



## Chokes for data and signal lines

### Double chokes

**Series/Type:** B82790  
**Date:** December 2006

Double chokes

SMD

Rated voltage 42/80 V AC/DC  
Rated current 200 to 1000 mA  
Rated inductance 5  $\mu$ H to 4.7 mH



**Construction**

- Current-compensated ring core choke with ferrite core
- Bifilar winding (B82790C0\*)
- Sector winding (B82790S0\*)

**Features**

- Case flame-retardant as per UL 94 V-0
- Suitable for reflow soldering

*Special types for conductive adhesion  
and ambient temperatures up to 150 °C on request*

**Applications**

- B82790C0\*:  
Suppression of asymmetrical interference coupled in on lines, whereas data signals up to some MHz can pass unaffectedly
- B82790S0\*:  
Suppression of asymmetrical and symmetrical interference 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**

- Lead-free tinned

**Marking**

Manufacturer, ordering code (short form),  
date of manufacture, coded (year, day of week, calendar week)

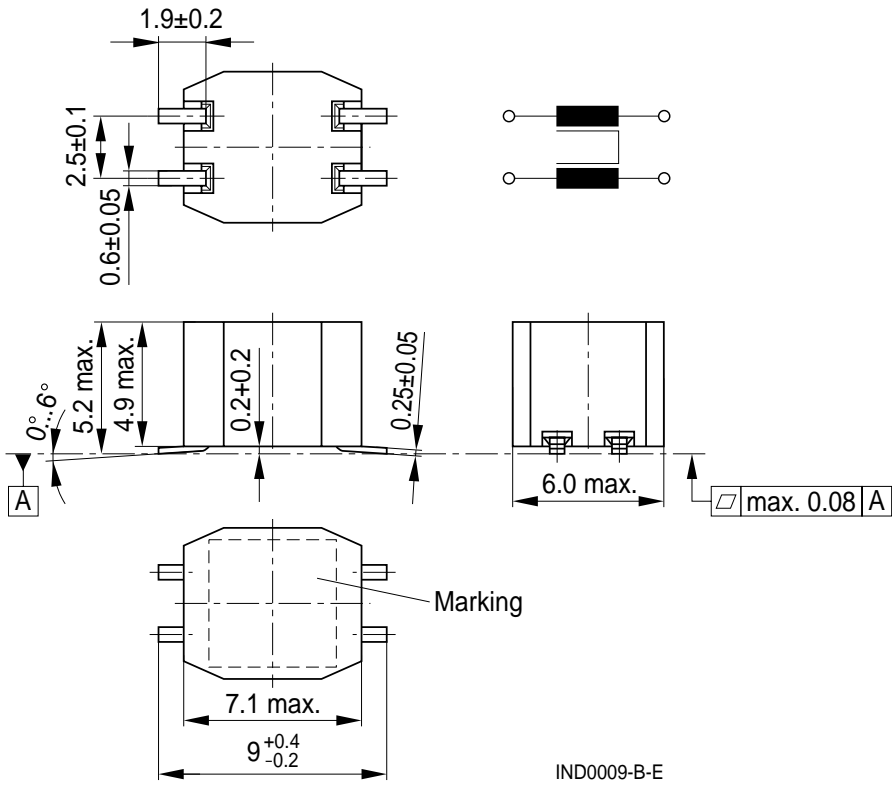
**Delivery mode**

Blister tape, reel packing  
For details on taping, packing and packing units see data book 2000 "Chokes and Inductors", page 302.

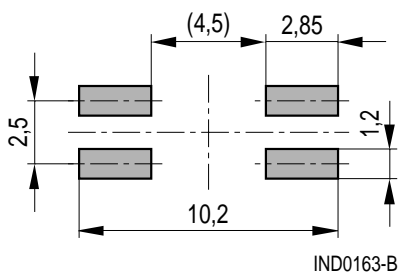
Double chokes

SMD

Dimensional drawing



Layout recommendation



**Double chokes**
**SMD**
**Technical data and measuring conditions**

Rated voltage $V_R$	42 VAC (50/60 Hz) 80 VDC
Rated current $I_R$	Referred to 50 Hz and 60 °C ambient temperature
Rated inductance $L_R$	Measured with HP 4275A at $L \leq 1$ mH = 100 kHz, 0.1 mA $L > 1$ mH = 10 kHz, 0.1 mA (specified per winding)
Inductance tolerance	$L \leq 0.47$ mH: $\pm 30$ % $L > 0.47$ mH: $-30/+50$ %
Inductance decrease $\Delta L/L_0$	$< 10\%$ at dc magnetic bias with $I_R$
Stray inductance $L_{\text{stray}}$	Measured with HP 4275A. Measuring frequency at $L \leq 11$ $\mu$ H = 1 MHz, 5 mA $L > 11$ $\mu$ H = 100 kHz, 5 mA
DC resistance $R_{\text{typ}}$	Typical values, measured at 20 °C ambient temperature
Solderability	(215 $\pm$ 3) °C, (3 $\pm$ 0,3) s wetting of soldering area $\geq 95$ % to IEC 60068-2-58
Climatic category	40/125/56 (–40 °C/+125 °C/56 days damp heat test) to IEC 60068-1
Weight	Approx. 0.3 g

