

# Data and signal line chokes

Common-mode chokes, ring core 4.7 ... 10 mH, 200 ... 300 mA, 40 °C

 Series/Type:
 B82720H14

 Date:
 October 2008

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# Data and signal line chokes

Common-mode chokes, ring core

Rated voltage 42 V AC/80 V DC Rated inductance 4.7 mH to 10 mH Rated current 200 mA to 300 mA

### Construction

- Current-compensated ring core double choke
- Ferrite core
- Polycarbonate case (UL 94 V-0)
- Polyurethane potting (UL 94 V-0)

### Features

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

# Applications

- Telecom switching systems
- Terminal systems
- Measuring and control lines

### Terminals

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

# Marking

Manufacturer, ordering code, rated inductance, rated current, date of manufacture (YYWWD)

# **Delivery mode**

Cardboard box



# **公TDK**

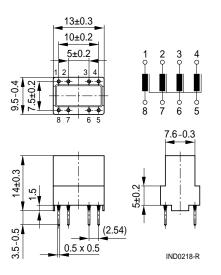
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# Data and signal line chokes

#### Common-mode chokes, ring core

#### Dimensional drawing and pin configuration



Tolerances to ISO 2768-M unless otherwise noted.

Dimensions in mm

#### Technical data and measuring conditions

Rated voltage V <sub>R</sub>	42 V AC (50/60 Hz) / 80 V DC		
Rated temperature T <sub>R</sub>	40 °C		
Rated current I <sub>R</sub>	Referred to 50 Hz and rated temperature		
Rated inductance L <sub>R</sub>	Measured with Agilent 4284A at 10 kHz, 0.1 mA, 20 °C 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 <sub>R</sub> , 20 °C		
Stray inductance L <sub>stray,typ</sub>	Measured with Agilent 4284A at 10 kHz, 5 mA, 20 °C, typical values		
DC resistance R <sub>typ</sub>	Measured at 20 °C, typical values		
Solderability (lead-free)	Sn96.5Ag3.0Cu0.5: $(245 \pm 5)$ °C, $(3 \pm 0.3)$ s Wetting of soldering area $\ge 95\%$ (to IEC 60068-2-20, test Ta)		
Resistance to soldering heat (wave soldering)	(260 ±5) °C, (10 ±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, ≤75% RH		
Weight	Approx. 2.3 g		



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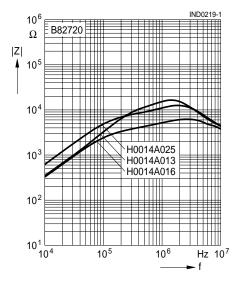
Common-mode chokes, ring core

#### Characteristics and ordering codes

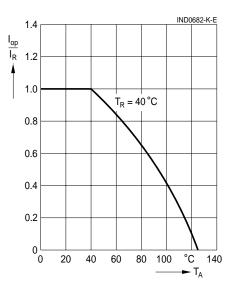
L <sub>R</sub>	L <sub>stray,typ</sub>	I <sub>R</sub>	R <sub>typ</sub>	V <sub>test</sub>	Ordering code
mH	nH	mA	mΩ	V DC, 2 s	
4.7	350	300	900	750	B82720H0014A016
5.0	400	300	550	750	B82720H0014A013
10	450	200	1300	750	B82720H0014A025

#### Impedance |Z| versus frequency f

measured with windings in parallel at 20 °C, typical values



# Current derating I<sub>op</sub>/I<sub>R</sub> versus ambient temperature



B82720H14



#### 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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