



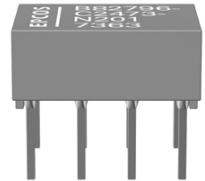
Data and signal line chokes

Common-mode chokes, ring core
0.011 ... 2.2 mH, 100 ... 200 mA, 60 °C

Series/Type: **B82796C2**

Date: October 2008

Rated voltage 42 V AC/80 V DC
Rated inductance 0.011 mH to 2.2 mH
Rated current 100 mA to 200 mA



Construction

- Current-compensated ring core quad choke
- Ferrite core
- Polycarbonate case (UL 94 V-0)
- Silicone potting
- Bifilar winding

Features

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

Applications

- Suppression of asymmetrical interference coupled in on lines, whereas data signals up to some MHz can pass unaffectedly

Terminals

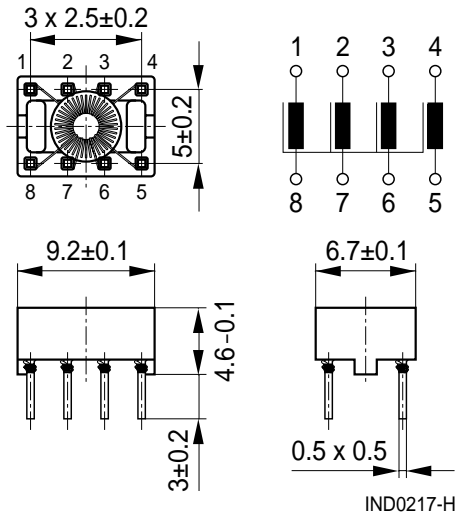
- Base material CuNi18Zn20
- Layer composition Ni, Sn
- Hot-dipped

Marking

Manufacturer, ordering code, date of manufacture (YWWD)

Delivery mode

Cardboard box

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: $L_R \leq 1$ mH = 100 kHz $L_R > 1$ mH = 10 kHz Inductance is specified per winding. |
| Inductance tolerance | -30%/+50% 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 4284A at 5 mA, 20 °C, typical values Measuring frequency: $L_R \leq 11$ μ H = 100 kHz $L_R > 11$ μ H = 10 kHz |
| DC resistance R_{typ} | Measured at 20 °C, typical values, specified per winding |
| 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 \pm 5) °C, (10 \pm 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, \leq 75% RH |
| Weight | Approx. 0.4 g |

Characteristics and ordering codes

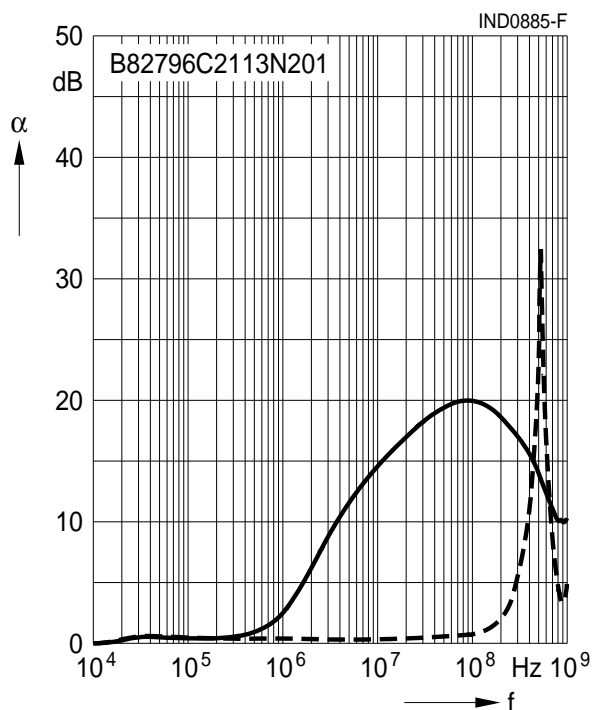
| L_R mH | $L_{\text{stray,typ}}$ nH | $I_R^{1)}$ mA | R_{typ} m Ω | V_{test} V DC, 2 s | Ordering code |
|-------------|------------------------------|------------------|--------------------------------|--------------------------------|-----------------|
| 0.011 | 70 | 200 | 60 | 750 | B82796C2113N201 |
| 0.047 | 120 | 150 | 150 | 750 | B82796C2473N201 |
| 0.47 | 120 | 100 | 350 | 750 | B82796C2474N215 |
| 2.2 | 180 | 100 | 400 | 750 | B82796C2225N265 |

Insertion loss α (typical values at $|Z| = 50 \Omega$, 20 °C)

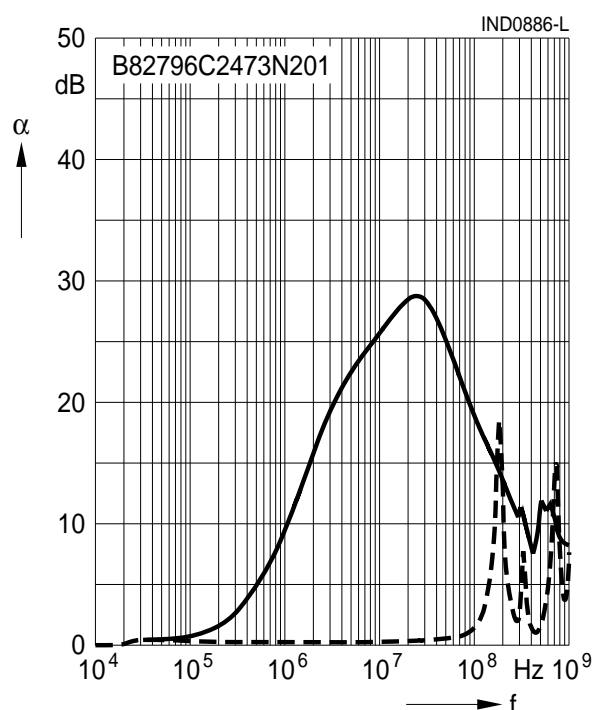
———— asymmetrical, all branches in parallel (common mode)

