Power line chokes

Current-compensated ring core double chokes
250 V AC / 800 V DC, 0.5 é 47 mH, 1.6 é 10 A, +70 ÁC

Series/Type: **B82724J8*N**

Date: March 2022

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Current-compensated ring core double chokes

Rated voltage 250 V AC / 800 V DC
Rated inductance 0.5 ... 47 mH
Rated current 1.6 ... 10 A / +70 ÁC

Construction

- Current-compensated ring core double chokes
- Ferrite core with epoxy coating (UL 94 V-0)
- Plastic case with in-molded pins (UL 94 V-0)[1)]
- Full potting (UL 94 V-0, CTI600)
- Sector winding
- Insulation distances inside potting >2.5 mm

Features

- High resonance frequency due to special winding technique
- Approx. 0.5% stray inductance for symmetrical interference suppression
- Significantly increased nominal inductance and current values at high rated temperature
- Completely potted for local reduction of pollution degree (micro environment) and thermal stability
- Suitable for wave soldering
- Design complies with EN 60938-2 (VDE 0565-2)[2)]
- ENEC (VDE) approval[3)]
- RoHS-compatible

Applications

- Suppression of common-mode interferences
- Switch-mode power applications
- High voltage applications
- Frequency converters

Terminals

- Base material CuNi18Zn290
- Layer composition Ni, Sn
- Hot-dipped
- Pins 0.7 mm x 0.7 mm
- Lead spacing 15 mm x 12.5 mm

Marking

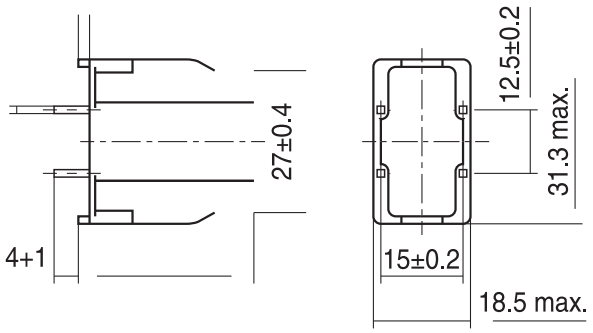
Product brand, ordering code, approval sign, graphic symbol, rated current, rated DC voltage, rated inductance, date of manufacture (YYWWD.internal ID code), production place identification code

Delivery mode

- Blister tray in cardboard box

1) Additionally certified values:
   Glow wire flammability index (GWFI to IEC 60695-2-12): +850 ÁC
   Glow wire ignition temperature (GWIT to IEC 60695-2-13): +775 ÁC
   Comparative tracking index (CTI to IEC 60112): 175 V
   Ball pressure test (BP to IEC 60695-10-2): +125 ÁC
2) For AC power-line applications only.
3) For 250 V AC only.

