



## **Power line chokes**

Current-compensated D core double chokes  
250 V AC, 0.35 ... 1.8 A, 3.3 ... 100 mH

**Series/Type:** B82731M/H

**Date:** March 2008

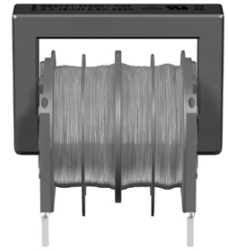
**Rated voltage 250 V AC**

**Rated current 0.35 A to 1.8 A**

**Rated inductance 3.3 mH to 100 mH**


### Construction

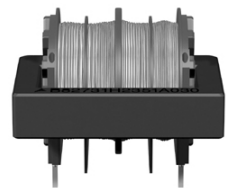
- Current-compensated double choke
- Closed rectangular ferrite core
- Closed polycarbonate coil former (UL 94 V-0)
- Without encapsulation
- 2-section winding
- Clearance and creepage distances > 3 mm



B82731M

### Features

- High resonance frequency due to 2-section winding
- Approx. 1% stray inductance for symmetrical interference suppression
- Low leakage due to closed core shape
- High pulse strength
- Low whirring noise
- Suitable for wave soldering
- Design complies with EN 60938-2 (VDE 0565-2)
- UL and VDE approvals 
- Recyclable owing to omission of encapsulation and glue
- RoHS-compatible



B82731H

### Applications

- Suppression of common-mode interferences
- Compact switch-mode power applications
- Electronic ballasts in lamps

### Terminals

- Base material CuNi18Zn20
- Layer composition Ni, Sn
- Hot-dipped
- Pins 0.6 × 0.6 (mm)
- Lead spacing 10 × 12.5 (mm)

### Marking

- B82731M: Manufacturer, rated inductance, rated current, ordering code, approval symbols, date of manufacture (WWYY)
- B82731H: Manufacturer, ordering code

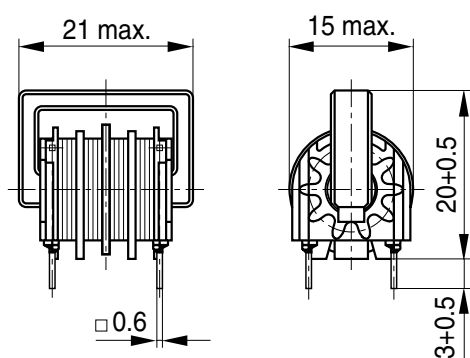
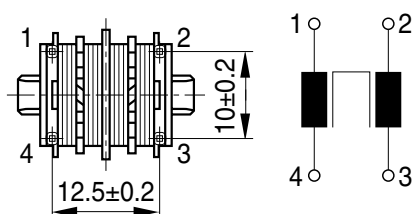
### Delivery mode

Blister tray in cardboard box

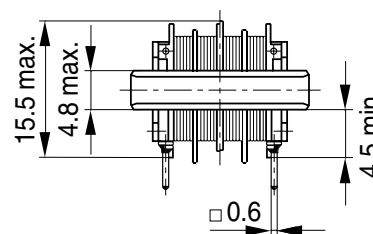
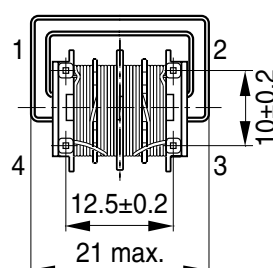
**Dimensional drawings and pin configurations (dimensions in mm)**

Vertical version (B82731M)

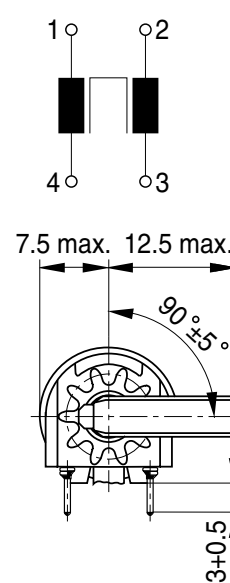
Horizontal version (B82731H)



IND0284-2



Dimensions in mm





IND0285-5

**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  |
| Rated current $I_R$                           | Referred to 50 Hz and rated temperature  |
| Rated inductance $L_R$                        | Measured with Agilent 4284A at 10 kHz, 0.1 mA, 20 °C.<br>Inductance is specified per winding.                |
| Inductance tolerance                          | -30/+50% at 20 °C  |
| Inductance decrease $\Delta L/L_0$            | < 10% at DC magnetic bias with $I_R$ , 20 °C   |
| Stray inductance $L_{stray,typ}$              | Measured with Agilent 4284A at 10 kHz, 5 mA, 20 °C, typ. values  |
| 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<br>Wetting of soldering area ≥ 95%<br>(to IEC 60068-2-20, test Ta) |
| Resistance to soldering heat (wave soldering) | (260 ±5) °C, (10 ±1) s<br>(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. 8 g  |
| Approvals                                     | EN 60938-2, UL 1283  |

