



## 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:**                April 2025

**Rated voltage 250 V AC**
**Rated current 6 ... 13 A +60 °C, +70 °C**
**Nominal inductance 1.4 ... 7.8 mH**
**Construction**

- Current-compensated ring core double choke
- Ferrite core with epoxy coating (UL 94 V-0)
- Plastic base plate (UL 94 V-0)<sup>1)</sup>
- Plastic spacer (UL 94 V-0)
- 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, nominal inductance, date of manufacture, production place identification code

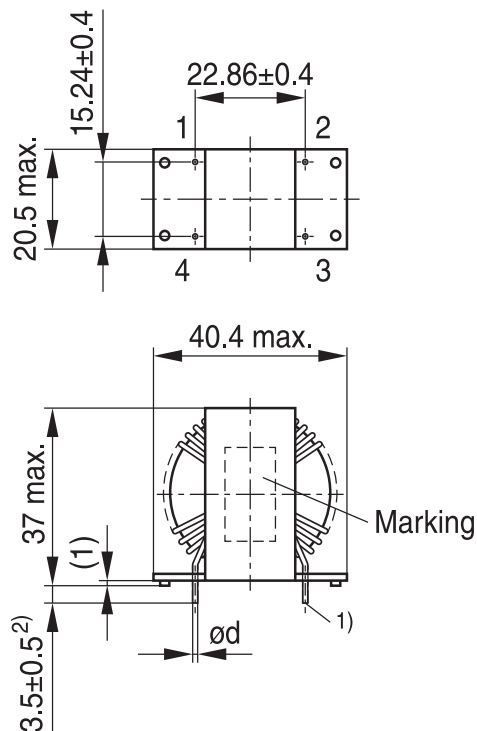
**Delivery mode**

- Blister tray in a cardboard box

1) Certified values:

Glow wire flammability index (GWFI to IEC 60695-2-12):	+960 °C
Glow wire ignition temperature (GWIT to IEC 60695-2-13):	+900 °C
Comparative tracking index (CTI to IEC 60112):	175 V

**Dimensional drawing and pin configuration**



No polarity

IND2390-8-E

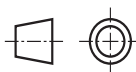
- 1) Tin tips permissible
- 2) Dimension does not include tin tip

IND2388-5-E

Part tolerances to ISO 2768-c / ISO 8015.

Size ISO 14405 (E)

All dimensions in mm



IND2140-B-E

Dimensions without tolerance are typical.

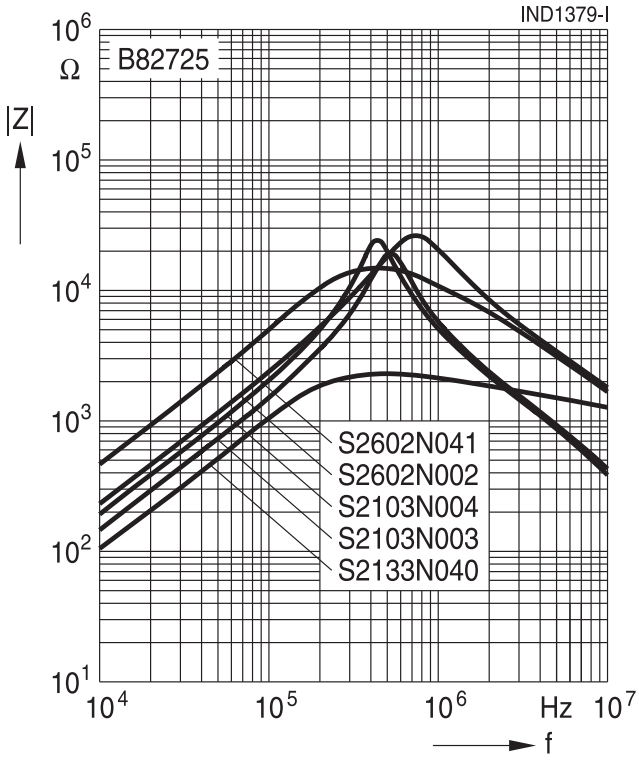
**Technical data and measuring conditions**

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
Nominal inductance $L_N$	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)

