



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

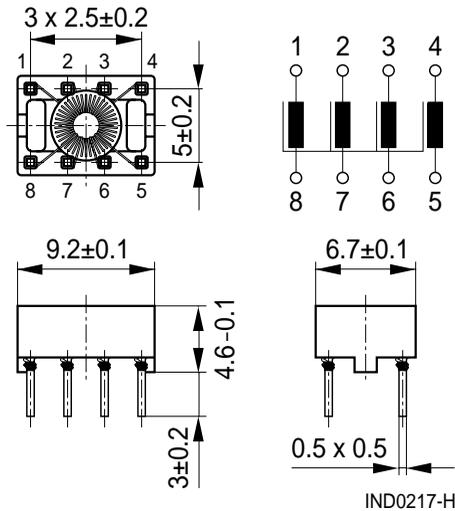
- Base material CuNi18Zn20
- Layer composition Ni, Sn
- Hot-dipped

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

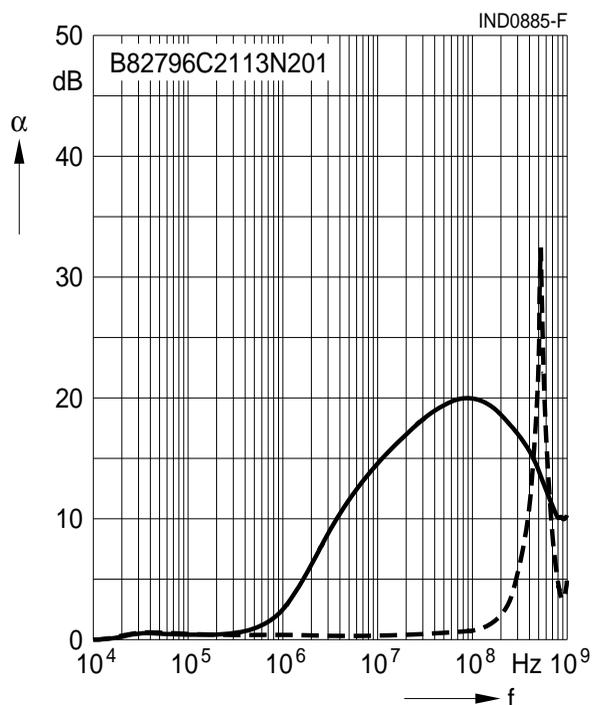
L_R mH	$L_{\text{stray,typ}}$ nH	$I_R^{1)}$ mA	R_{typ} m Ω	V_{test} V DC, 2 s	Ordering code
0.011	70	200	60	750	B82796C2113N201
0.047	120	150	150	750	B82796C2473N201
0.47	120	100	350	750	B82796C2474N215
2.2	180	100	400	750	B82796C2225N265

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

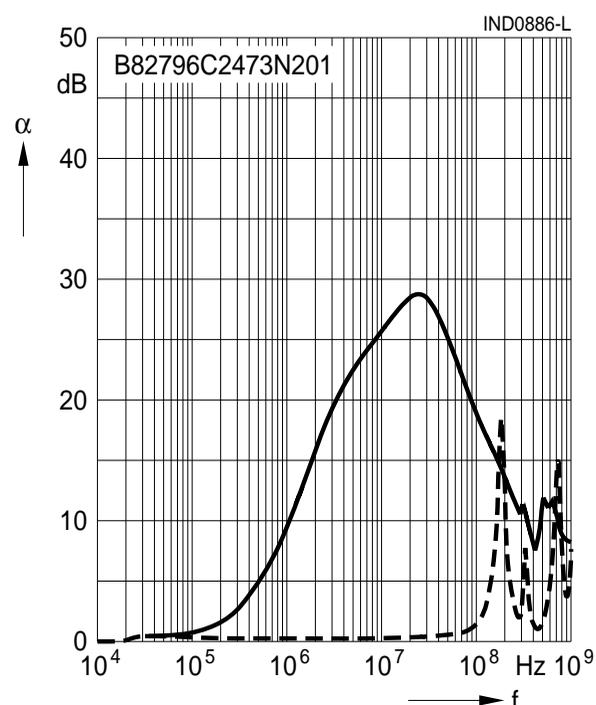
———— asymmetrical, all branches in parallel (common mode)

- - - - - symmetrical (differential mode)

