



# Data line chokes

**Series/Type: B82793C2**

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B82793C2474N215		2014-08-08	2014-11-30	2015-02-28
B82793C2473N201		2014-08-08	2014-11-30	2015-02-28
B82793C2225N265		2014-08-08	2014-11-30	2015-02-28

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Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B82793C2113N201		2014-08-08	2014-11-30	2015-02-28

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**SMD**

**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
- LCP case (UL 94 V-0)
- Silicone potting
- Bifilar winding

**Features**

- Suitable for reflow soldering
- RoHS-compatible

**Function**

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

**Applications**

- Telecom applications
- ISDN systems

**Terminals**

- Base material CuSn6
- Layer composition Ni, Sn
- Hot-dipped

**Marking**

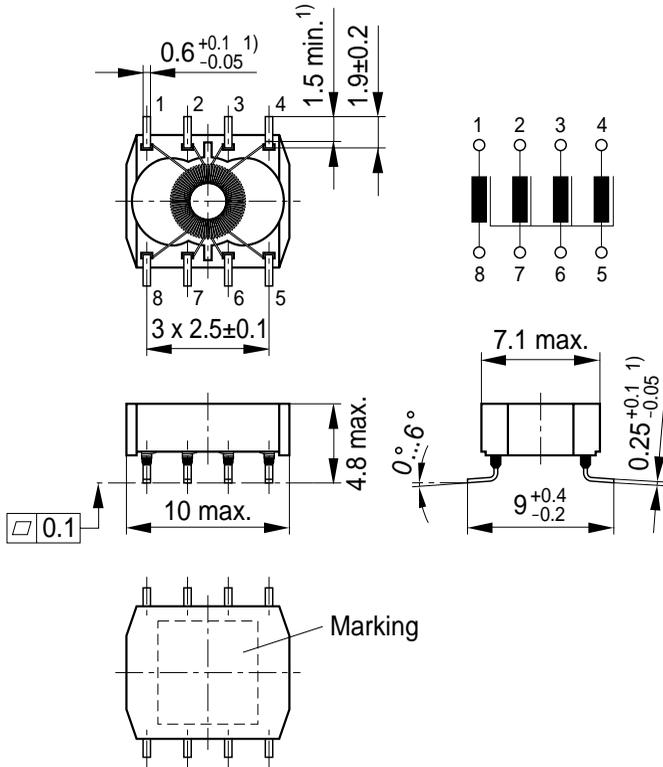
- Marking on component:  
Manufacturer, ordering code,  
date of manufacture (YWWD)
- Minimum data on reel:  
Manufacturer, ordering code, L value and tolerance,  
quantity, date of packing

**Delivery mode and packing unit**

- 16-mm blister tape, wound on 330-mm Ø reel
- Packing unit: 1000 pcs./reel

**SMD**

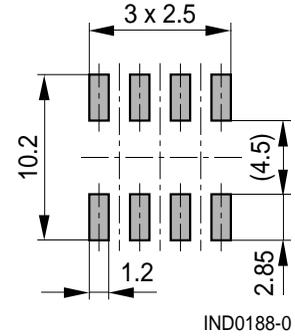
**Dimensional drawing and pin configuration**



