

## Power line chokes

Current-compensated ring core double chokes  
250 V AC, 1.4 ... 7.8 mH, 6 ... 13 A, +60 °C / +70 °C

**Series/Type:**            **B82725S2\***

**Date:**                    March 2017

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**Rated voltage 250 V AC**

**Rated inductance 1.4 ... 7.8 mH**


**Rated current 6 ... 13 A, +60 °C, +70 °C**

### Construction

- Current-compensated ring core double choke
- Ferrite core with epoxy coating (UL 94 V-0)
- Plastic base plate (UL 94 V-0)
- Plastic spacer (UL 94 V-0, CTI 600)
- Coil fixed on base plate with tape
- Sector winding
- Clearance  $\geq 2.5$  mm, creepage distance  $\geq 3$  mm



### Features

- High resonance frequency
- Approx. 0.5 ... 1% stray inductance for symmetrical interference suppression
- Suitable for wave soldering
- Design complies with EN 60938-2 (VDE 0565-2) and UL 1283
- B82725S2133N040: UL 1446 class 155(F) electrical insulation system 
- RoHS-compatible


### Applications

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

### Terminals

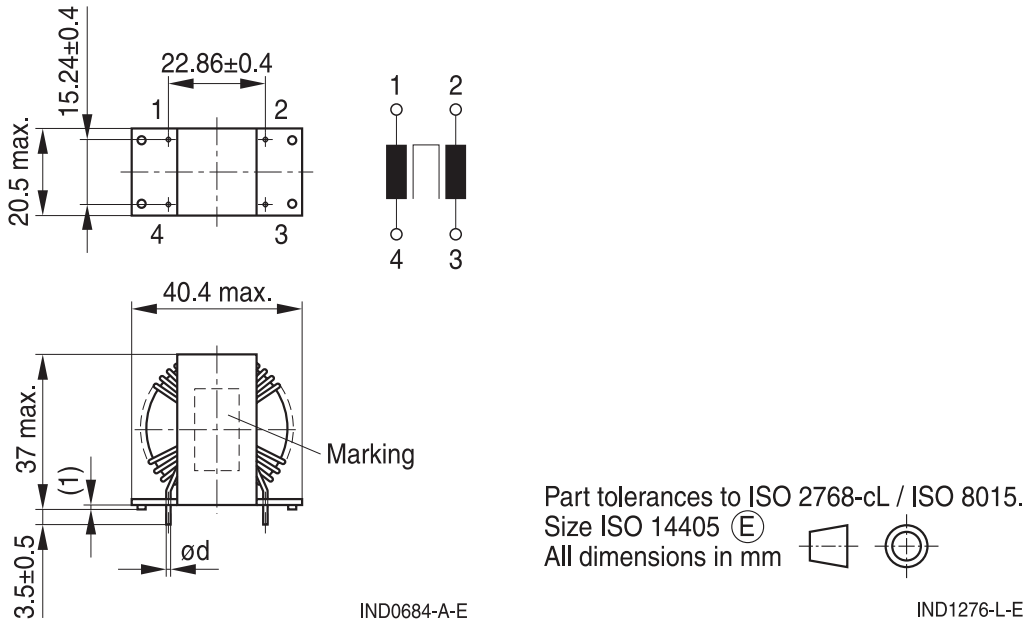
- Ends of winding wires
- Hot-dip tinned

### Marking

- Product brand, electrical insulation system designation  (only B82725S2133N040), ordering code, graphic symbol, rated current, rated voltage, rated inductance, date of manufacture (YYWWD.internal ID code), production place identification code

