

Power line chokes

Current-compensated frame core double chokes
300 V AC, 0.7 ... 2.3 A, 10 ... 100 mH, +40 °C

Series/Type: **B82733F/V**

Date: May 2015

Power line chokes

B82733F/V

Current-compensated frame core double chokes

Rated voltage 300 V AC


Rated inductance 10 ... 100 mH

Rated current 0.7 ... 2.3 A / +40 °C

Construction

- Current-compensated frame double chokes
- Closed magnetic circuit with frame construction made of ferrite
- Epoxy coating (UL94 V-0)
- Plastic coil former (UL94 V-0)
- 2-section winding
- Sector winding
- Clearance and creepage distances >4 mm

Features

- High inductance with low resistance
- Approx. 2% stray inductance for symmetrical interference suppression
- High pulse-handling capability
- Very good inductance/rated current ratio
- Low height (14 mm, B82733F)
- Suitable for wave soldering
- Design complies with EN 60938-2 (VDE 0565-2) and UL 1283
- ENEC (VDE) and UL approval 
- RoHS-compatible

Applications

- Suppression of common-mode and differential-mode interferences
- Electronic ballasts for lamps
- Switch-mode power applications

Terminals

- Base material CP wire
- Hot dipped
- Pins 0.7 × 0.7 mm
- Lead spacing:
 - B82733F: 20 × 22.5 mm
 - B82733V: 10 × 18.75 mm

Marking

Product brand, date of manufacture (YYWWD), production place identification code, ordering code, approval signs

Delivery mode

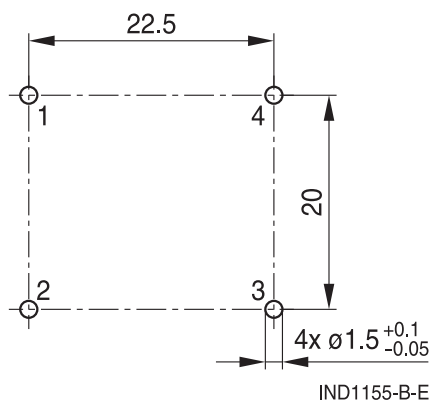
Polystyrene tray, anti-static, in cardboard box



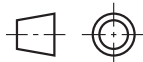
Dimensional drawing and layout recommendation

B82733F (horizontal version)

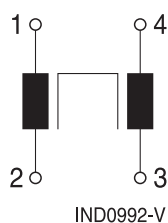
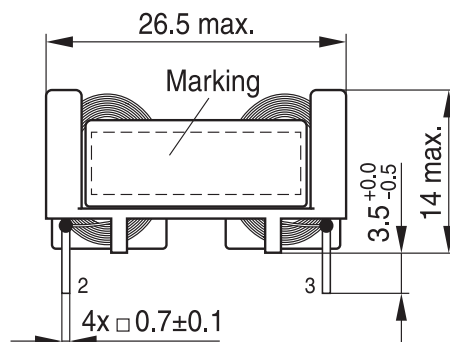
Recommended PCB layout
(top view)



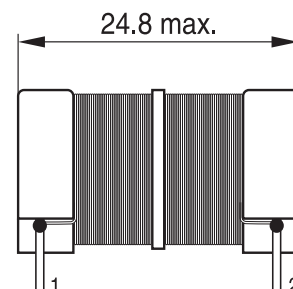
Tolerances to ISO 2768-cl / ISO 8015.
Size ISO 14405 (E)
All dimensions in mm



IND1245-O-E



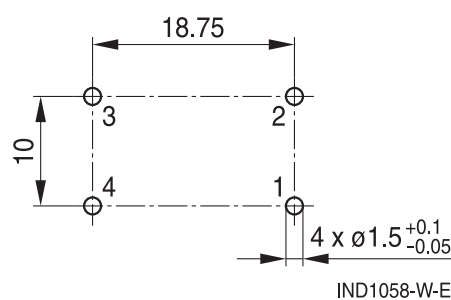
IND0992-V



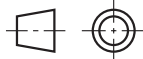
IND1154-P-E

B82733V (vertical version)

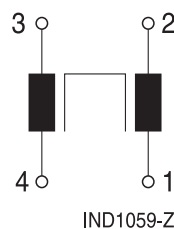
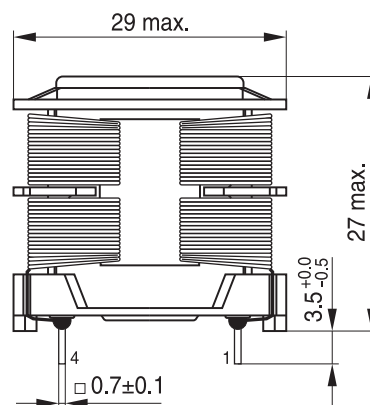
Layout recommendation
(top view)



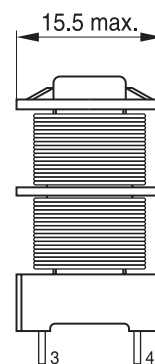
Tolerances to ISO 2768-cl / ISO 8015.
Size ISO 14405 (E)
All dimensions in mm



