



# 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)

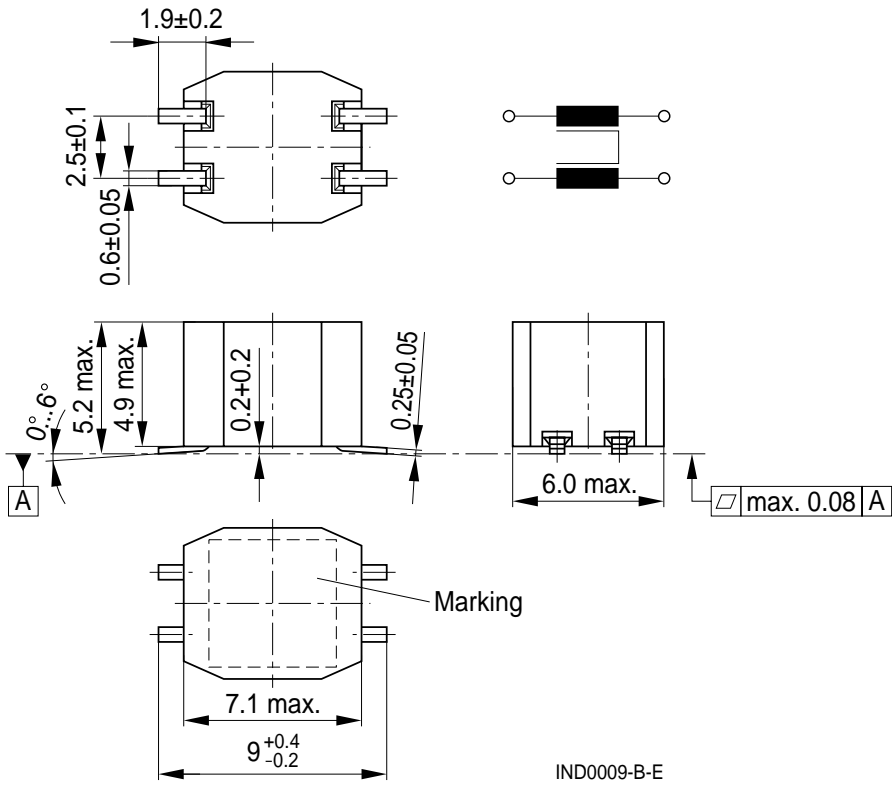
**Delivery mode**

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

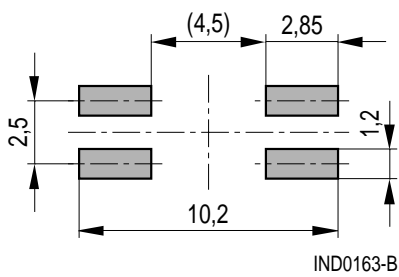
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Dimensional drawing



Layout recommendation



**Double chokes**
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**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