**Characteristics and ordering codes**

$L_R$ mH	$L_{\text{stray, typ}}$ nH	$I_R$ mA	$R_{\text{typ}}$ m $\Omega$	$V_T$ VDC, 2 s	Ordering code <sup>1)</sup>
0.005	50	1000	100	250	B82790C0502N201
0.011	50	500	120	250	B82790C0113N201
0.025	150	500	130	250	B82790C0253N201
0.025	1500	500	130	250	B82790S0253N201
0.051	200	500	160	250	B82790C0513N201
0.051	2000	500	160	250	B82790S0513N201
0.470	200	500	200	750	B82790C0474N215
1.0	250	500	200	750	B82790C0105N240
2.2	250	400	400	750	B82790C0225N265
4.7	300	200	550	750	B82790C0475N265

1) Special types for conductive adhesion and ambient temperatures of up to 150 °C upon request.

Double chokes

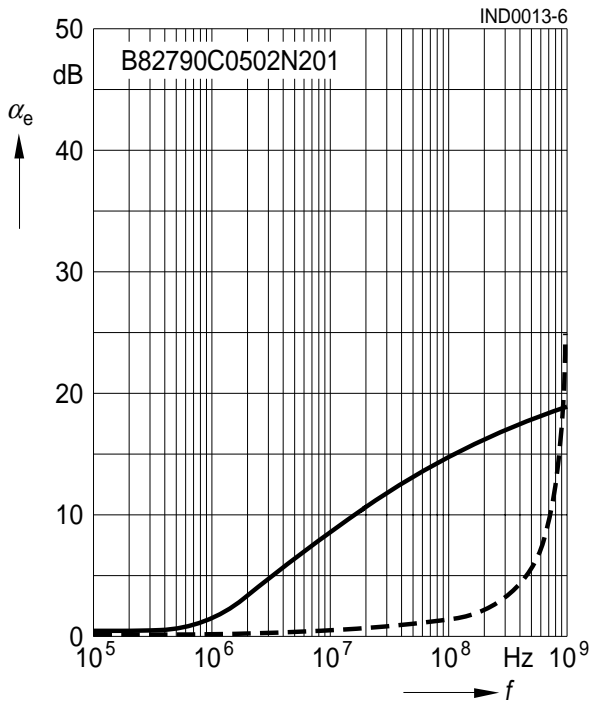
SMD

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

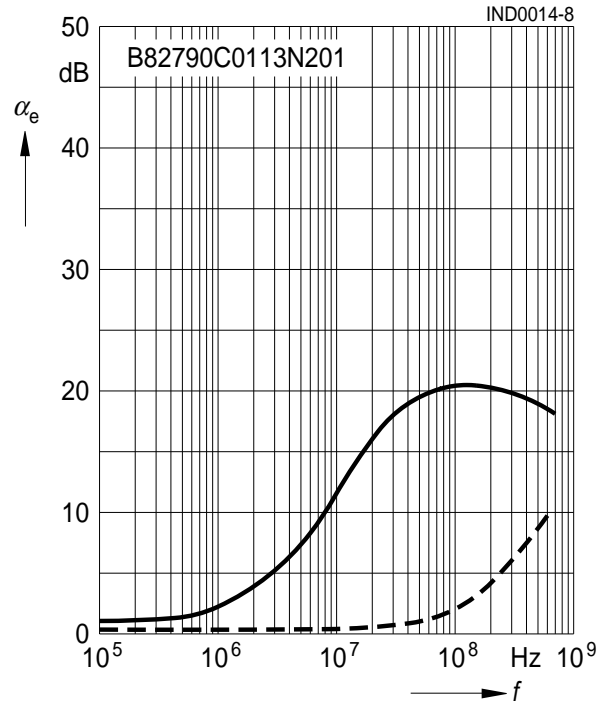
———— asymmetrical, all branches in parallel (common mode)

- - - - - symmetrical (differential mode)

