current derating I_{op}/I_R
versus ambient temperature



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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