Chokes for Data and Signal Lines  
B82799  
CAN Bus Choke, EIA 1812  

**Rated voltage** 42 Vac/80 Vdc  
**Rated current** 100 to 300 mA  
**Rated inductance** 11 to 470 µH  

**Construction**  
- Current-compensated ring core double choke with ferrite core  
- Bifilar winding (B82799-C...)  
- Sector winding (B82799-S...)  

**Features**  
- High performance  
- Case flame-retardant as per UL 94 V-0  
- Suitable for reflow soldering and conductive adhesion  
- Operation up to 150°C (for $L_R < 500 \mu H$)  

**Applications**  
- B82799-C: Suppression of asymmetrical interference coupled in on lines, whereas data signals up to some MHz can pass unaffectedly  
- B82799-S: Suppression of asymmetrical (by $L_R$) and symmetrical interference (by $L_S$) coupled in on lines. The high-frequency portions of the symmetrical data signal are decreased so far that EMC problems can be significantly reduced  

**Terminals**  
Gold plated  

**Marking**  
Manufacturer, inductance value (coded), date code  

**Delivery mode**  
Blister tape, reel packing.  
For details on taping, packing and packing units see data book 2000 “Chokes and Inductors”, page 302.
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Dimensional drawing

1.2±0.1
1.2
0.75±0.15

52 max
4.5±0.2

Marking

Layout recommendation

2.2
5.9
0.25
4.0
General technical data

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated voltage $V_R$</td>
<td>$42 \text{ Vac (50/60 Hz)}$</td>
</tr>
<tr>
<td></td>
<td>$80 \text{ Vdc}$</td>
</tr>
<tr>
<td>Rated current $I_R$ referred to 50 Hz</td>
<td>$42 \text{ Vac (50/60 Hz)}$</td>
</tr>
<tr>
<td></td>
<td>$80 \text{ Vdc}$</td>
</tr>
<tr>
<td>Rated current $I_R$ for high</td>
<td>min. 100 mA referred to 50 Hz and 150 °C ambient temperature</td>
</tr>
<tr>
<td>temperature applications</td>
<td></td>
</tr>
<tr>
<td>Rated inductance $L_R$</td>
<td>measured with HP 4275A at 100 kHz and 0,1 mA</td>
</tr>
<tr>
<td>Inductance tolerance</td>
<td>± 30 % for $L_R \leq 51 \mu H$</td>
</tr>
<tr>
<td></td>
<td>−30/+50 % for $L_R &gt; 51 \mu H$</td>
</tr>
<tr>
<td>Inductance decrease $\Delta L/L_0$</td>
<td>&lt; 10 % at dc magnetic bias with $I_R$</td>
</tr>
<tr>
<td>DC resistance $R_{\text{typ}}$</td>
<td>measured at 20 °C ambient temperature</td>
</tr>
<tr>
<td>Solderability</td>
<td>$(235 \pm 3) ^\circ \text{C}, (2 \pm 0,3) \text{ s}$</td>
</tr>
<tr>
<td></td>
<td>wetting of soldering area ≥ 95 %</td>
</tr>
<tr>
<td></td>
<td>in accordance with IEC 60068-2-58</td>
</tr>
<tr>
<td>Climatic category</td>
<td>55/150/56 (−55 °C/+150 °C/56 days damp heat test)</td>
</tr>
<tr>
<td></td>
<td>in accordance with EN 60068-1</td>
</tr>
<tr>
<td>Weight</td>
<td>Approx. 0,1 g</td>
</tr>
</tbody>
</table>

Characteristics and ordering codes

<table>
<thead>
<tr>
<th>$L_R$ (^1)</th>
<th>$L_S$, (\text{typ})</th>
<th>$I_R$</th>
<th>$R_{\text{typ}}$</th>
<th>$V_T$</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\mu H$</td>
<td>$\mu H$</td>
<td>mA</td>
<td>m$\Omega$</td>
<td>Vdc</td>
<td>2 s</td>
</tr>
<tr>
<td>11</td>
<td>0,045</td>
<td>300</td>
<td>160</td>
<td>250</td>
<td>B82799C0113N001</td>
</tr>
<tr>
<td>22</td>
<td>1,30</td>
<td>250</td>
<td>220</td>
<td>250</td>
<td>B82799S0223N001</td>
</tr>
<tr>
<td>33</td>
<td>1,80</td>
<td>200</td>
<td>270</td>
<td>250</td>
<td>B82799S0333N001</td>
</tr>
<tr>
<td>51</td>
<td>2,70</td>
<td>200</td>
<td>310</td>
<td>250</td>
<td>B82799S0513N001</td>
</tr>
<tr>
<td>100</td>
<td>0,15</td>
<td>300</td>
<td>180</td>
<td>750</td>
<td>B82799C0104N001</td>
</tr>
<tr>
<td>220</td>
<td>0,20</td>
<td>200</td>
<td>250</td>
<td>750</td>
<td>B82799C0224N001</td>
</tr>
<tr>
<td>470</td>
<td>0,35</td>
<td>200</td>
<td>410</td>
<td>750</td>
<td>B82799C0474N001</td>
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</tbody>
</table>

\(^1\) Types up to 2200 $\mu H$ upon request.
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Current derating $\frac{I_{op}}{I_{R}}$ versus ambient temperature $T_A$

![Graph showing current derating versus ambient temperature]

Rated temperature $T_R = 60 \, ^\circ C$

Insertion loss $\alpha_f$ (typical values at $Z = 50 \, \Omega$)

- asymmetrical, all branches in parallel (common mode)
- symmetrical (differential mode)

B82799C0113N001  B82799S0223N001

![Graph showing insertion loss versus frequency for asymmetrical and symmetrical modes]
Insertion loss $\alpha_e$ (typical values at $Z = 50 \, \Omega$)

- - - - - symmetrical, all branches in parallel (common mode)
- - - - - symmetrical (differential mode)

B82799S0333N001  \hspace{1cm} B82799S0513N001

B82799C0104N001  \hspace{1cm} B82799C0224N001

B82799C0104N001  \hspace{1cm} B82799C0224N001
Insertion loss $\alpha_e$ (typical values at $Z = 50 \, \Omega$)

- asymmetrical, all branches in parallel (common mode)
- symmetrical (differential mode)

B82799C0474N001

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☎ ++49 89 636 09, FAX (0 89) 636-2 26 89

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