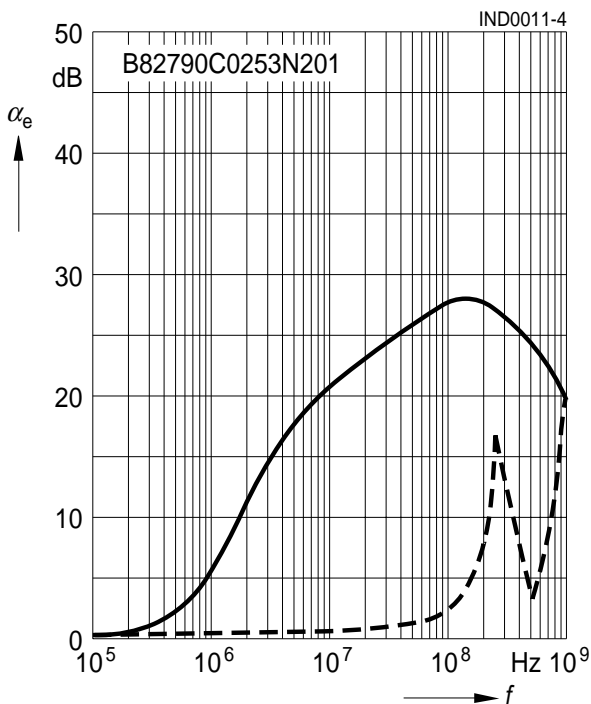
$L_R = 0.005 \text{ mH}$



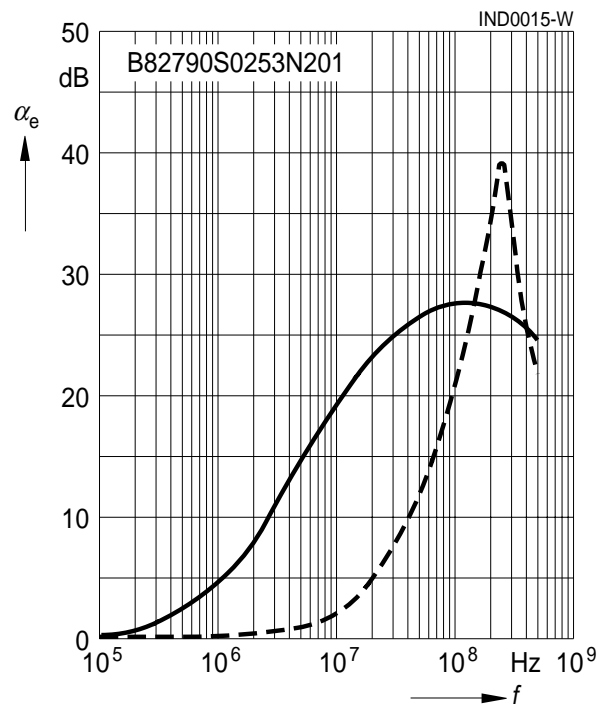
$L_R = 0.011 \text{ mH}$



$L_R = 0.025 \text{ mH (low } L_{\text{stray}})$



$L_R = 0.025 \text{ mH (high } L_{\text{stray}})$



Double chokes

SMD

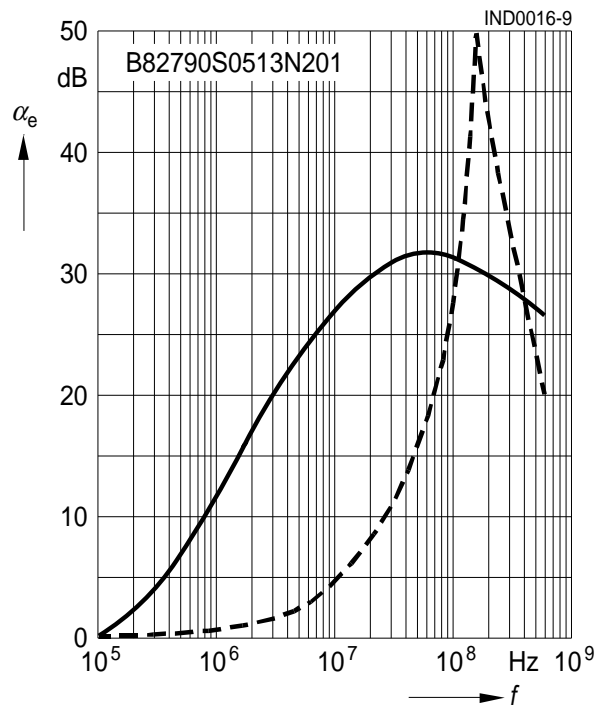
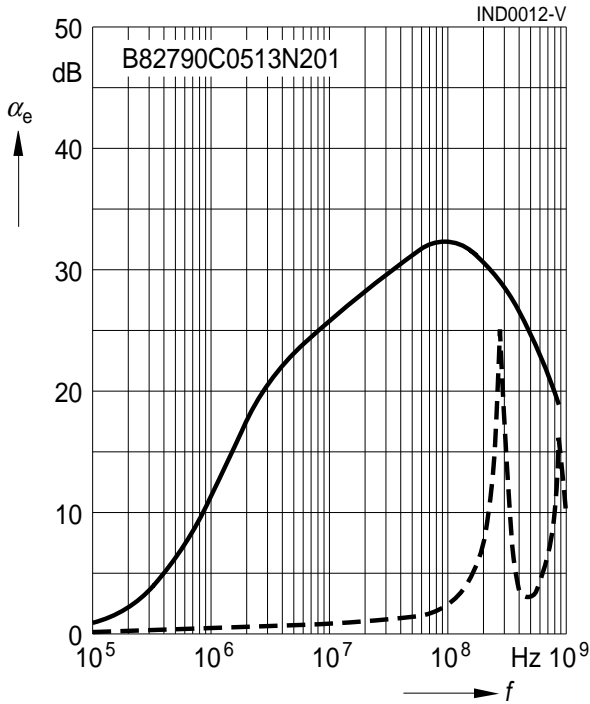
