

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



Current-compensated ring core double chokes

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

Construction

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

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)
- RoHS-compatible

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



B82721A



B82721J



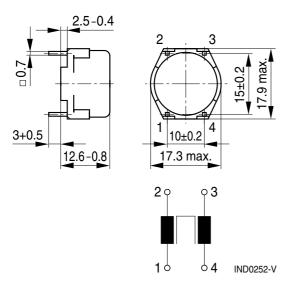
B82721K



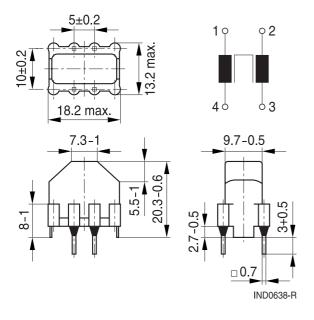
Current-compensated ring core double chokes

Dimensional drawings and pin configurations

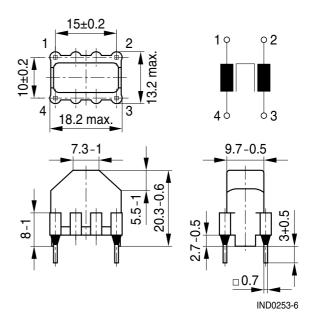
Horizontal version (B82721A)



Vertical version (B82721J)



Vertical version (B82721K)



Tolerances to ISO 2768-C unless otherwise noted.

Dimensions in mm



Current-compensated ring core double chokes

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: $L_R \le 1$ mH = 100 kHz $L_R > 1$ mH = 10 kHz Inductance is specified per winding.		
Inductance tolerance	±30% at 20 °C		
Inductance decrease ΔL/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: $L_R \le 1$ 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 $\geq 95\%$ (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		



Current-compensated ring core double chokes

Characteristics and ordering codes

Horizontal version B82721A

I_R	L_R	L _R L _{stray,typ}	R _{typ}	T_{R}	Ordering code	Approvals	
Α	mH	μН	mΩ	°C	Horizontal version	6	<i>71</i> 2
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		Appro	vals
Α	mH	μΗ	mΩ	°C	Vertical version (J)	Vertical version (K)	<u>®</u> ve	<i>7</i> .
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	_	

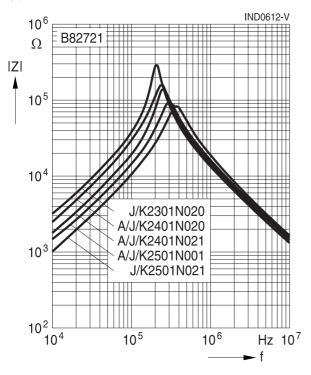
 $[\]times$ = approval granted



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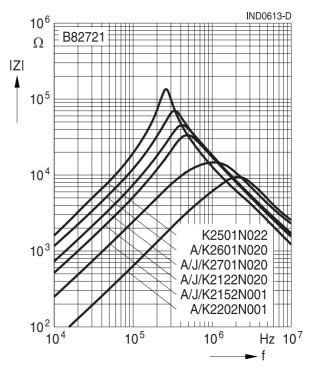
Impedance |Z| versus frequency f

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



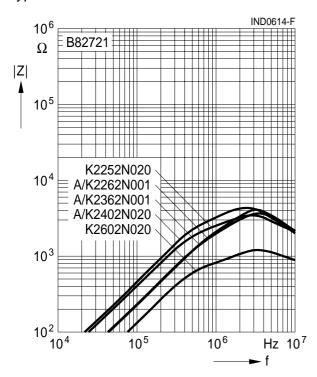
Impedance |Z| versus frequency f

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

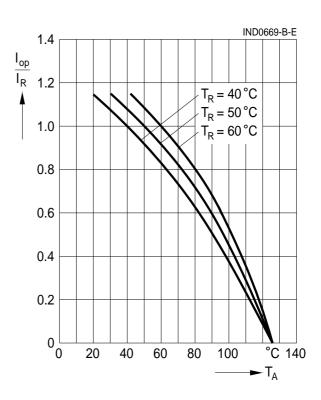


Impedance |Z| versus frequency f

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.



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