



## Power line chokes

Current-compensated ring core double chokes  
250 V AC, 0.3 ... 2 A, 1.1 ... 22 mH

**Series/Type:** B82720S

**Date:** January 2010

Current-compensated ring core double chokes

SMD

**Rated voltage 250 V AC**  
**Rated current 0.3 A to 2 A**  
**Rated inductance 1.1 mH to 22 mH**



**Construction**

- Current-compensated ring core double choke
- Ferrite core
- LCP case (UL 94 V-0)
- Silicone potting
- Sector winding

**Features**

- Approx. 0.8% stray inductance for differential-mode interference suppression
- Suitable for reflow soldering
- Design complies with EN 60938-2 (VDE 0565-2)
- RoHS-compatible

**Applications**

- Suppression of common-mode interferences
- Compact electronic ballasts in lamps
- Compact switch-mode power supplies

**Terminals**

- Base material CuSn6
- Layer composition Ni, Sn
- Hot-dipped

**Marking**

- Marking on component:  
Manufacturer, ordering code, rated inductance, rated current, graphic symbol, rated voltage, date of manufacture (YYWWD)
- Minimum data on reel:  
Manufacturer, ordering code, rated inductance, rated current, quantity, date of packing

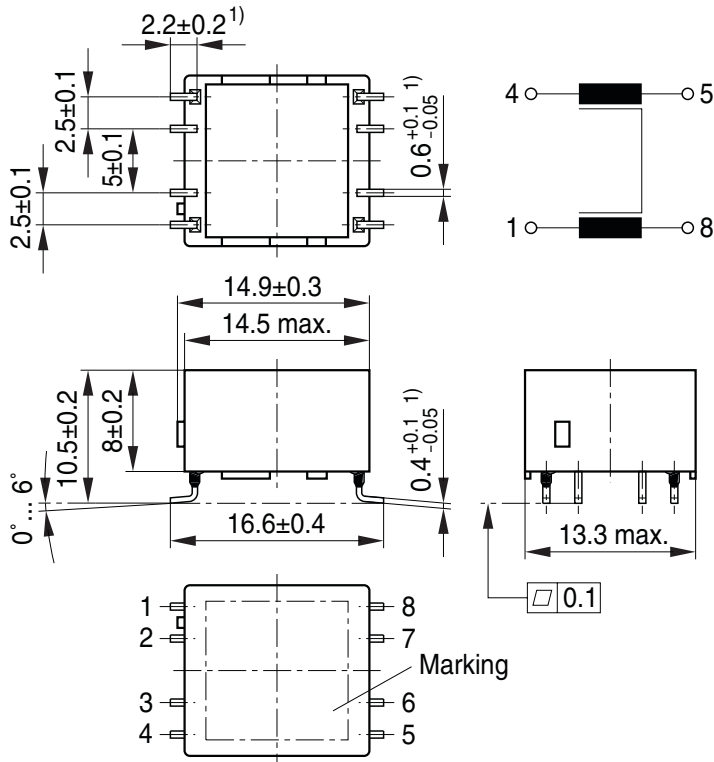
**Delivery mode and packing unit**

- 24-mm blister tape, wound on 330-mm  $\varnothing$  reel
- Packing unit: 250 pcs./reel

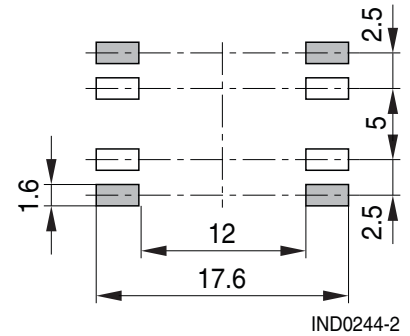
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Dimensional drawing and pin configuration



