Power line chokes

Current-compensated ring core double chokes
250 V AC, 0.3 … 6 A, 0.2 … 47 mH

Series/Type: **B82721A/J/K**

Date: October 2008, January 2009

Rated voltage 250 V AC
Rated current 0.3 A to 6 A
Rated inductance 0.2 mH to 47 mH

B82721A

Construction

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

B82721J

Features

- High resonance frequency due to special winding technique
- Approx. 1% stray inductance for symmetrical interference suppression
- Suitable for wave soldering
- Design complies with EN 60938-2 (VDE 0565-2)
- UL and/or VDE approvals
- RoHS-compatible

B82721K

Applications

- Suppression of common-mode interferences
- Electronic ballasts in lamps
- Switch-mode power supplies

Terminals

- Base material CuNi18Zn20
- Layer composition Ni, Sn
- Hot-dipped
- Pins 0.7 × 0.7 mm
- Lead spacing 10 × 5 (mm) or 10 × 15 (mm)

Marking

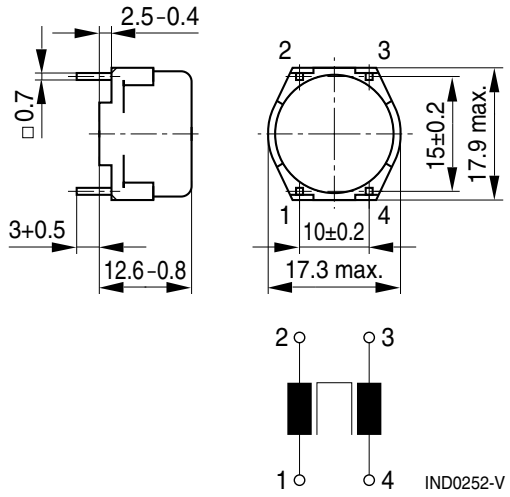
Manufacturer, approval signs and/or VDE standard number, ordering code, graphic symbol, rated current, rated voltage, rated inductance, date of manufacture (YYWWD)

Delivery mode

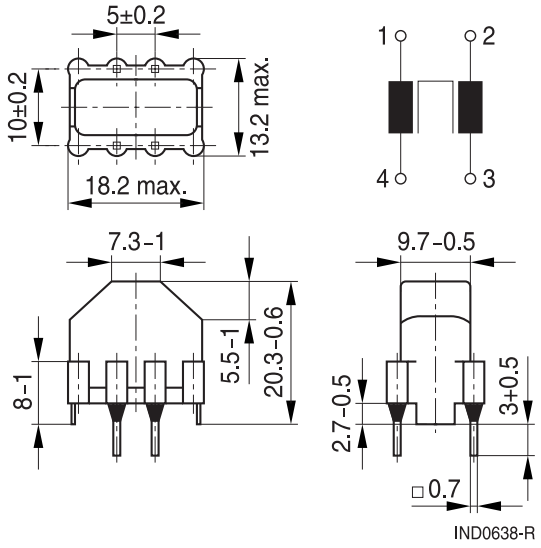
Blister tray in cardboard box

Dimensional drawings and pin configurations

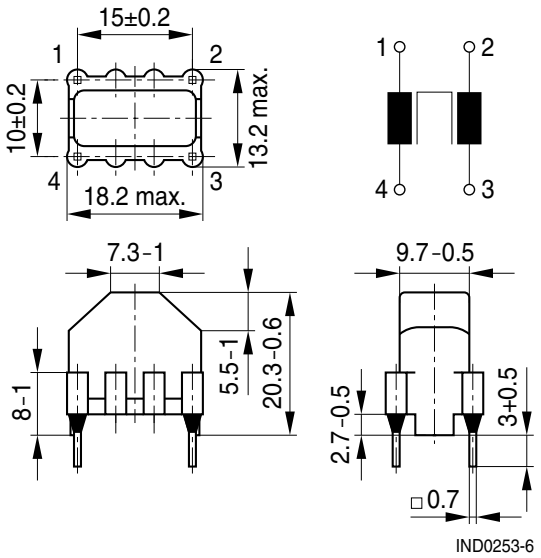
Horizontal version (B82721A)



Vertical version (B82721J)



Vertical version (B82721K)



Tolerances to ISO 2768-C unless otherwise noted.