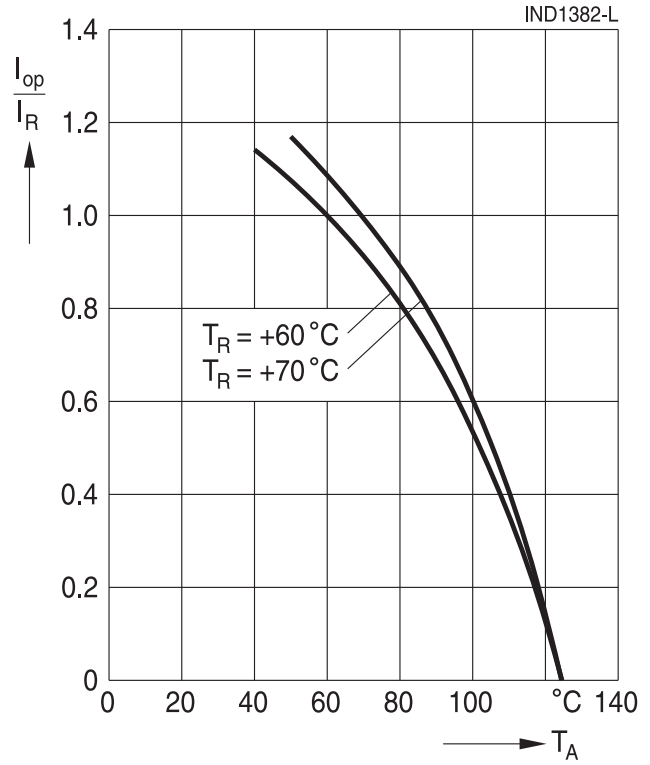
**Characteristics and ordering codes**

$I_R$	$L_N$	$L_{stray,typ}$	$R_{typ}$	$T_R$	Wire $\varnothing$ $d \pm 0.1$	Ordering code
A	mH	$\mu$ H	m $\Omega$	°C	mm	
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 °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), online catalogs and in the data sheets.
  - Particular attention should be paid to the derating curves, if given. Derating applies in the case the ambient temperature in application exceeds the rated temperature of the component.
  - Ensure the operation temperature of the component in application not to exceed the maximum specified value or the upper climatic category temperature.
  - The soldering conditions should also be observed. Temperatures quoted in relation to wave soldering refer to the pins only. Temperatures specified in relation to reflow soldering can also refer to the pins or terminals for products with larger thermal mass, as in such cases, the temperature difference to the top of the component is too big (e.g., high proportion of core within the component).
- 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. 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, sealed, or varnished in customer applications:
  - Many potting, sealing, or varnishing 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, sealing or varnishing materials used attack or destroy the wire insulation, plastics, or glue.
  - The effect of the potting, sealing, or varnishing materials may change the high-frequency behavior of the components.
- Magnetic core materials such as ferrites are sensitive to direct impact. This can cause the core material to flake or lead to breakage of the magnetic core material.
- Any type of tension or pressure on the product may result in damage and affect its functionality and reliability.
  - The products are only to be attached to fixings or mounting holes provided for this purpose in accordance with the data sheet.
  - If additional mechanical forces are applied to the component, e.g., application of gap pads, it is necessary to check whether they attack or destroy any part of the component.
  - It is not permitted for the product specified in the data sheet to assume a mechanical function in the final application.
- Inductance value can drop if external metallic or magnetic parts will be put close to the coil or into the air gap of the coil or core or magnetic material.
- Even for customer-specific products, conclusive validation of the component in the circuit can only be carried out by the customer.

Release 2024-08-08

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The ordering code for one and the same product can be represented differently in data sheets, data books, other publications, on the company website, or in order-related documents such as shipping notes, order confirmations and product labels. **The varying representations of the ordering codes are due to different processes employed and do not affect the specifications of the respective products.** Detailed information can be found on the Internet under [www.tdk-electronics.tdk.com/orderingcodes](http://www.tdk-electronics.tdk.com/orderingcodes).

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- 2 We also point out that **in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified**. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.
- 3 **The warnings, cautions and product-specific notes must be observed.**
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## Important notes

- 8 The trade names EPCOS, CarXield, CeraCharge, CeraDiode, CeraLink, CeraPad, CeraPlas, CSMP, CTVS, DeltaCap, DigiSiMic, FilterCap, FormFit, InsuGate, LeaXield, MediPlas, MiniBlue, MiniCell, MKD, MKK, ModCap, MotorCap, PCC, PhaseCap, PhaseCube, PhaseMod, PhiCap, PiezoBrush, PlasmaBrush, PowerHap, PQSine, PQvar, SIFERRIT, SIFI, SIKOREL, SilverCap, SIMDAD, SiMic, SIMID, SineFormer, SIOV, SurfIND, ThermoFuse, WindCap, XieldCap are **trademarks registered or pending** in Europe and in other countries. Further information will be found on the Internet at [www.tdk-electronics.tdk.com/trademarks](http://www.tdk-electronics.tdk.com/trademarks).

Release 2024-02