Layout recommendation



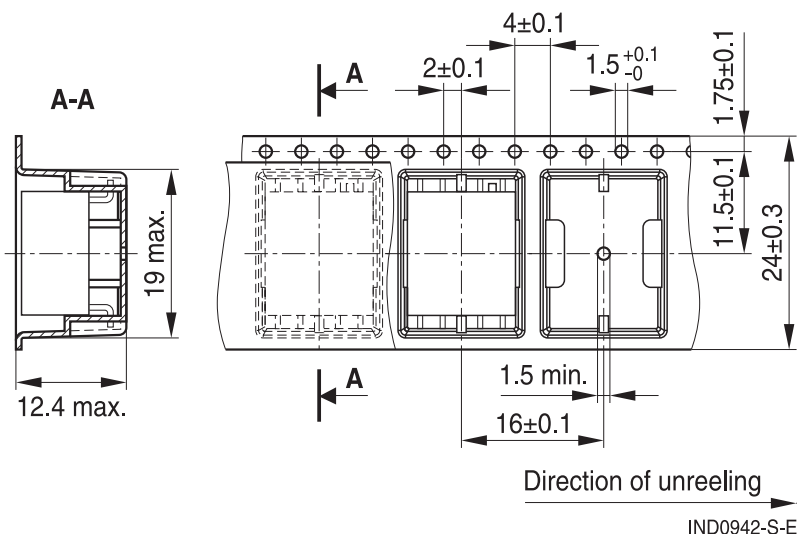
1) Soldering area

IND0243-T-E

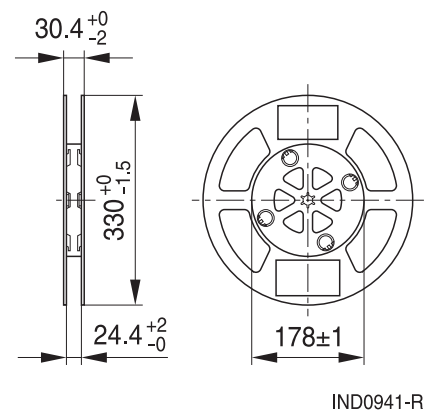
Dimensions in mm

Taping and packing

Blister tape



Reel



Dimensions in mm

**Technical data and measuring conditions**

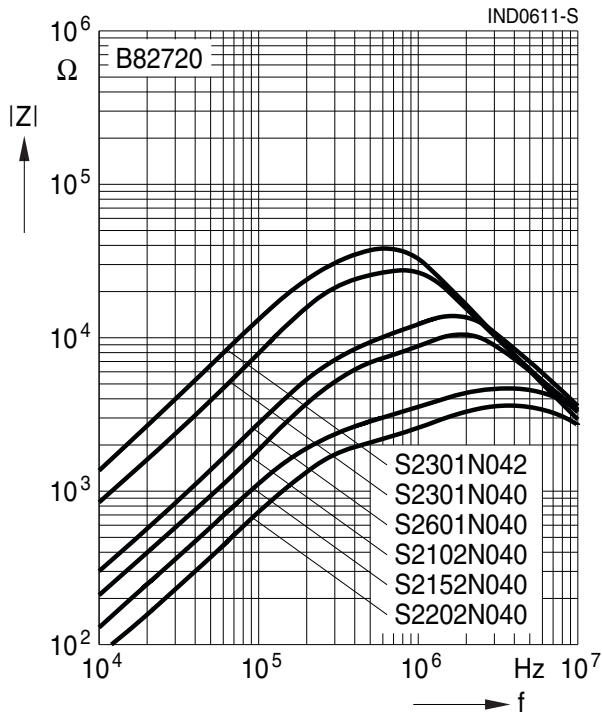
Rated voltage $V_R$	250 V AC (50/60 Hz)
Test voltage $V_{test}$	1500 V AC, 2 s (line/line)
Rated temperature $T_R$	40 °C
Rated current $I_R$	Referred to 50 Hz and rated temperature
Rated inductance $L_R$	Measured with Agilent 4284A at 10 kHz, 0.1 mA, 20 °C Inductance is specified per winding.
Inductance 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 60068-2-58, test Td)
Resistance to soldering heat	(260 ±5) °C, (10 ±1) s (to IEC 60068-2-58, test Td)
Climatic category	40/125/56 (to IEC 60068-1)
Storage conditions (packaged)	-25 °C ... +40 °C, ≤ 75% RH
Weight	Approx. 2.5 g

