



Power line chokes

Current-compensated ring core double chokes
250 V AC, 0.5 ... 6 A, 1 ... 82 mH

Series/Type: B82724A/J

Date: October 2008, January 2009, October 2011

Rated voltage 250 V AC

Rated current 0.5 A to 6 A

Rated inductance 1 mH to 82 mH


Construction

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



B82724A

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) and UL 1283
- UL¹⁾ and/or ENEC (VDE) approvals 
- RoHS-compatible



B82724J

Applications

- Suppression of common-mode interferences
- Switch-mode power applications
- Electronic ballasts in lamps
- Power inverters

Terminals

- Base material CuNi18Zn20
- Layer composition Ni, Sn
- Hot-dipped
- Pins 0.7 × 0.7 (mm)
- Lead spacing 15 × 12.5 (mm) or 30 × 20 (mm)

Marking

- Manufacturer, approval signs and/or VDE standard number, ordering code, graphic symbol, rated current, rated voltage, rated inductance, date of manufacture (YYWWWD.internal ID code)

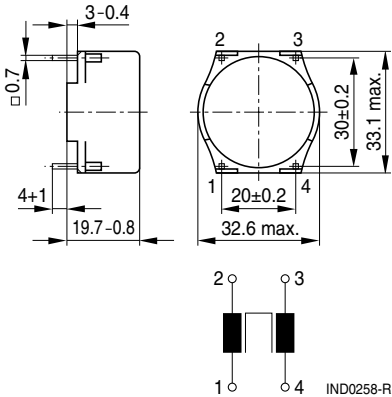
Delivery mode

- Blister tray in cardboard box

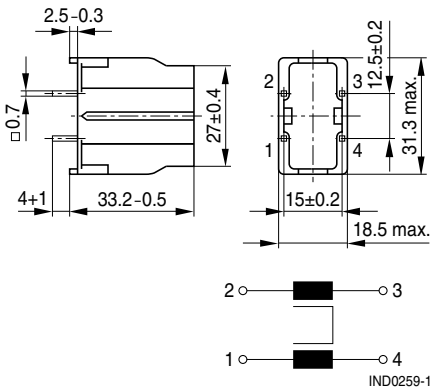
1) UL approval with 300 V AC

Dimensional drawings and pin configuration

Horizontal version (B82724A)



Vertical version (B82724J)





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 / +45 °C / +50 °C / +60 °C / +70 °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	$\pm 30\%$ 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: $L_R \leq 1 \text{ mH} = 100 \text{ kHz}$ $L_R > 1 \text{ mH} = 10 \text{ kHz}$
DC resistance R_{typ}	Measured at +20 °C, typical values, specified per winding
Solderability (lead-free)	Sn96.5Ag3.0Cu0.5: (+245 \pm 5) °C, (3 \pm 0.3) s Wetting of soldering area $\geq 95\%$ (to IEC 60068-2-20, test Ta)
Resistance to soldering heat (wave soldering)	(+260 \pm 5) °C, (10 \pm 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, $\leq 75\%$ RH
Weight	Approx. 27 g ... 32 g
Approvals	EN 60938-2, UL 1283

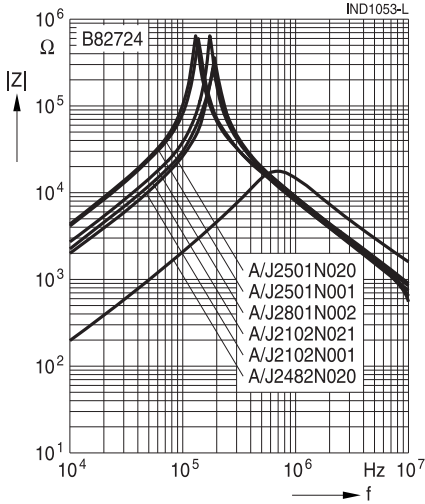
Characteristics and ordering codes

I _R A	L _R mH	L _{stray,typ} μH	R _{typ} mΩ	T _R °C	Ordering code		Approvals	
					Horizontal version	Vertical version		
0.5	82.0	1000	2300	+60	B82724A2501N001	B82724J2501N001	×	×
0.5	68.0	700	2000	+70	B82724A2501N020	B82724J2501N020	–	–
0.8	49.0	500	1950	+50	B82724A2801N002	–	×	–
0.8	49.0	500	1950	+50	–	B82724J2801N002	–	–
1.0	39.0	350	750	+60	B82724A2102N021	B82724J2102N021	×	×
1.0	33.0	400	750	+60	B82724A2102N001	B82724J2102N001	×	×
1.4	37.0	320	420	+60	B82724A2142N021	B82724J2142N021	×	×
1.4	27.0	260	460	+50	B82724A2142N001	B82724J2142N001	×	×
1.6	10.0	120	350	+60	B82724A2162N001	B82724J2162N001	×	×
1.8	33.0	300	400	+40	B82724A2182N021	B82724J2182N021	×	×
2.0	6.8	80	170	+60	B82724A2202N001	B82724J2202N001	×	×
2.2	20.0	180	250	+40	B82724A2222N021	B82724J2222N021	×	×
2.2	15.0	140	210	+45	B82724A2222N020	B82724J2222N020	×	×
2.5	10.0	90	140	+40	B82724A2252N020	B82724J2252N020	×	×
2.5	5.6	55	125	+60	B82724A2252N001	B82724J2252N001	×	×
2.7	6.6	60	110	+60	B82724A2272N020	B82724J2272N020	×	×
3.0	12.0	110	125	+40	B82724A2302N021	B82724J2302N021	×	×
3.3	5.6	45	95	+40	B82724A2332N001	B82724J2332N001	×	×
4.0	4.7	40	65	+60	B82724A2402N020	B82724J2402N020	×	×
4.0	3.3	35	65	+60	B82724A2402N001	B82724J2402N001	×	×
4.8	3.3	35	46	+70	B82724A2482N020	B82724J2482N020	–	–
5.0	2.5	25	38	+60	B82724A2502N001	B82724J2502N001	×	×
5.1	4.1	30	46	+60	B82724A2512N020	B82724J2512N020	×	×
6.0	3.3	17	25	+60	B82724A2602N041	B82724J2602N041	×	×
6.0	1.8	20	31	+40	B82724A2602N020	B82724J2602N020	×	×
6.0	1.0	12	23	+60	B82724A2602N001	B82724J2602N001	×	×

