

Power line chokes

Current-compensated U core double chokes
300 V AC, 0.4 ... 2.6 A, 0.33 ... 15 mH, +40° C

Series/Type: B82730U/G

Date: July 2012

Rated voltage 300 V AC



Rated current 0.4 ... 2.6 A

Rated inductance 0.33 ... 15 mH

Construction

- Current-compensated U-core double choke
- Ferrite core
- Closed PET coil former (UL 94 V-0)
- Without encapsulation
- Creepage distances ≥ 4 mm

Features

- High resonance frequency
- Approx. 1.3% stray inductance for symmetrical interference suppression
- Low whirring noise
- Suitable for wave soldering
- Design complies with EN 60938-2 (VDE 0565-2) and UL 1283
- UL 1446 class 155(F) electrical insulation system
- VDE and UL approvals  
- Plastic material approved to EN 60335-1, clause 30, Glow wire test (GWT): EN 60695 (+850 °C)
- RoHS-compatible

Applications

- Suppression of common-mode interferences
- Compact switch-mode power applications
- Electronic ballasts in lamps
- Suitable for white goods applications

Terminals

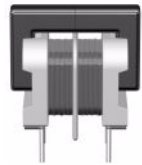
- Base material CP wire
- Hot-dipped
- Pins $\varnothing 0.6$ mm
- Lead spacing 7×8 mm

Marking

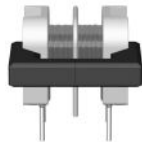
Manufacturer's logo, ordering code (shortened), date of manufacture (WWYY), factory identification code

Delivery mode

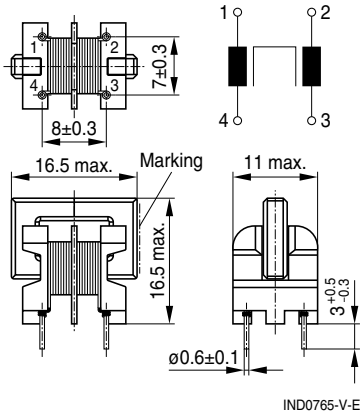
Polystyrene tray (anti-static) in cardboard box



B82730U

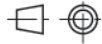
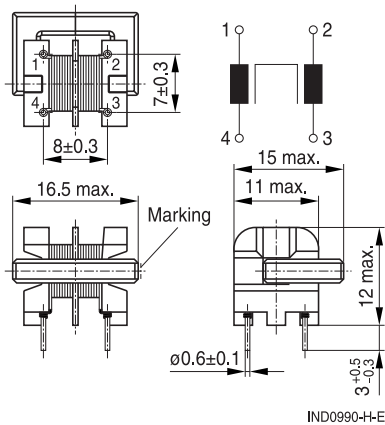


B82730G

Dimensional drawing and pin configuration
Vertical version B82730U


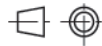
Tolerances to ISO 2768-C unless otherwise noted

Dimensions in mm


Horizontal version B82730G


Tolerances to ISO 2768-C unless otherwise noted

Dimensions in mm



Technical data and measuring conditions

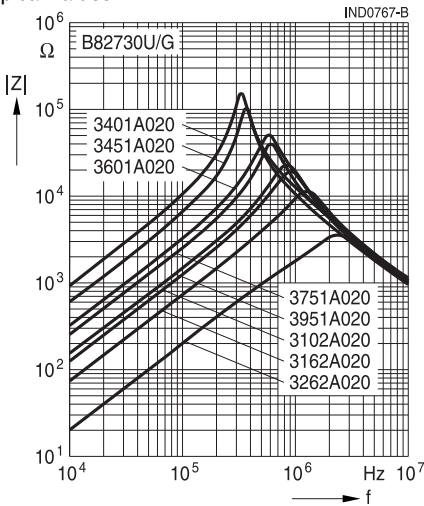
| | |
|---|---|
| Rated voltage V_R | 300 V AC (50/60 Hz) |
| Test voltage V_{test} | 2000 V AC, 2 s (line/line) |
| Rated temperature T_R | +40 °C |
| Rated current I_R | Referred to 50 Hz and rated temperature |
| Rated inductance L_R | Measured with Agilent 4284A at 0.1 mA, +20 °C Measuring frequency: $L_R \leq 1 \text{ mH} = 100 \text{ kHz}$ $L_R > 1 \text{ mH} = 10 \text{ kHz}$ Inductance is specified per winding |
| Inductance tolerance | -30/+50% 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 ±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. 4 g |
| Approvals | EN 60938-2, UL 1283, UL 1446 |

Characteristics and ordering codes

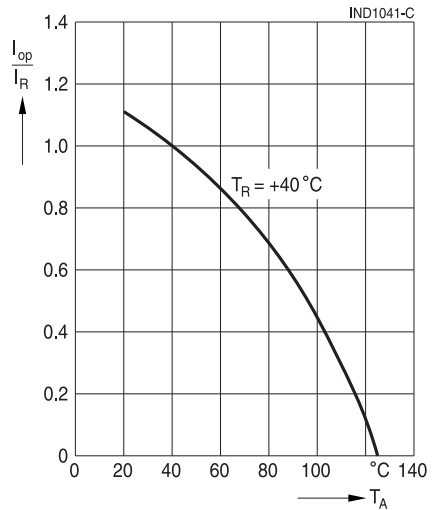
| I_R A | L_R mH | $L_{\text{stray, typ}}$ μH | R_{typ} m Ω | Ordering code | | Approvals | |
|------------|-------------|--|--------------------------------|------------------|--------------------|-----------|---|
| | | | | Vertical version | Horizontal version | | |
| 0.40 | 15 | 200 | 2400 | B82730U3401A020 | B82730G3401A020 | × | × |
| 0.45 | 10 | 140 | 1750 | B82730U3451A020 | B82730G3451A020 | × | × |
| 0.60 | 4.7 | 70 | 920 | B82730U3601A020 | B82730G3601A020 | × | × |
| 0.75 | 3.9 | 55 | 700 | B82730U3751A020 | B82730G3751A020 | × | × |
| 0.95 | 2.2 | 30 | 410 | B82730U3951A020 | B82730G3951A020 | × | × |
| 1.0 | 1.8 | 25 | 340 | B82730U3102A020 | B82730G3102A020 | × | × |
| 1.6 | 1.0 | 14 | 160 | B82730U3162A020 | B82730G3162A020 | × | × |
| 2.6 | 0.33 | 5 | 60 | B82730U3262A020 | B82730G3262A020 | × | × |

× = approval granted

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. Derating must be applied in case the ambient temperature in the application exceeds the rated temperature of the component.
 - Ensure the operation temperature (which is the sum of the ambient temperature and the temperature rise caused by losses / self-heating) of the component in the application does not 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.
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:
 - 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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