Dimensions in mm

Technical data and measuring conditions

Rated voltage V_R	250 V AC (50/60 Hz)
Test voltage V_{test}	1500 V AC, 2 s (line/line)
Rated temperature T_R	40 °C / 50 °C / 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% at 20 °C
Inductance decrease $\Delta L/L_0$	< 10% at DC magnetic bias with I_R, 20 °C
Stray inductance $L_{stray,typ}$	Measured with Agilent 4284A at 5 mA, 20 °C, typical values Measuring frequency: $L_R \leq 1$ mH = 100 kHz $L_R > 1$ mH = 10 kHz
DC resistance R_{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 60068-2-20, 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. 5 g
Approvals	EN 60938-2, UL 1283

Characteristics and ordering codes

Horizontal version B82721A

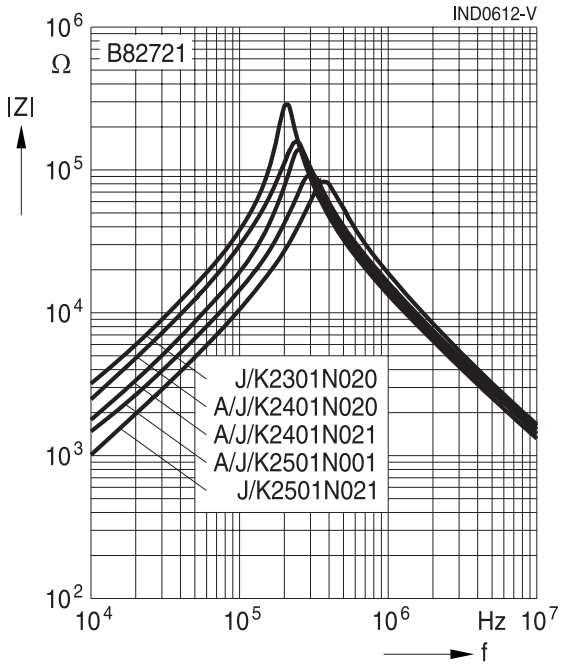
I_R	L_R	$L_{stray,typ}$	R_{typ}	T_R	Ordering code	Approvals	
A	mH	µH	mΩ	°C	Horizontal version		
0.4	39	450	2000	40	B82721A2401N020	×	×
0.4	27	300	1700	40	B82721A2401N021	×	×
0.5	18	250	1400	40	B82721A2501N001	×	×
0.6	15	170	700	40	B82721A2601N020	–	–
0.7	10	110	550	60	B82721A2701N020	×	×
1.2	6.8	80	280	40	B82721A2122N020	×	×
1.5	3.3	37	180	40	B82721A2152N001	×	×
2.0	1.0	13	80	40	B82721A2202N001	×	×
2.6	0.4	6	55	40	B82721A2262N001	×	×
3.6	0.4	6	35	40	B82721A2362N001	×	×
4.0	0.7	7	30	40	B82721A2402N020	–	–