1) Soldering area

IND0187-L-E

**Layout recommendation**

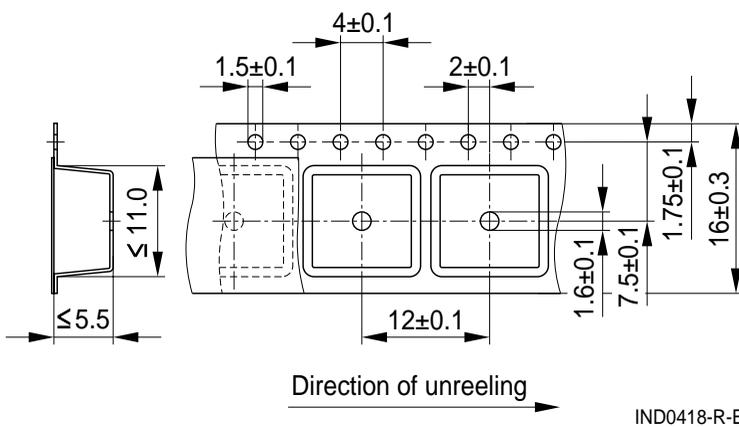


IND0188-0

Dimensions in mm

**Taping and packing**

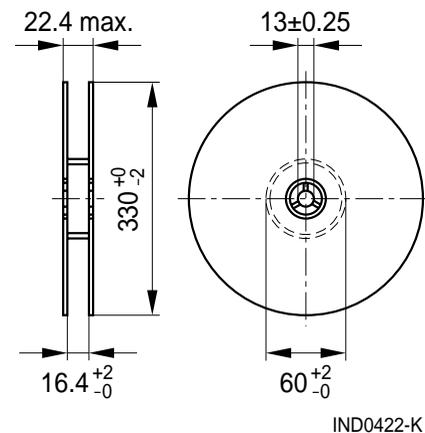
Blister tape



IND0418-R-E

Dimensions in mm

Reel



IND0422-K

SMD
**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: $L_R \leq 1 \text{ mH} = 100 \text{ kHz}$ $L_R > 1 \text{ mH} = 10 \text{ kHz}$ 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: $L_R \leq 11 \mu\text{H} = 1 \text{ MHz}$ $L_R > 11 \mu\text{H} = 100 \text{ kHz}$
DC resistance $R_{\text{typ}}$	Measured at 20 °C, typical values, specified per winding
Solderability (lead-free)	Sn96.5Ag3.0Cu0.5: (245 ±5) °C, (3 ±0.3) s Wetting of soldering area ≥ 95% (to IEC 60068-2-58)
Resistance to soldering heat	(260 ±5) °C, (10 ±1) s (to IEC 60068-2-58)
Climatic category	40/125/56 (to IEC 60068-1)
Storage conditions (packaged)	-25 °C ... +40 °C, ≤ 75% RH
Weight	Approx. 0.4 g

**Characteristics and ordering codes**

$L_R$ mH	$L_{\text{stray,typ}}$ nH	$I_R$ mA	$R_{\text{typ}}$ mΩ	$V_{\text{test}}$ V DC, 2 s	Ordering code
0.011	120	200	60	750	B82793C2113N201
0.047	170	150	150	750	B82793C2473N201
0.47	170	100	350	750	B82793C2474N215
2.2	220	100	400	750	B82793C2225N265