Characteristics and ordering codes

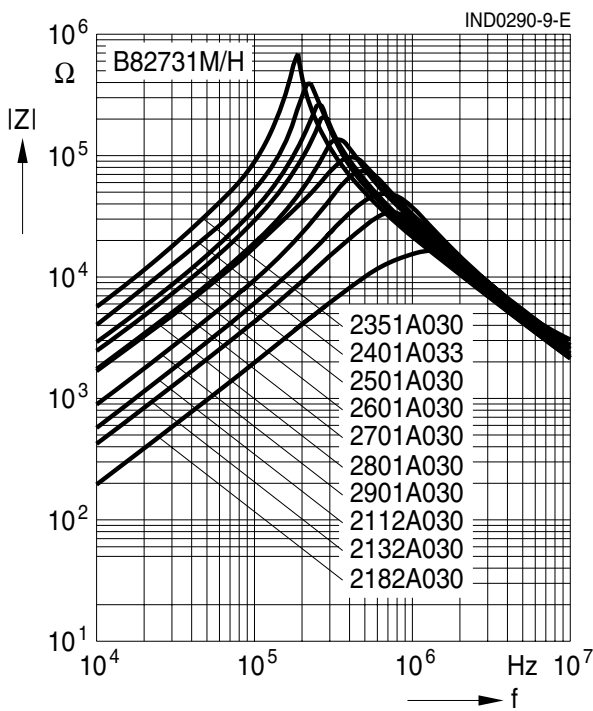
| $I_R$<br>A | $L_R$<br>mH | $L_{stray,typ}$<br>$\mu$ H | $R_{typ}$<br>m $\Omega$ | Ordering code    |                    | Approvals   |   |
|------------|-------------|----------------------------|-------------------------|------------------|--------------------|---|---|
|            |             |                            |                         | Vertical version | Horizontal version |  |  |
| 0.35       | 100         | 1000                       | 4500                    | B82731M2351A030  | B82731H2351A030    | ×   | ×   |
| 0.4        | 68          | 700                        | 3000                    | B82731M2401A033  | B82731H2401A033    | ×   | ×   |
| 0.5        | 47          | 470                        | 2000                    | B82731M2501A030  | B82731H2501A030    | ×   | ×   |
| 0.6        | 39          | 390                        | 1500                    | B82731M2601A030  | B82731H2601A030    | ×   | ×   |
| 0.7        | 27          | 270                        | 1000                    | B82731M2701A030  | B82731H2701A030    | ×   | ×   |
| 0.8        | 22          | 220                        | 800                     | B82731M2801A030  | B82731H2801A030    | —   | —   |
| 0.9        | 15          | 150                        | 600                     | B82731M2901A030  | B82731H2901A030    | ×   | ×   |
| 1.1        | 10          | 100                        | 400                     | B82731M2112A030  | B82731H2112A030    | ×   | ×   |
| 1.3        | 6.8         | 70                         | 280                     | B82731M2132A030  | B82731H2132A030    | ×   | ×   |
| 1.8        | 3.3         | 35                         | 140                     | B82731M2182A030  | B82731H2182A030    | ×   | ×   |

× = approval granted

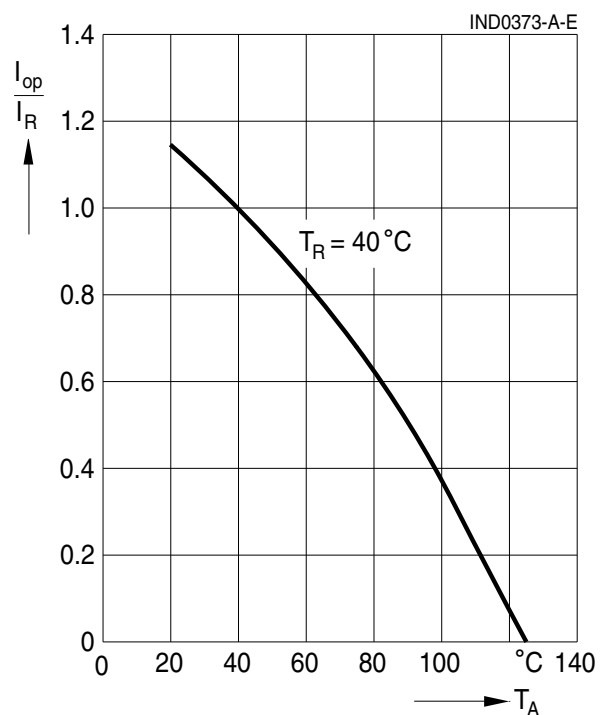
Sample kit available. Ordering code: B82731X001.

For more information refer to chapter “Sample kits”.

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



**Current derating  $I_{op}/I_R$**   
**versus ambient 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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