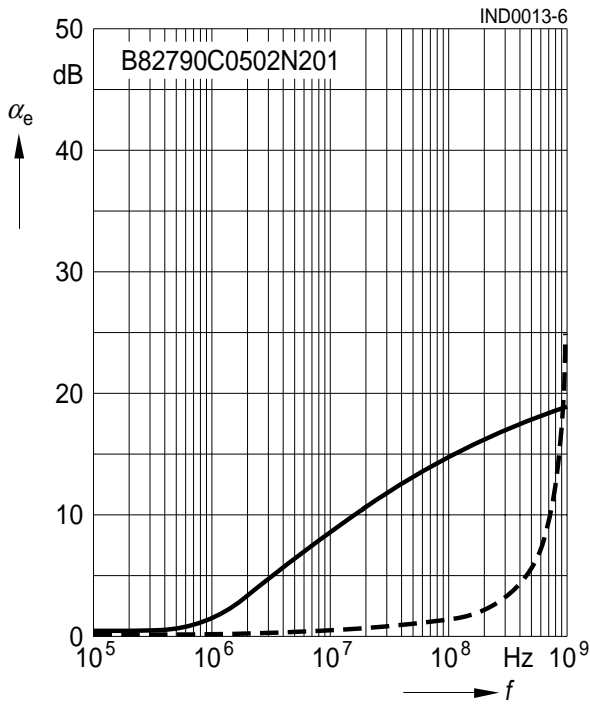
SMD

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

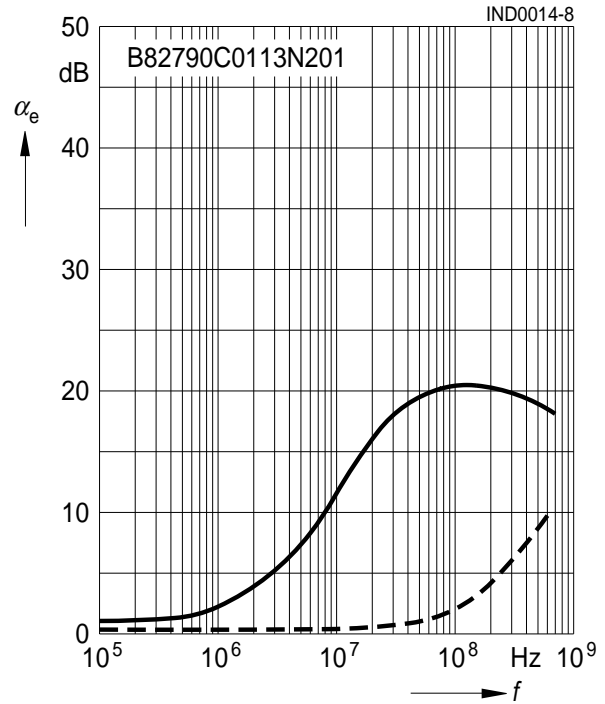
———— asymmetrical, all branches in parallel (common mode)

- - - - - symmetrical (differential mode)