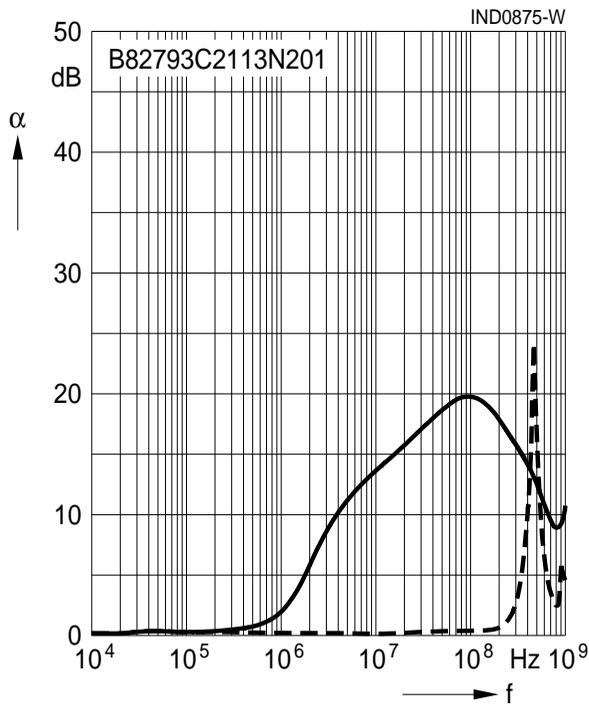
**SMD**

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

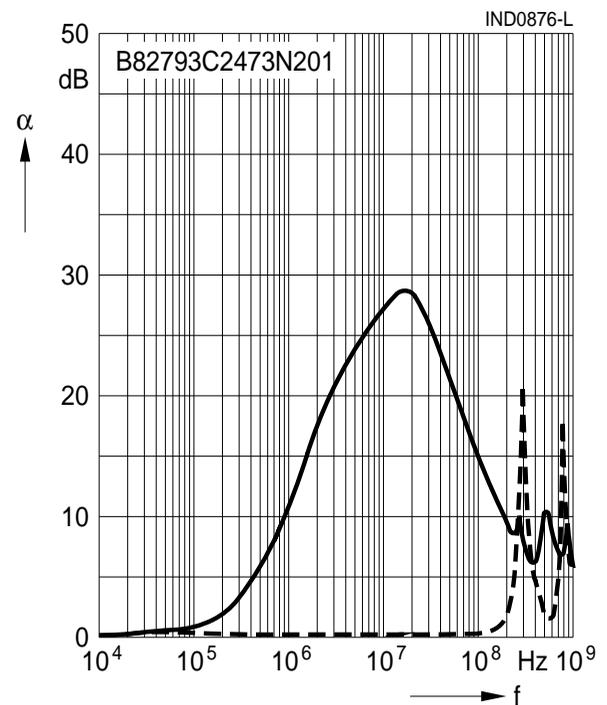
———— asymmetrical, all branches in parallel (common mode)

- - - - - symmetrical (differential mode)