**Characteristics and ordering codes**

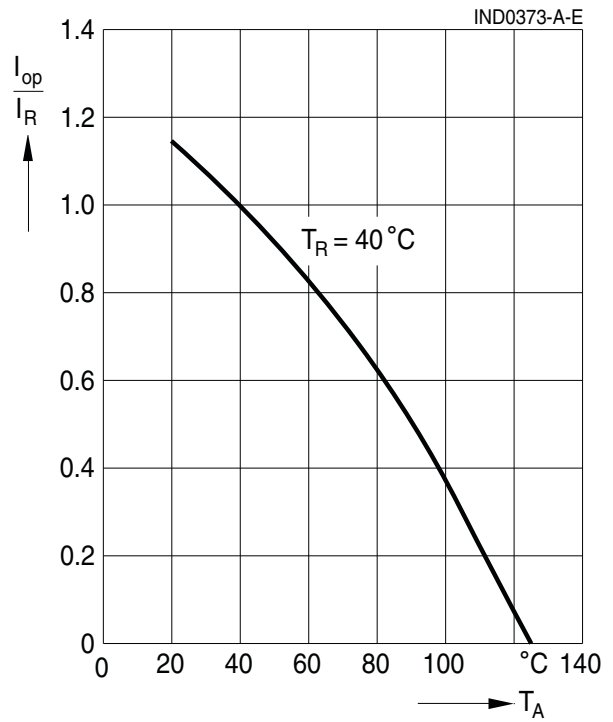
$I_R$ A	$L_R$ mH	$L_{stray,typ}$ μH	$R_{typ}$ mΩ	Ordering code
0.3	22	130	1500	B82720S2301N042
0.3	12	80	1100	B82720S2301N040
0.6	4.4	30	400	B82720S2601N040
1.0	3.0	20	220	B82720S2102N040
1.5	1.6	10	110	B82720S2152N040
2.0	1.1	6	65	B82720S2202N040

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

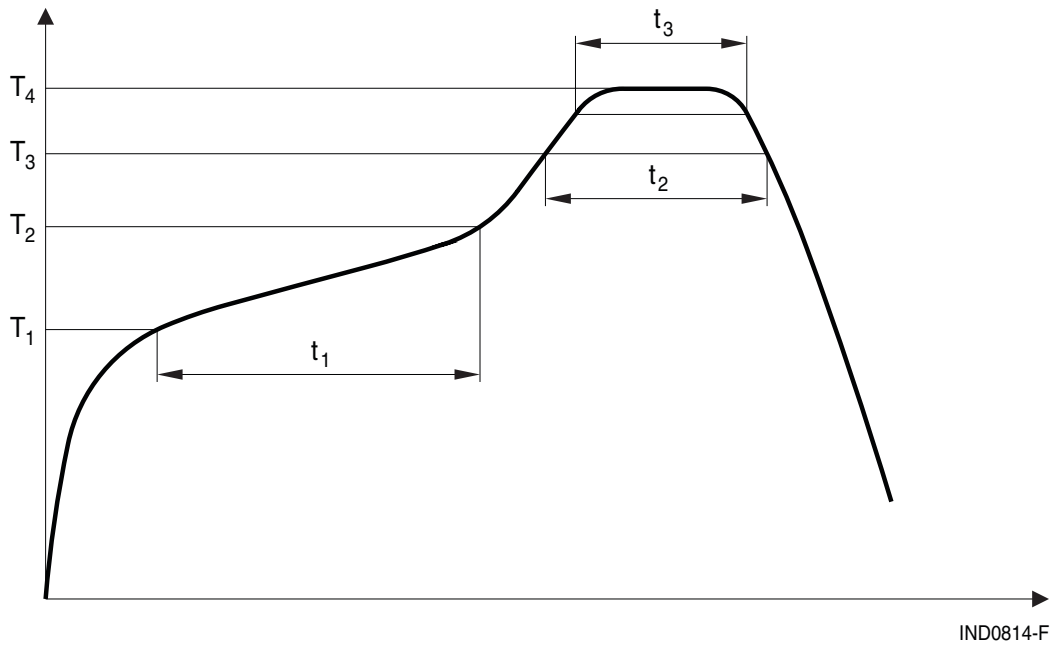


Current derating  $I_{op}/I_R$   
versus temperature  $T_A$



**Recommended reflow soldering profile**

Pb-free solder material (based on JEDEC J-STD 020C)



T <sub>1</sub> °C	T <sub>2</sub> °C	T <sub>3</sub> °C	T <sub>4</sub> °C	t <sub>1</sub> s	t <sub>2</sub> s	t <sub>3</sub> s
150	200	217	245	< 110	< 90	< 30 @ T <sub>4</sub> -5 °C

Time from 25 °C to T<sub>4</sub>: max 300 s

Max. numbers of reflow cycles: 3

## 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.
- 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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