Dimensional drawings and pin configurations



IND1431-0-E

Part tolerances to ISO 2768-cL / ISO 8015.
Size ISO 14405 Ⓔ
All dimensions in mm

IND1276-L-E

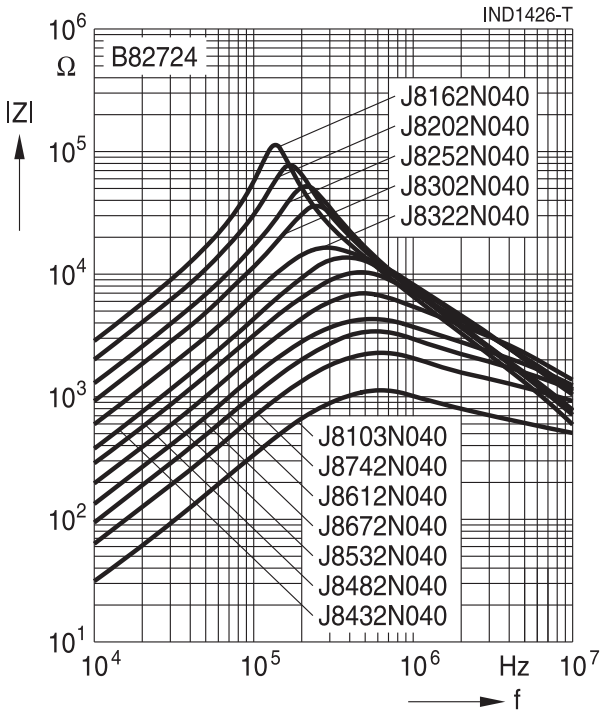
Technical data and measuring conditions

Rated voltage V_R	250 V AC (50 / 60 Hz) / 800 V DC

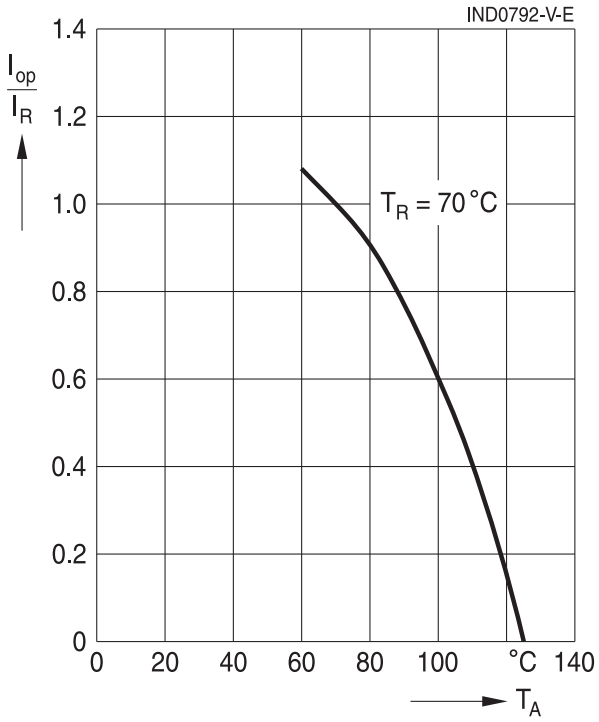
Characteristics and ordering codes

I_R A	L_R mH	$L_{stray,typ}$ µH	R_{typ} mΩ	Ordering code
1.6	47	150.0	295	B82724J8162N040
2.0	33	110.0	200	B82724J8202N040
2.5	22	75.0	135	B82724J8252N040
3.0	15	45.0	90	B82724J8302N040
3.2	10	34.0	80	B82724J8322N040
4.3	6.8	30.0	40	B82724J8432N040
4.8	4.7	15.5	32	B82724J8482N040
5.3	3.3	17.0	26	B82724J8532N040
6.1	1.5	6.0	14	B82724J8612N040
6.7	2.2	8.0	17	B82724J8672N040
7.4	1.0	5.0	12	B82724J8742N040
10.0	0.5	3.0	9	B82724J8103N040

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



Current derating I_{op}/I_R versus ambient temperature T_A
rated temperature T_R= +70 ÁC



Cautions and warnings

- Please note the recommendations in our Inductors data book (latest edition) and in the data sheets.
  - ï Particular attention should be paid to the derating curves given there.
  - ï 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.
  Washing processes may damage the product due to the possible static or cyclic mechanical loads (e.g. ultrasonic cleaning). They may cause cracks to develop on the product and its parts, which might lead to reduced reliability or lifetime.
- The following points must be observed if the components are potted in customer applications:
  - ï 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.
  - ï It is necessary to check whether the potting material used attacks or destroys the wire, wire insulation, plastics or glue.
  - ï The effect of the potting material can change the high-frequency behaviour of the components.
  - ï Many coating materials have a negative effect (chemically and mechanically) on the winding wires, insulation materials and connecting points. Customers are always obligated to determine whether and to what extent their coating materials influence the component.
    Customers are responsible and bear all risk for the use of the coating material. TDK Electronics does not assume any liability for failures of our components that are caused by the coating material.
- Ceramics / 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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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 require ments that are often placed on our products in the areas of application concerned. We never theless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application.** As a rule, we are either unfamiliar with individual customer applications or less familiar with them than the cus tomers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether a product with the properties described in the product specification is suitable for use in a particular customer application.

2. We also point out that **in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified.** In customer applications requiring a very high level of operational safety and especially in customer applications in which the mal function or failure of an electronic component could endanger human life or health (e.g. in acci dent prevention or life-saving systems), it must therefore be ensured by means of suitable de sign of the customer application or other action taken by the customer (e.g. installation of pro tective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.

3. **The warnings, cautions and product-specific notes must be observed**.

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Important notes

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