



## Power line chokes

SurfIND, current-compensated SMD ring core double chokes  
250 V AC, 120 ... 820  $\mu$ H, 24 ... 36 A, +70 °C

**Series/Type:**            **B82725S2\*A/B\***

**Date:**                    August 2024



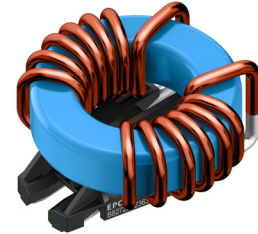
**Rated voltage 250 V AC**

**Rated current 24 ... 36 A / +70 °C**

**Nominal inductance 120 ... 820 µH**

### Construction

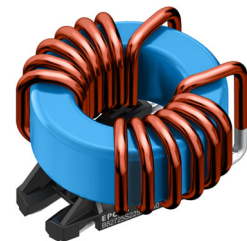
- Current-compensated ring core double choke
- Ferrite core with epoxy coating (UL 94 V-0)
- Plastic base plate (UL 94 V-0)
- Sector winding
- Self-leaded SMD terminals



B82725S2\*A\*

### Features

- Approx. 0.6 ... 1% stray inductance for symmetrical interference suppression
- Low profile with defined height dimension and position of top surface for a heatsink-interface
- High rated currents at high ambient temperatures
- Two sizes for a wide range of values
- Glue-less design
- Suitable for reflow soldering
- Design complies with IEC/EN 60938-2
- RoHS-compatible



B82725S2\*B\*

### Applications

- Suppression of common-mode interferences
- Switch-mode power conversion applications
- PCB assemblies for reflow-only soldering process

### Terminals

- Ends of winding wires
- Hot-dip tinned

### Marking

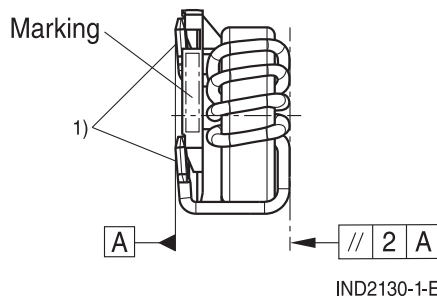
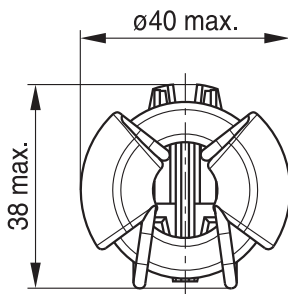
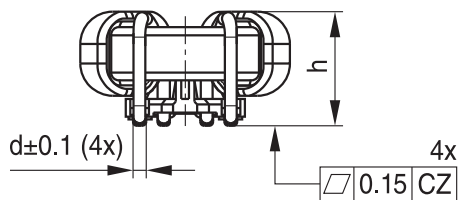
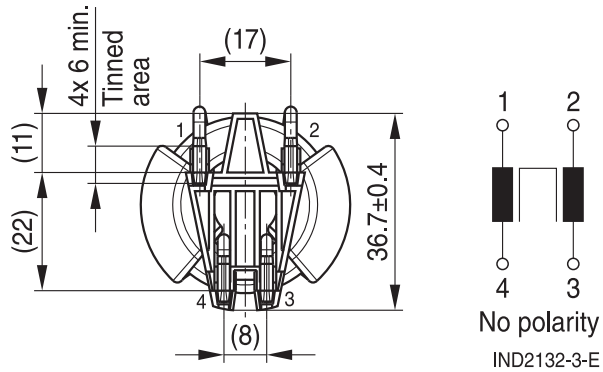
- Product brand (EPCOS), date of manufacture (YYWWD), production place identification code, ordering code, nominal inductance

### Delivery mode and packing unit

- Blister tray in cardboard box
- Packing unit: 60 pcs./box

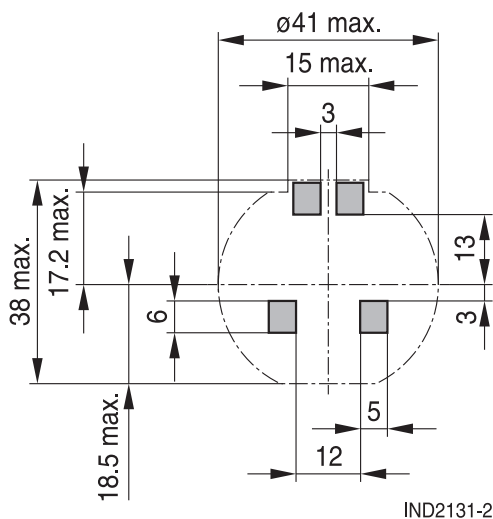


Dimensional drawing and pin configuration

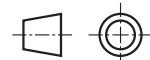


1) Terminals solderable tinned

Recommended PCB layout



Part tolerances to ISO 2768-c / ISO 8015.  
 Size ISO 14405 (E)  
 All dimensions in mm



