Data and signal line chokes

Common-mode chokes, ring core
4.7 ... 10 mH, 200 ... 300 mA, 40 °C

Series/Type: B82720H14
Date: October 2008
<table>
<thead>
<tr>
<th>Data and signal line chokes</th>
<th>B82720H14</th>
</tr>
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<tbody>
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<td></td>
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</table>

**Rated voltage** 42 V AC/80 V DC  
**Rated inductance** 4.7 mH to 10 mH  
**Rated current** 200 mA to 300 mA

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

**Features**
- Suitable for automatic insertion
- Suitable for wave soldering
- RoHS-compatible

**Applications**
- Telecom switching systems
- Terminal systems
- Measuring and control lines

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

**Marking**
Manufacturer, ordering code, rated inductance, rated current, date of manufacture (YYWWD)

**Delivery mode**
Cardboard box
Data and signal line chokes

**Common-mode chokes, ring core**

**Dimensional drawing and pin configuration**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>9.5 ±0.4 mm</td>
</tr>
<tr>
<td>Height</td>
<td>7.6 ±0.3 mm</td>
</tr>
<tr>
<td>Lead pitch</td>
<td>5 ±0.2 mm</td>
</tr>
</tbody>
</table>

Tolerances to ISO 2768-M

Dimensions in mm

**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>40 °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%−+50% 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 4284A at 10 kHz, 5 mA, 20 °C, typical values</td>
</tr>
<tr>
<td>DC resistance $R_{typ}$</td>
<td>Measured at 20 °C, typical values</td>
</tr>
<tr>
<td>Solderability (lead-free)</td>
<td>Sn96.5Ag3.0Cu0.5: (245 ±5) °C, (3 ±0.3) s Wetting of soldering area ≥ 95% (to IEC 60068-2-20, test Ta)</td>
</tr>
<tr>
<td>Resistance to soldering heat (wave soldering)</td>
<td>(260 ±5) °C, (10 ±1) s (to IEC 60068-2-20, test Tb)</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. 2.3 g</td>
</tr>
</tbody>
</table>

Please read **Cautions and warnings** and **Important notes** at the end of this document.
## Data and signal line chokes

### Common-mode chokes, ring core

#### 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</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.7</td>
<td>350</td>
<td>300</td>
<td>900</td>
<td>750</td>
<td>B82720H0014A016</td>
</tr>
<tr>
<td>5.0</td>
<td>400</td>
<td>300</td>
<td>550</td>
<td>750</td>
<td>B82720H0014A013</td>
</tr>
<tr>
<td>10</td>
<td>450</td>
<td>200</td>
<td>1300</td>
<td>750</td>
<td>B82720H0014A025</td>
</tr>
</tbody>
</table>

#### Impedance $|Z|$ versus frequency $f$

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

![Impedance graph](IND0219-1)

#### Current derating $I_{op}/I_R$ versus ambient temperature

$T_R = 40$ °C

![Current derating graph](IND0682-K-E)

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

- 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.
  - 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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