- - - - - symmetrical (differential mode)

$L_R = 0.011$ mH



$L_R = 0.047$ mH



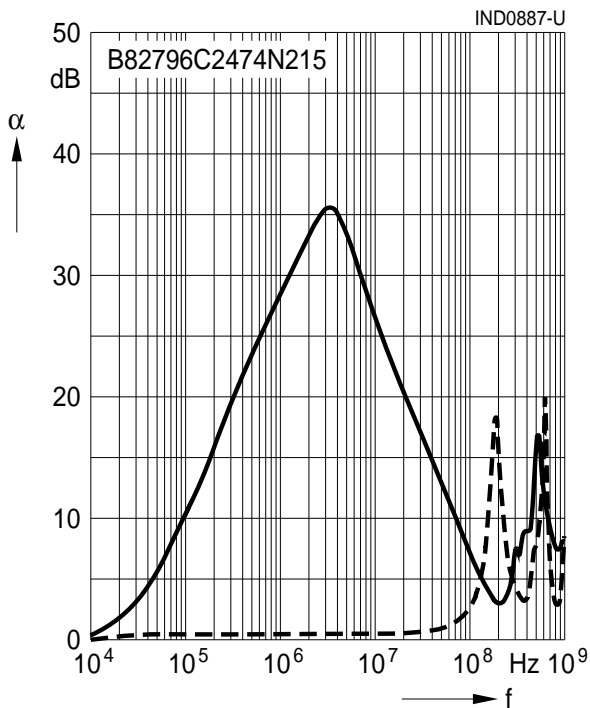
1) Types with higher rated current on request.

Insertion loss α (typical values at $|Z| = 50 \Omega$, 20°C)

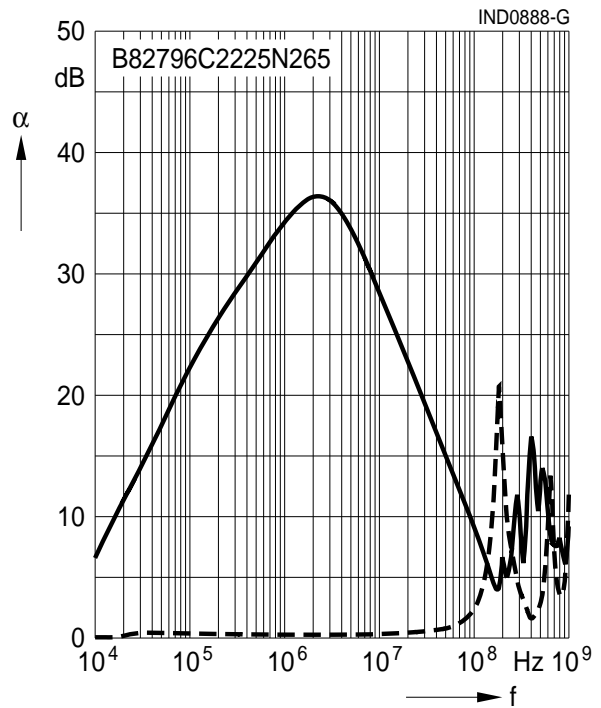
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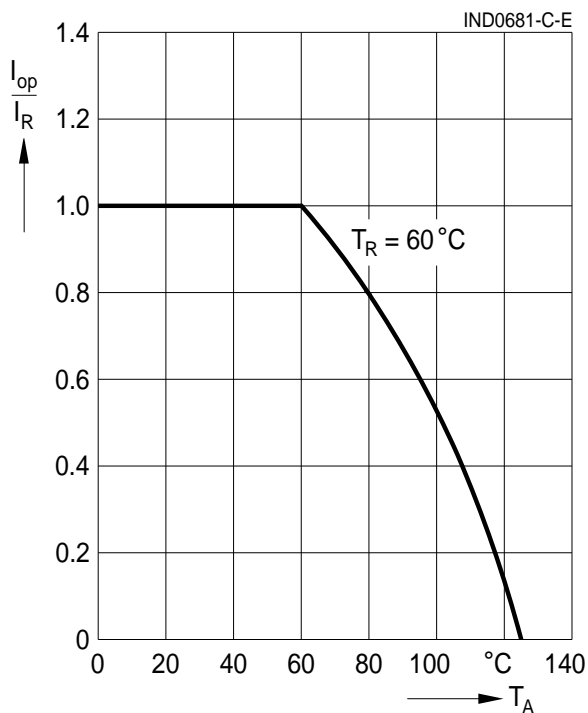
$L_R = 0.47 \text{ mH}$



$L_R = 2.2 \text{ mH}$



Current derating I_{op}/I_R
versus ambient temperature



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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