IND2140-B-E

**Power line chokes**
**B82725S2\*A/B**
**Current-compensated SMD ring core double chokes**
**SurfIND**

**Technical data and measuring conditions**

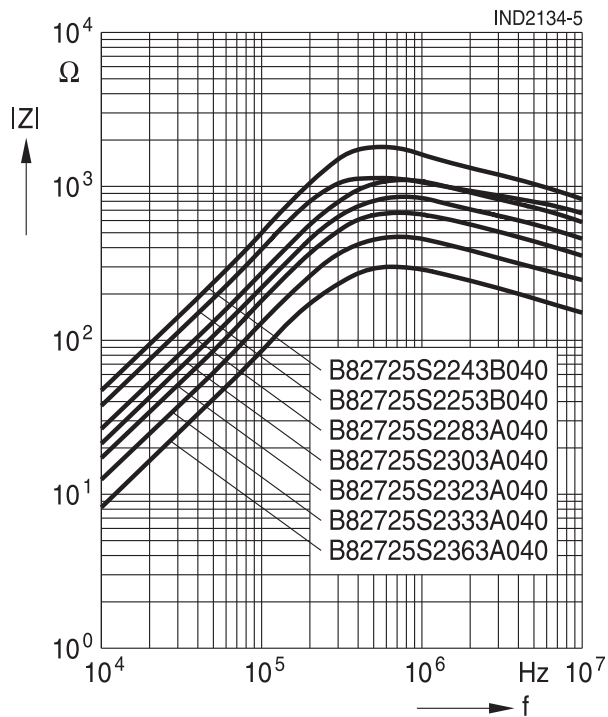
Rated voltage $V_R$	250 V AC (50/60 Hz)
Test voltage $V_{test}$	1500 V AC, 2 s (line/line)
Rated temperature $T_R$	+70 °C
Rated current $I_R$	Referred to 50/60 Hz and rated temperature
Rated current at +100 °C $I_{R\_100C}$	Referred to 50/60 Hz and +100 °C ambient temperature
Nominal inductance $L_N$	Measured with Agilent 4284A at 100 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 100 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 60068-2-58, test Td <sub>1</sub> , method 1)
Resistance to soldering heat	Reflow profile to JEDEC J-STD 020F, 2 cycles, peak temperature +245 °C, measured on pin (to IEC 60068-2-58, test Td <sub>2</sub> , method 2)
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. values

**Characteristics and ordering codes**

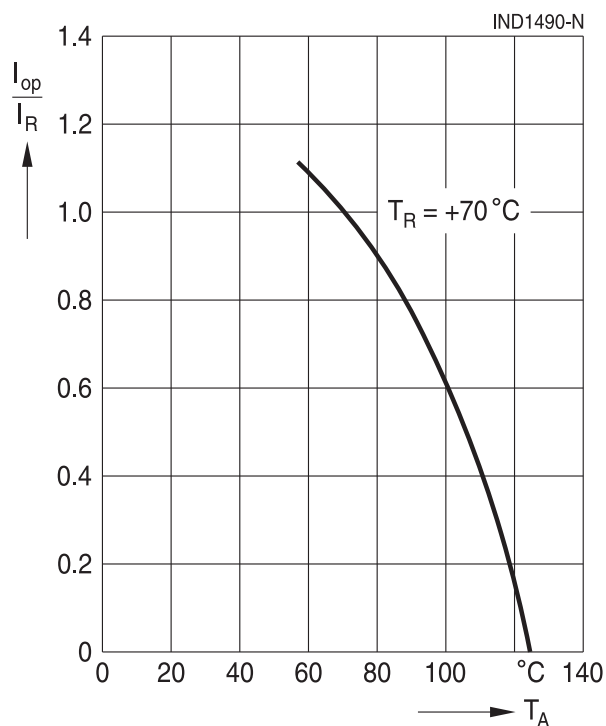
$I_R$	$I_{R\_100C}$	$L_R$	$L_{stray,typ}$	$R_{typ}$	Weight	d	h	Ordering code
A	A	μH	μH	mΩ	g	mm	mm	
24	14	820	5	2.21	53	2.2	22.3±0.7	B82725S2243B040
25	14.5	650	4.3	1.95	49	2.2	22.3±0.7	B82725S2253B040
28	16	470	3.8	1.43	45	2.4	20.7±0.8	B82725S2283A040
30	17	360	2.8	1.30	43	2.4	20.7±0.8	B82725S2303A040
32	18	260	2.6	1.10	40	2.4	20.7±0.8	B82725S2323A040
33	19	180	1.5	0.93	38	2.4	20.7±0.8	B82725S2333A040
36	20	120	1	0.78	35	2.4	20.7±0.8	B82725S2363A040


**Impedance  $|Z|$  versus frequency  $f$** 

measured with windings in parallel at +20 °C, typical values


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

rated temperature = +70 °C



### 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.

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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

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