Insertion loss  $\alpha_e$  (typical values at  $Z = 50 \Omega$ )

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

- - - - - symmetrical (differential mode)

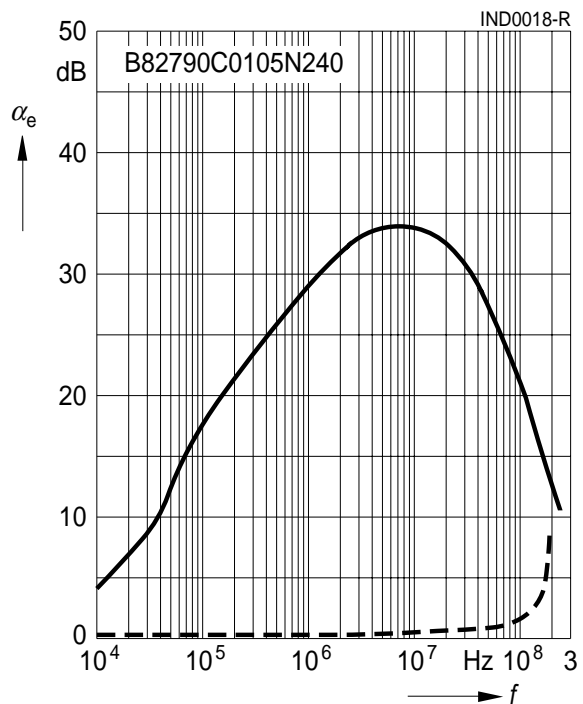
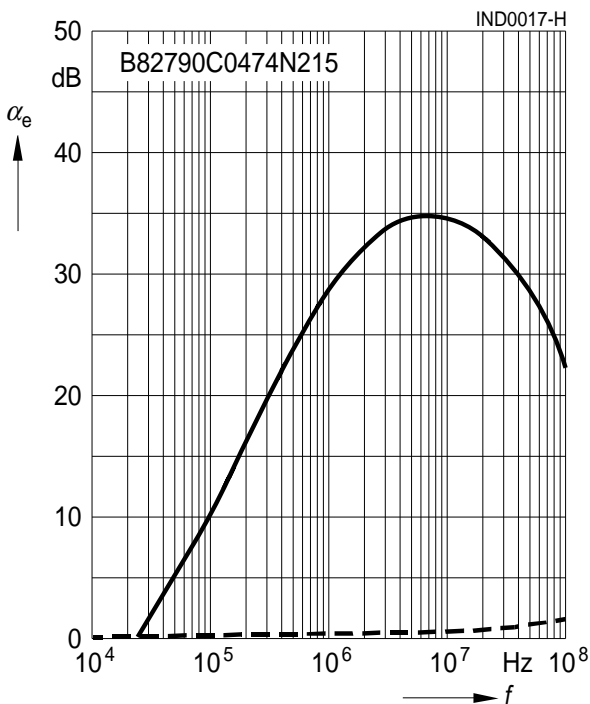
$L_R = 0.051 \text{ mH}$  (low  $L_S$ )

$L_R = 0.051 \text{ mH}$  (high  $L_S$ )