### Delivery mode

- Blister tray in cardboard box

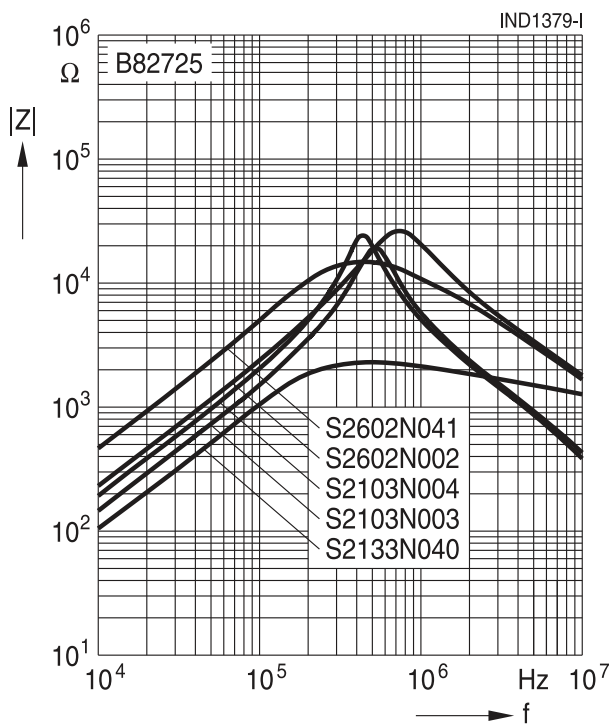
**Dimensional drawing and pin configuration**

**Technical data and measuring conditions**

Rated voltage $V_R$	250 V AC (50/60 Hz)
Test voltage $V_{test}$	1500 V AC / 2100 V DC, 2 s (line/line)
Rated temperature $T_R$	+60 °C / +70 °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% 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 ±3) °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. 52 g
Approvals	UL 1446 class 155(F) "T-EIS-CF1" (E320370) (only B82725S2133N040)

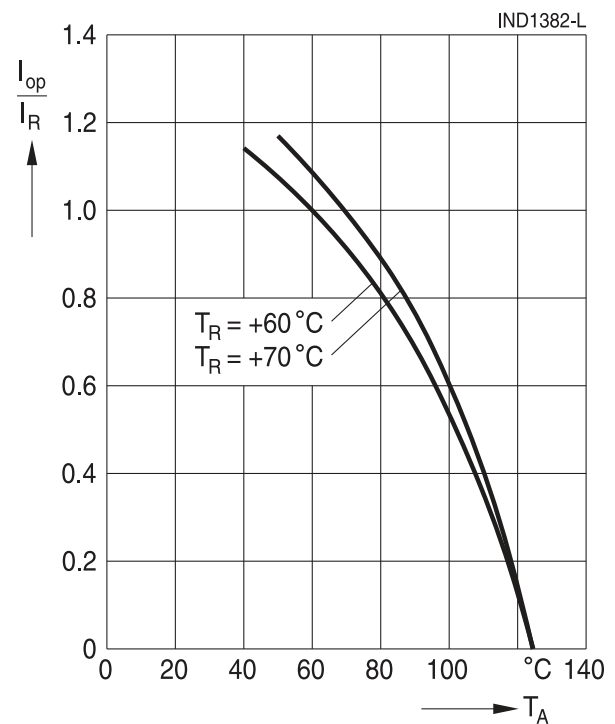
**Characteristics and ordering codes**

$I_R$	$L_R$	$L_{\text{stray,typ}}$	$R_{\text{typ}}$	$T_R$	Wire $\varnothing$ d +0.1 mm	Ordering code
A	mH	$\mu\text{H}$	$\text{m}\Omega$	$^{\circ}\text{C}$		
6	7.8	35	24	+60	1.0	B82725S2602N041
6	3.9	33	24	+60	1.0	B82725S2602N002
10	3.3	35	13.5	+60	1.32	B82725S2103N004
10	2.8	30	12.5	+60	1.32	B82725S2103N003
13	1.4	9.6	5.3	+70	1.5	B82725S2133N040

**Impedance  $|Z|$  versus frequency  $f$**   
measured with windings in parallel at +20  $^{\circ}\text{C}$ ,  
typical values



**Current derating  $I_{\text{op}}/I_R$**   
**versus ambient temperature  $T_A$**



## Cautions and warnings

### SMD

- 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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Release 2018-10