$L_R = 0.011$ mH



$L_R = 0.047$ mH



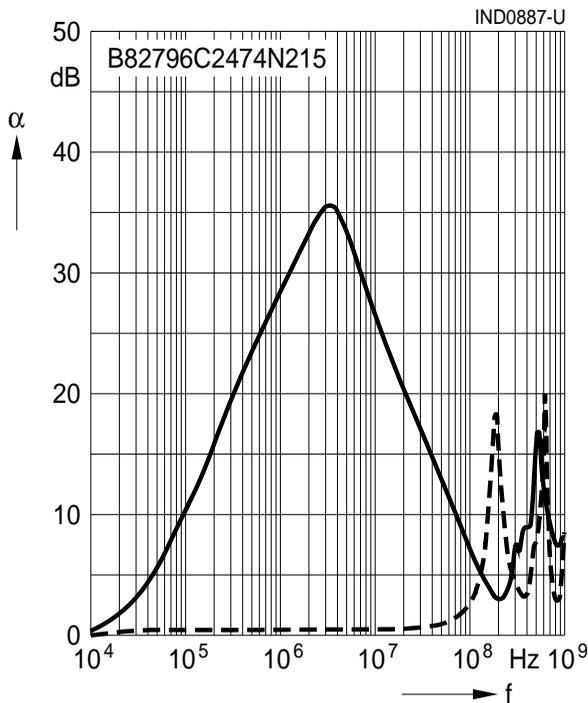
1) Types with higher rated current on request.

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

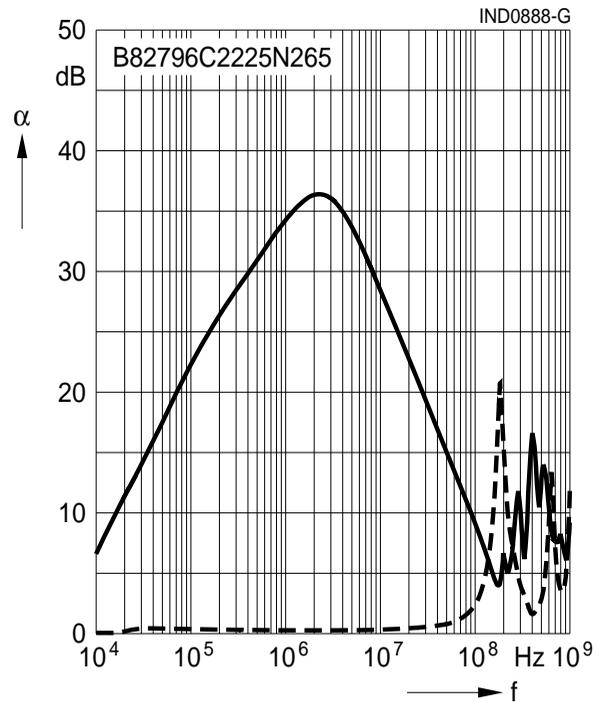
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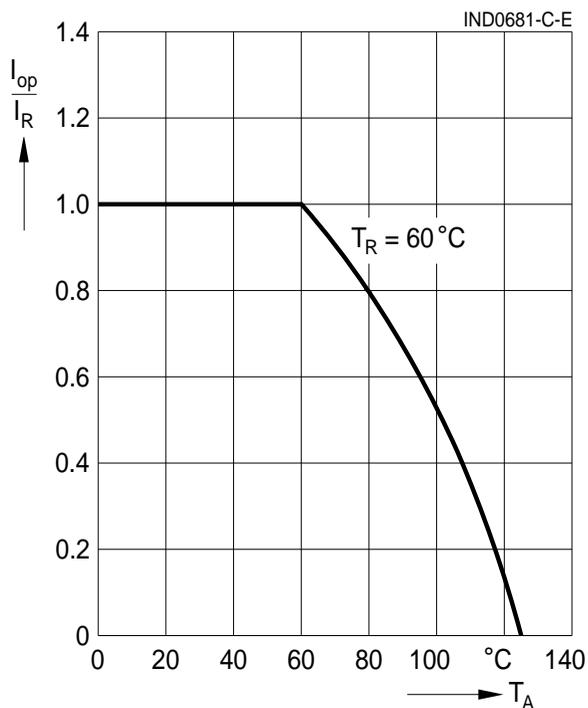
$L_R = 0.47 \text{ mH}$



$L_R = 2.2 \text{ mH}$



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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