Vertical versions B82721J, B82721K

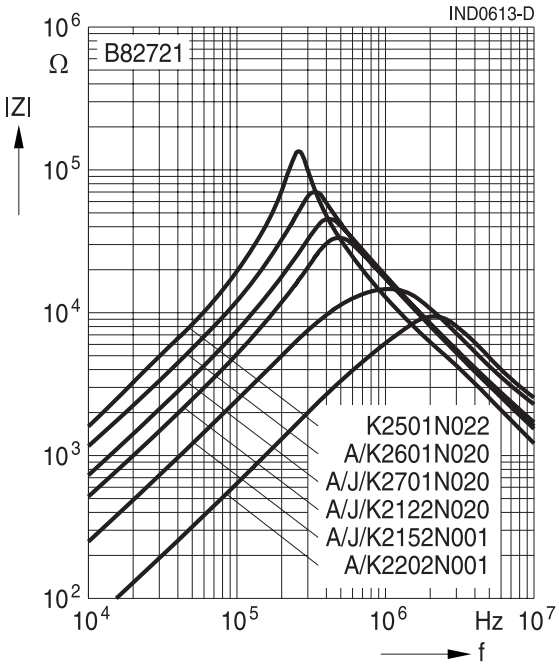
I_R	L_R	$L_{stray,typ}$	R_{typ}	T_R	Ordering code		Approvals	
A	mH	µH	mΩ	°C	Vertical version (J)	Vertical version (K)		
0.3	47	500	2200	50	B82721J2301N020	B82721K2301N020	×	×
0.4	39	450	2000	40	B82721J2401N020	B82721K2401N020	×	×
0.4	27	300	1700	40	B82721J2401N021	B82721K2401N021	×	×
0.5	18	250	1400	40	B82721J2501N001	B82721K2501N001	×	×
0.5	15	160	800	40	B82721J2501N021	–	–	–
0.5	15	160	800	40	–	B82721K2501N021	×	–
0.5	27	290	1100	60	–	B82721K2501N022	–	–
0.6	15	170	700	40	–	B82721K2601N020	–	–
0.7	10	110	550	60	B82721J2701N020	B82721K2701N020	×	×
1.2	6.8	80	280	40	B82721J2122N020	B82721K2122N020	×	×
1.5	3.3	37	180	40	B82721J2152N001	B82721K2152N001	×	×
2.0	1.0	13	80	40	–	B82721K2202N001	×	×
2.5	0.6	8	60	40	–	B82721K2252N020	–	–
2.6	0.4	6	55	40	–	B82721K2262N001	×	×
3.6	0.4	6	35	40	–	B82721K2362N001	×	×
4.0	0.7	7	30	40	–	B82721K2402N020	–	–
6.0	0.2	2.5	15	40	–	B82721K2602N020	–	–

× = approval granted

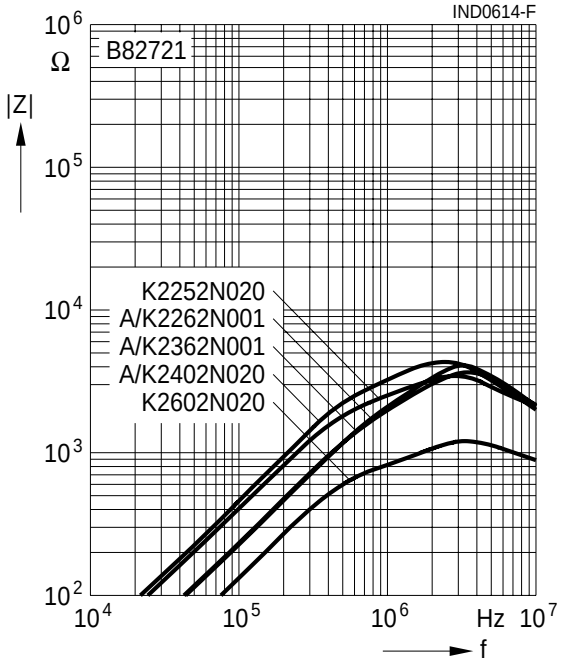
Impedance |Z| versus frequency f
measured with windings in parallel at 20 °C, typical values



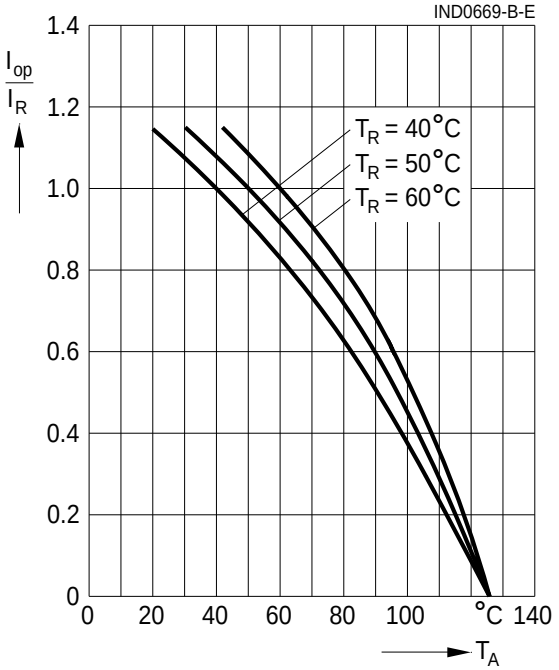
Impedance |Z| versus frequency f
measured with windings in parallel at 20 °C, typical values



Impedance |Z| versus frequency f
measured with windings in parallel at 20 °C, typical values



Current derating I_{op}/I_R versus temperature T_A



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.

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.**

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