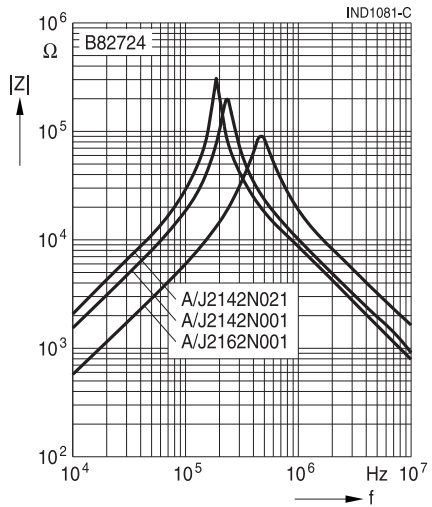
× = approval granted

Current-compensated ring core double chokes

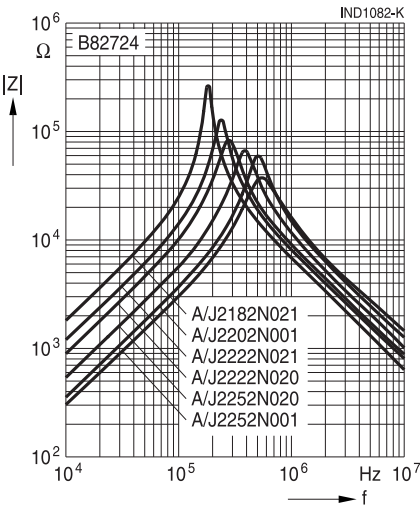
Impedance $|Z|$ versus frequency f
measured with windings in parallel at 20 °C,
typical values



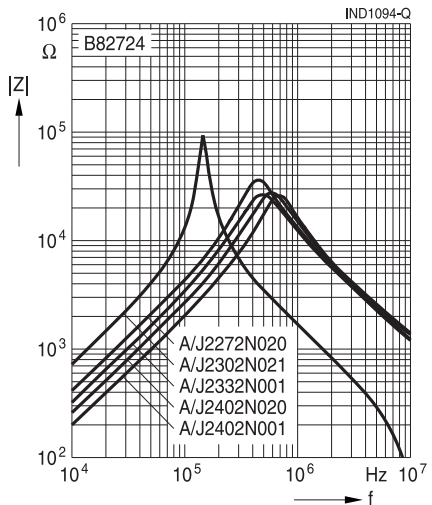
Impedance $|Z|$ versus frequency f
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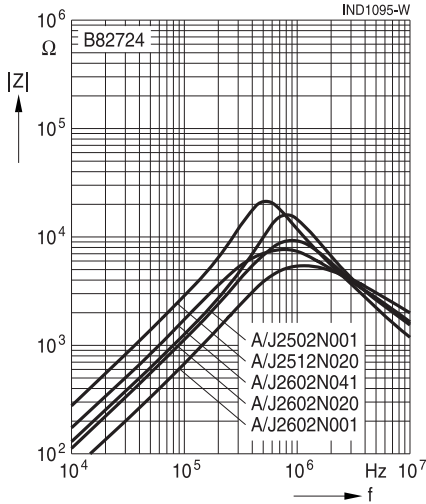
Impedance $|Z|$ versus frequency f
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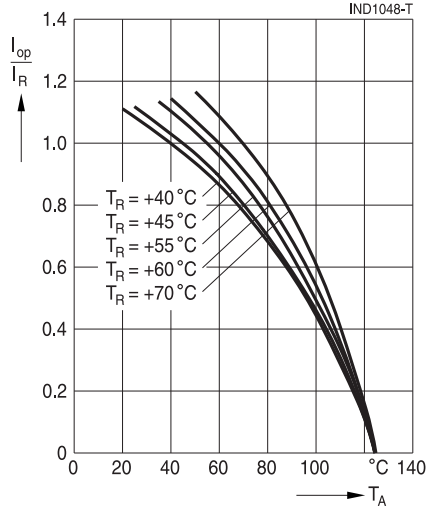
Impedance $|Z|$ versus frequency f
measured with windings in parallel at 20 °C,
typical values



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



Current derating I_{op}/I_R
 versus temperature T_A



Cautions and warnings

Current-compensated ring core double chokes

- 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. Derating must be applied in the case the ambient temperature in application exceeds the rated temperature of the component.
 - Ensure the operation temperature of the component in application, which is the sum of the ambient temperature and the temperature rise owing to losses ("self-heating"), not to exceed the maximum value specified in the climatic category.
 - 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

Current-compensated ring core double chokes

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