

## Power line chokes

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

**Series/Type:** B82733F

**Date:** June 2013

**Rated voltage 250 V AC**

**Rated current 0.7 ... 2.3 A (+40 °C)**


**Rated inductance 10 ... 100 mH**

### Construction

- Current-compensated frame core double choke
- Closed magnetic circuit with frame construction made of ferrite
- PET coil former (UL94 V-0)
- 4-section winding with direct winding on the core
- Sector winding
- Clearance and creepage distances >3 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)
- Suitable for wave soldering
- Design complies with EN 60938-2 (VDE 0565-2) and UL 1283
- ENEC (VDE) and UL<sup>1</sup> approval 
- RoHS-compatible

<sup>1</sup> UL approval with 300 V AC

### Applications

- Suppression of common-mode and differential-mode interferences
- Electronic ballasts for lamps
- High power switch-mode power supplies for consumer electronics

### Terminals

- Base material CP wire
- Hot dipped
- Pins 0.7 × 0.7 mm
- Lead spacing 20 × 22.5 mm

### Marking

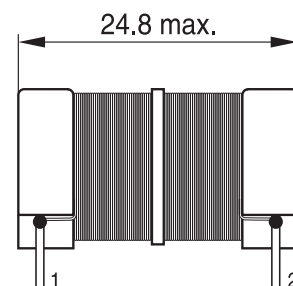
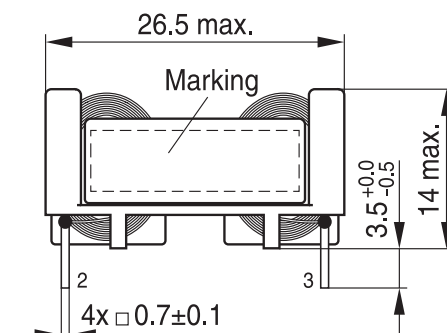
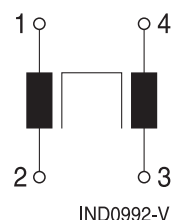
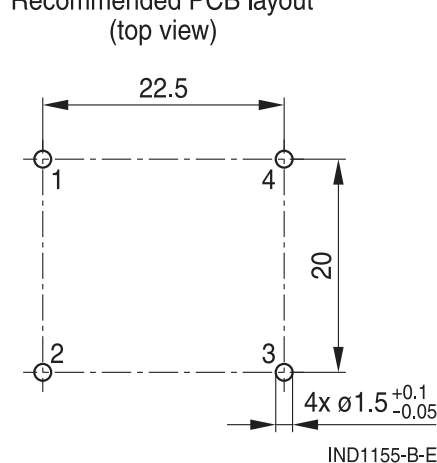
Manufacturer, date of manufacture (YYWWD), factory identification code, ordering code, approval signs

### Delivery mode

Polystyrene tray, anti-static, in cardboard box

## Dimensional drawing and layout recommendation

Recommended PCB layout  
(top view)



IND1154-P-E

Dimensions in mm

## Technical data and measuring conditions

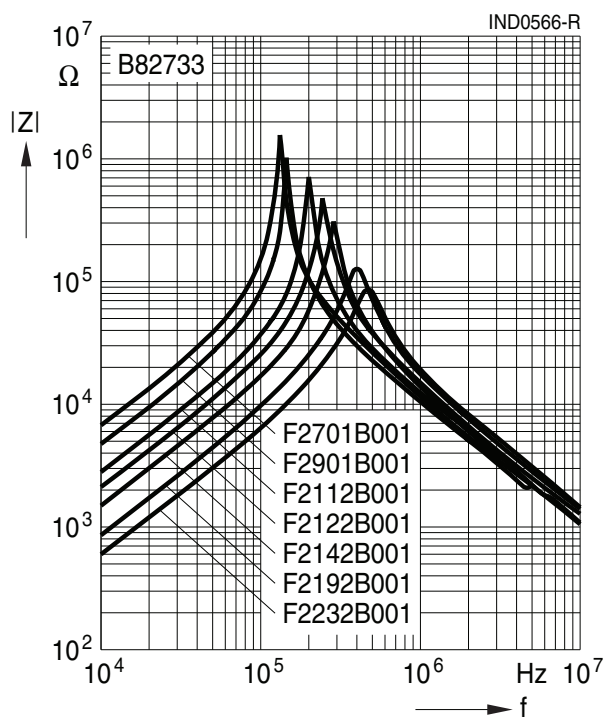
Rated voltage $V_R$	250 V AC (50/60 Hz)
Test voltage $V_{test}$	2000 V AC, 2 s (line/line)
Rated temperature $T_R$	+40 °C
Rated current $I_R$	Referred to 50 Hz and rated temperature
Rated inductance $L_R$	Measured with Agilent 4284A at 10 kHz, 0.1 mA, +20 °C. Inductance is specified per winding.
Inductance tolerance	-30/+50% at +20 °C
Inductance decrease $\Delta L/L_0$	<10% at DC magnetic bias with $I_R$ , +20 °C
Stray inductance $L_{stray,typ}$	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)
Storage conditions (packaged)	-25 °C ... +40 °C, ≤ 75% RH
Weight	Approx. 18 g
Approvals	EN 60938-2, UL 1283

# Characteristics and ordering codes

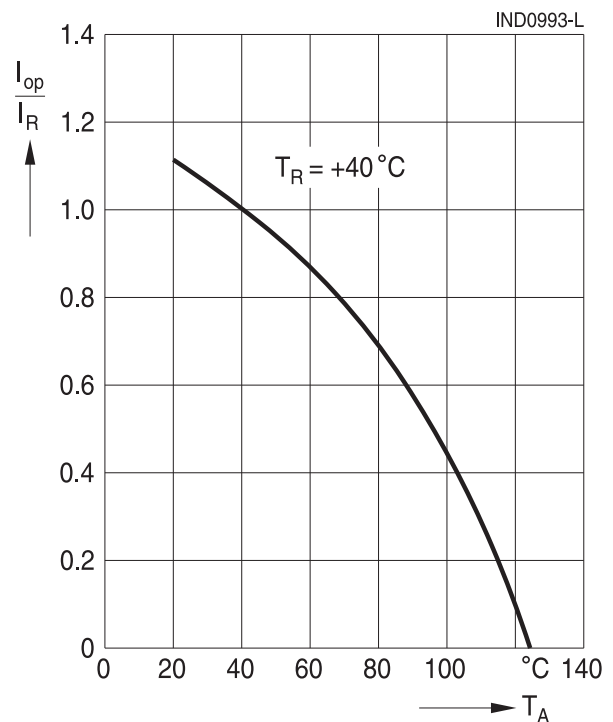
$I_R$ A	$L_R$ mH	$L_{\text{stray,typ}}$ $\mu\text{H}$	$R_{\text{typ}}$ $\text{m}\Omega$	Ordering code	Approvals	
0.7	100	2100	1810	B82733F2701B001	×	×
0.9	68	1440	1100	B82733F2901B001	×	×
1.1	47	970	804	B82733F2112B001	×	×
1.2	39	800	696	B82733F2122B001	×	×
1.4	27	530	440	B82733F2142B001	×	×
1.9	15	310	279	B82733F2192B001	×	×
2.3	10	200	188	B82733F2232B001	×	×

× = approval granted

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



**Current derating  $I_{\text{op}}/I_R$**   
**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. 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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