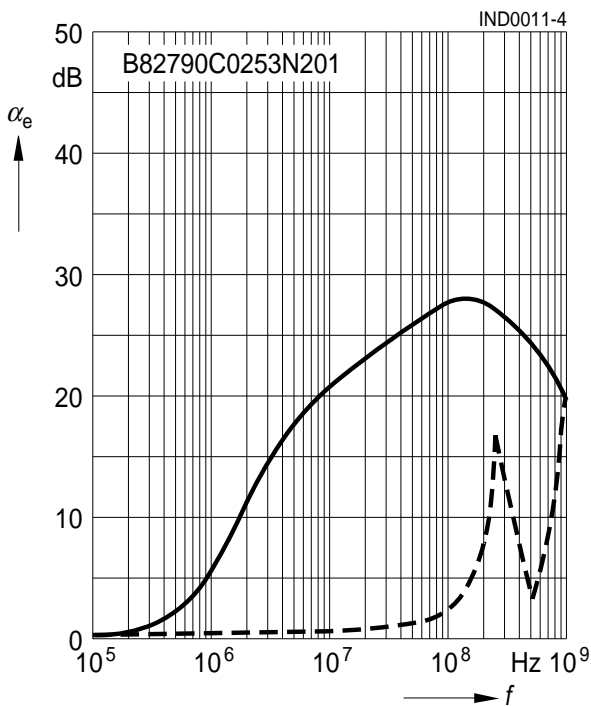
$L_R = 0.005 \text{ mH}$



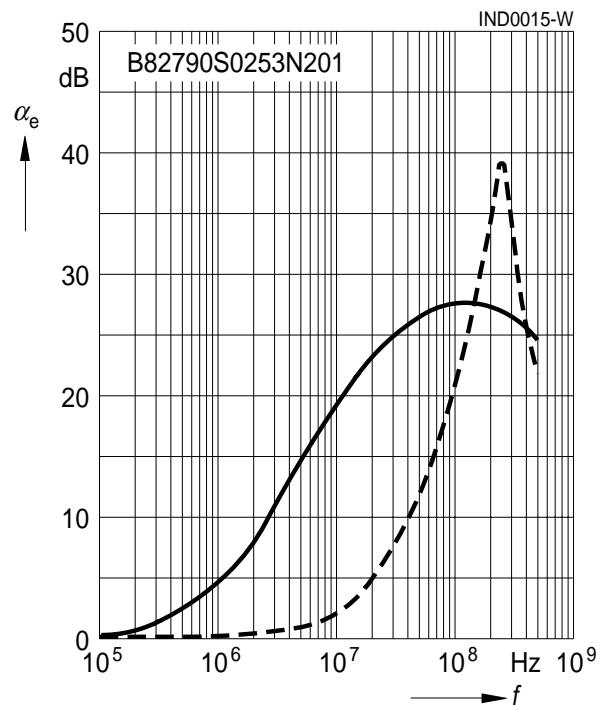
$L_R = 0.011 \text{ mH}$



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



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



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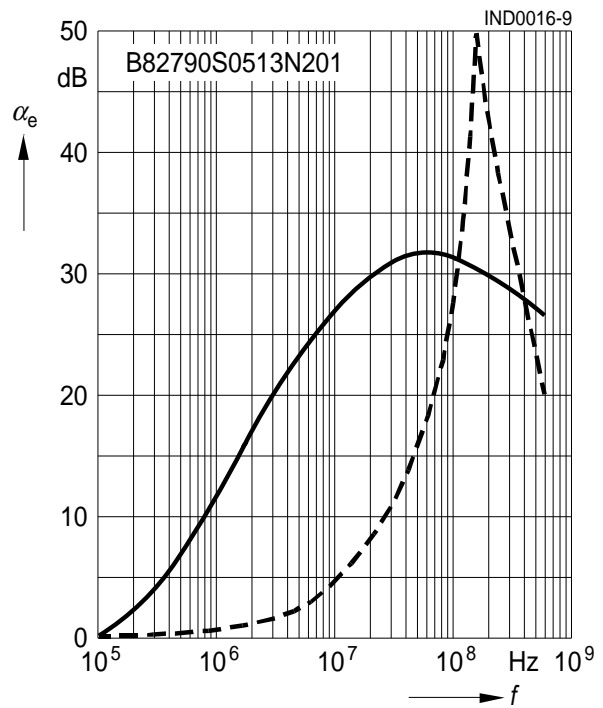
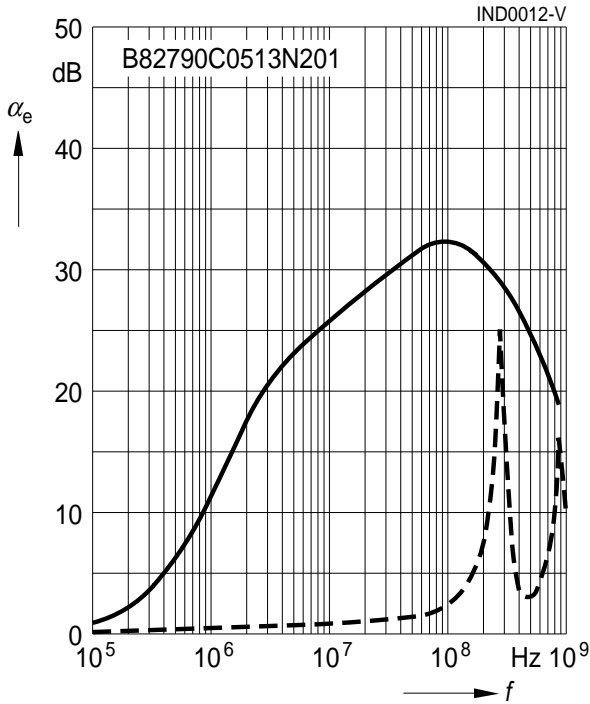
Insertion loss  $\alpha_e$  (typical values at  $Z = 50 \Omega$ )

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

- - - - - symmetrical (differential mode)

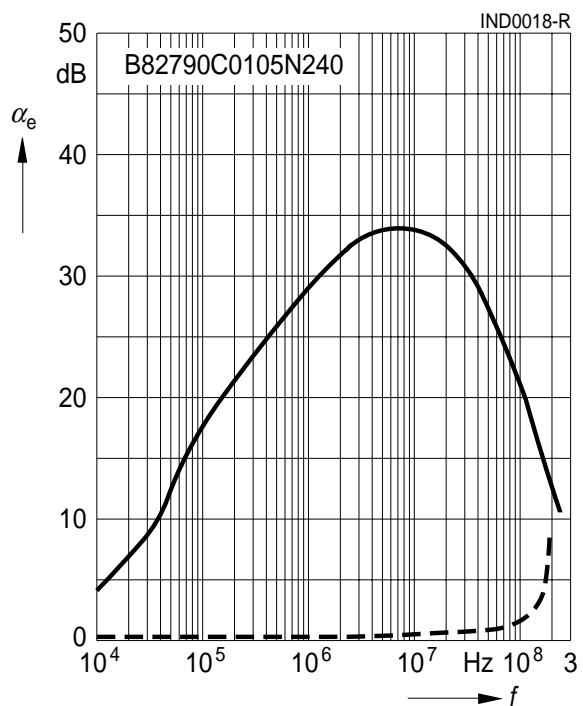
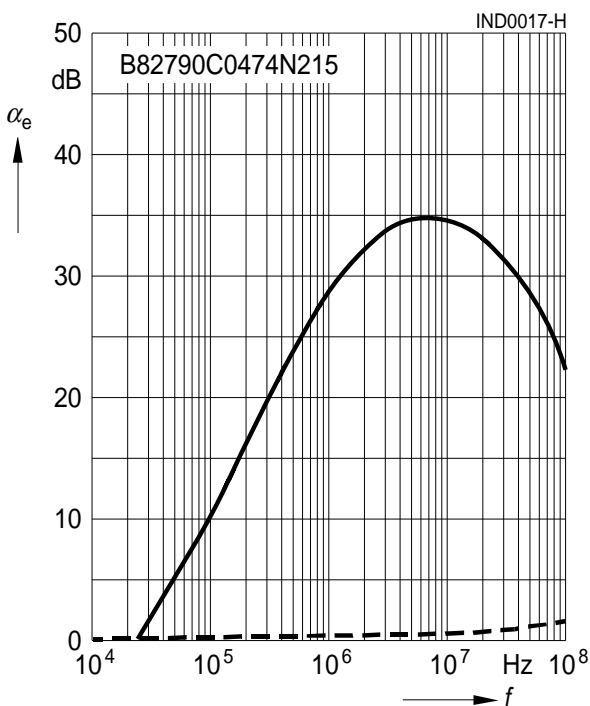
$L_R = 0.051 \text{ mH}$  (low  $L_S$ )