$L_R = 0.47 \text{ mH}$

$L_R = 1.0 \text{ mH}$



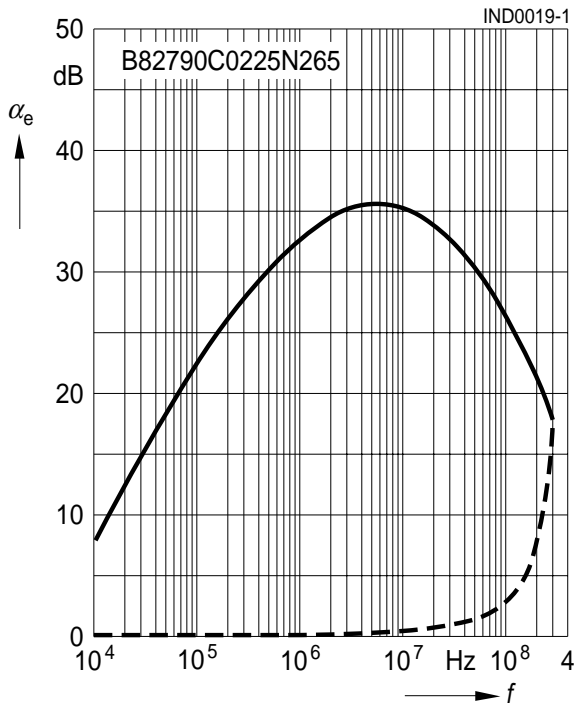
Double chokes

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

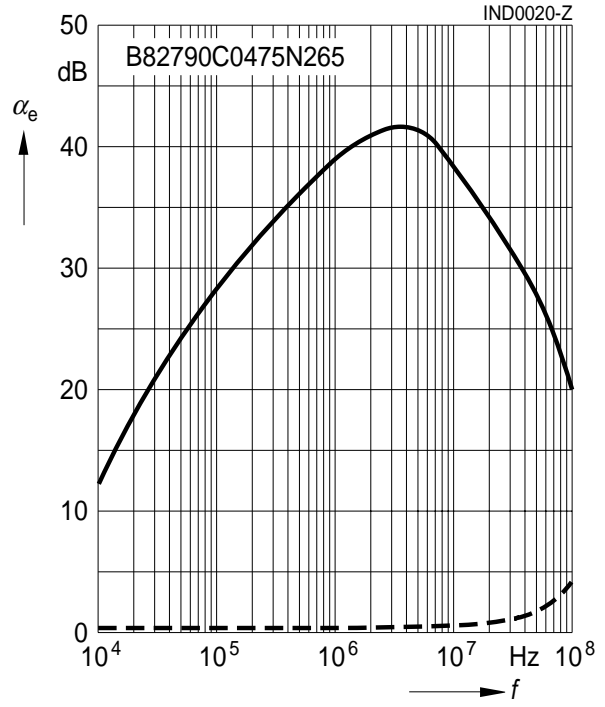
———— asymmetrical, all branches in parallel (common mode)

- - - - - symmetrical (differential mode)

$L_R = 2.2 \text{ mH}$



$L_R = 4.7 \text{ mH}$



## Important notes

The following applies to all products named in this publication:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application**. As a rule, EPCOS is either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether an EPCOS product with the properties described in the product specification is suitable for use in a particular customer application.
2. We also point out that **in individual cases, a malfunction of passive electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified**. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of a passive electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of a passive electronic component.
3. **The warnings, cautions and product-specific notes must be observed.**
4. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as “hazardous”)**. Useful information on this will be found in our Material Data Sheets on the Internet ([www.epcos.com/material](http://www.epcos.com/material)). Should you have any more detailed questions, please contact our sales offices.
5. We constantly strive to improve our products. Consequently, **the products described in this publication may change from time to time**. The same is true of the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order.  
We also **reserve the right to discontinue production and delivery of products**. Consequently, we cannot guarantee that all products named in this publication will always be available.
6. Unless otherwise agreed in individual contracts, **all orders are subject to the current version of the “General Terms of Delivery for Products and Services in the Electrical Industry” published by the German Electrical and Electronics Industry Association (ZVEI)**.
7. The trade names EPCOS, EPCOS-JONES, Baoke, Alu-X, CeraDiode, CSSP, MLSC, PhaseCap, PhaseMod, SIFI, SIFERRIT, SIKOREL, SilverCap, SIMID, SIOV, SIP5D, SIP5K, UltraCap, WindCap are **trademarks registered or pending** in Europe and in other countries. Further information will be found on the Internet at [www.epcos.com/trademarks](http://www.epcos.com/trademarks).