IND1245-O-E



IND1059-Z



IND1057-N

Technical data and measuring conditions

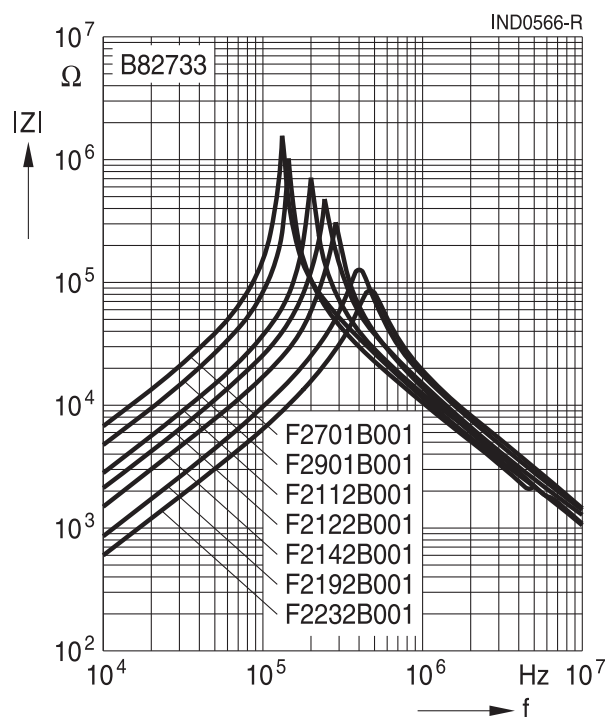
| | |
|---|---|
| Rated voltage V_R | 300 V AC (50/60 Hz) |
| Test voltage V_{test} | 2000 V AC, 2 s (line/line) |
| Rated temperature T_R | +40 °C |
| Rated current I_R | Referred to 50 Hz and rated temperature |
| Rated inductance L_R | Measured with Agilent 4284A at 10 kHz, 0.1 mA, +20 °C. Inductance 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 10 kHz, 5 mA, +20 °C, typical 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 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) |
| Pollution degree | P2 (to IEC 61558-1) |
| Storage conditions (packaged) | −25 °C ... +40 °C, ≤ 75% RH |
| Weight | Approx. 18 g |
| Approvals | EN 60938-2, UL 1283 |

Characteristics and ordering codes

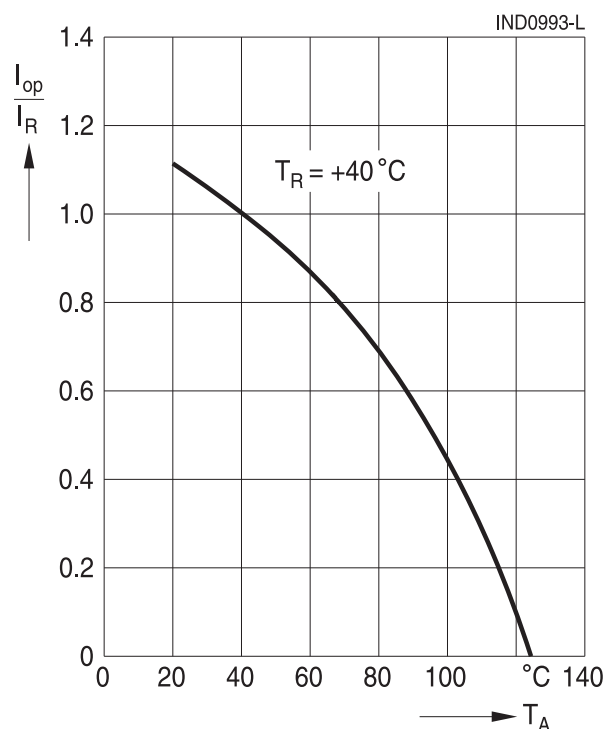
| I_R A | L_R mH | $L_{\text{stray, typ}}$ μH | R_{typ} $\text{m}\Omega$ | Ordering code | | Approvals | |
|------------|-------------|--|--------------------------------------|-----------------|-----------------|-----------|---|
| | | | | horizontal | vertical | | |
| 0.7 | 100 | 2100 | 1810 | B82733F2701B001 | B82733V2701B001 | × | × |
| 0.9 | 68 | 1440 | 1100 | B82733F2901B001 | B82733V2901B001 | × | × |
| 1.1 | 47 | 970 | 804 | B82733F2112B001 | B82733V2112B001 | × | × |
| 1.2 | 39 | 800 | 696 | B82733F2122B001 | B82733V2122B001 | × | × |
| 1.4 | 27 | 550 | 440 | B82733F2142B001 | B82733V2142B001 | × | × |
| 1.9 | 15 | 310 | 279 | B82733F2192B001 | B82733V2192B001 | × | × |
| 2.3 | 10 | 210 | 188 | B82733F2232B001 | B82733V2232B001 | × | × |

× = approval granted

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.

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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