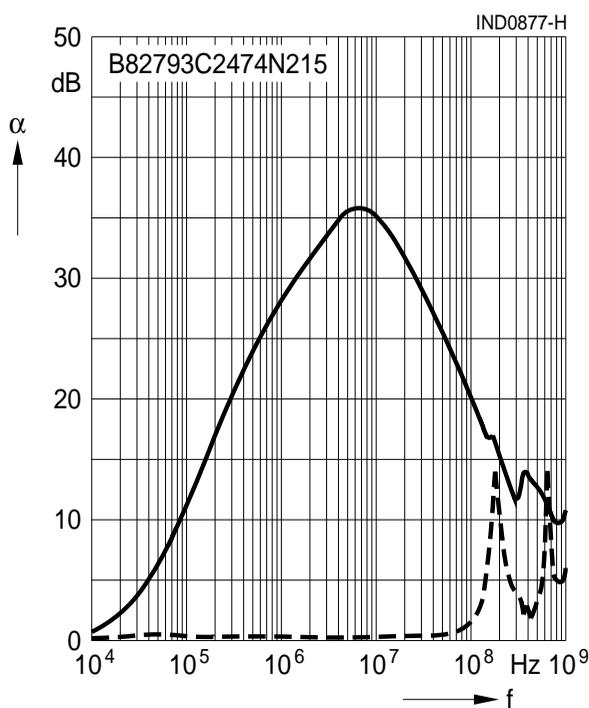
$L_R = 0.011 \text{ mH}$



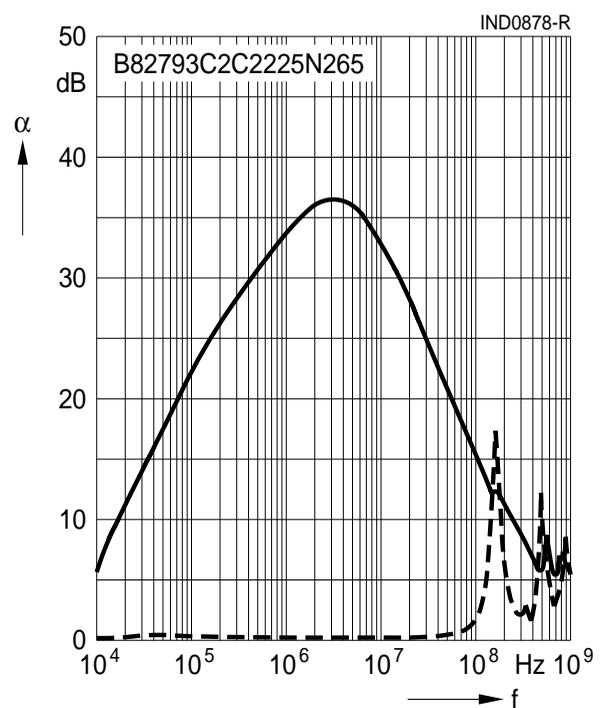
$L_R = 0.047 \text{ mH}$



$L_R = 0.47 \text{ mH}$

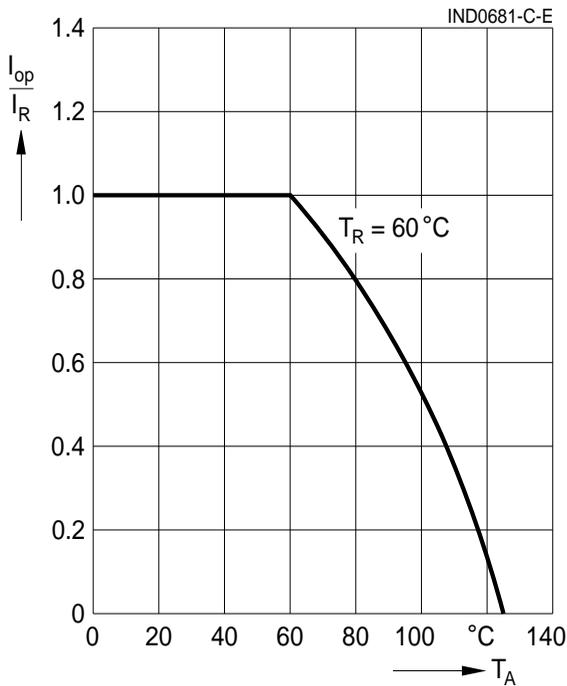


$L_R = 2.2 \text{ mH}$



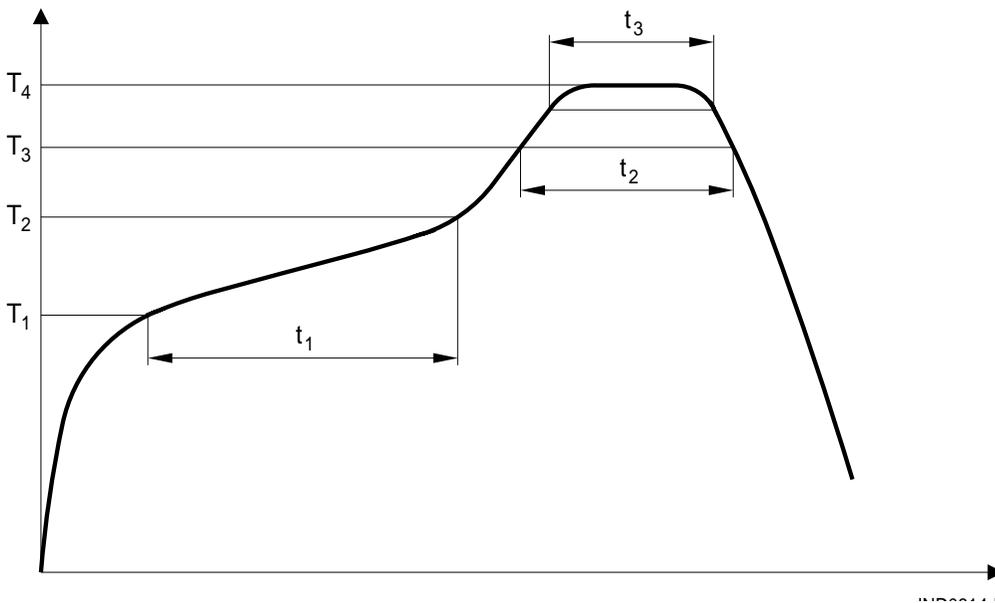
**SMD**

**Current derating  $I_{op}/I_R$  versus ambient temperature**



**Recommended reflow soldering curve**

Pb-free solder material (based on JEDEC J-STD 020C)



$T_1$ °C	$T_2$ °C	$T_3$ °C	$T_4$ °C	$t_1$ s	$t_2$ s	$t_3$ s
150	200	217	250	< 110	< 90	< 30 @ $T_4 - 5$ °C

Time from 25 °C to  $T_4$ : max 300 s

Maximal numbers of reflow cycles: 3

## 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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