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 x 15 (mm) or 12.7 x 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
### Data and signal line chokes

#### B82791G15/H15

**Common-mode chokes, ring core**

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**Dimensional drawings and pin configurations**

**Horizontal version (B82791G15)**

**Vertical version (B82791H15)**

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

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**Technical data and measuring conditions**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated voltage $V_R$</td>
<td>42 V AC (50/60 Hz) / 80 V DC</td>
</tr>
<tr>
<td>Rated temperature $T_R$</td>
<td>+60 °C</td>
</tr>
<tr>
<td>Rated current $I_R$</td>
<td>Referred to 50 Hz and rated temperature</td>
</tr>
<tr>
<td>Rated inductance $L_R$</td>
<td>Measured with Agilent 4284A at 10 kHz, 0.1 mA, +20 °C</td>
</tr>
<tr>
<td>Inductance tolerance</td>
<td>±30% at +20 °C</td>
</tr>
<tr>
<td>Inductance decrease $\Delta L/L_0$</td>
<td>&lt; 10% at DC magnetic bias with $I_R$, +20 °C</td>
</tr>
<tr>
<td>Stray inductance $L_{stray,typ}$</td>
<td>Measured with Agilent 4275A at 10 kHz, 5 mA, +20 °C, typical values</td>
</tr>
<tr>
<td>DC resistance $R_{typ,typ}$</td>
<td>Measured at +20 °C, typ. values, specified per winding</td>
</tr>
<tr>
<td>Solderability (lead-free)</td>
<td>Sn96.5Ag3.0Cu0.5: (+245 ±5) °C, (3 ±0.3) s</td>
</tr>
<tr>
<td>Resistance to soldering heat (wave soldering)</td>
<td>(+260 ±5) °C, (10 ±1) s (to IEC 60068-2-20, test Ta)</td>
</tr>
<tr>
<td>Climatic category</td>
<td>40/125/56 (to IEC 60068-1)</td>
</tr>
<tr>
<td>Storage conditions (packaged)</td>
<td>−25 °C … +40 °C, ≤ 75% RH</td>
</tr>
<tr>
<td>Weight</td>
<td>Approx. 3 g</td>
</tr>
</tbody>
</table>

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Please read Cautions and warnings and Important notes at the end of this document.
Characteristics and ordering codes

<table>
<thead>
<tr>
<th>L_R (mH)</th>
<th>L_stray,typ (nH)</th>
<th>I_R (mA)</th>
<th>R_typ (mΩ)</th>
<th>V_test (V DC, 2 s)</th>
<th>Ordering code horizontal version</th>
<th>Ordering code vertical version</th>
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<tbody>
<tr>
<td>2.2</td>
<td>500</td>
<td>100</td>
<td>300</td>
<td>1200</td>
<td>B82791G0015A017</td>
<td>—</td>
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<tr>
<td>4.7</td>
<td>900</td>
<td>100</td>
<td>850</td>
<td>1200</td>
<td>B82791G0015A016</td>
<td>B82791H0015A016</td>
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<tr>
<td>10</td>
<td>1200</td>
<td>100</td>
<td>1200</td>
<td>1200</td>
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<td>B82791H0015A025</td>
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<td>38</td>
<td>3300</td>
<td>100</td>
<td>5000</td>
<td>750</td>
<td>B82791G0015A014</td>
<td>—</td>
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<tr>
<td>47</td>
<td>2100</td>
<td>100</td>
<td>5100</td>
<td>750</td>
<td>—</td>
<td>B82791H0015A030</td>
</tr>
</tbody>
</table>

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

Current derating I_op/I_R versus ambient temperature

Please read Cautions and warnings and Important notes at the end of this document.
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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