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



$L_R = 0.47 \text{ mH}$

$L_R = 1.0 \text{ mH}$



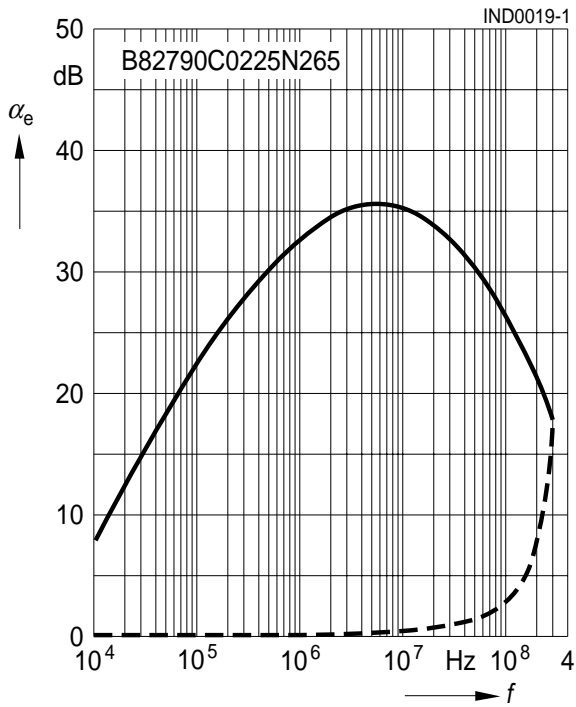
Double chokes

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

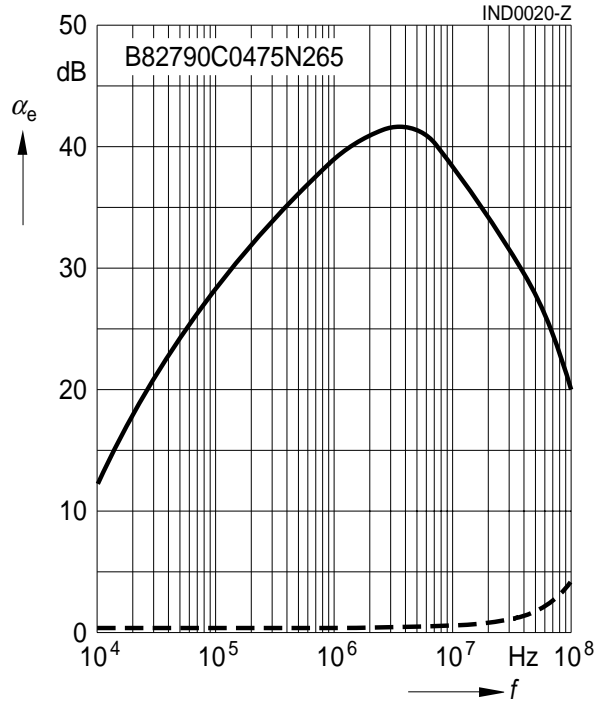
———— asymmetrical, all branches in parallel (common mode)

- - - - - symmetrical (differential mode)

$L_R = 2.2 \text{ mH}$



$L_R = 4.7 \text{ mH}$



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