



Power line chokes

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

Series/Type: B82720S

Date: March 2008

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

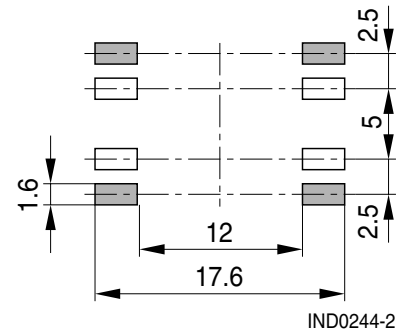
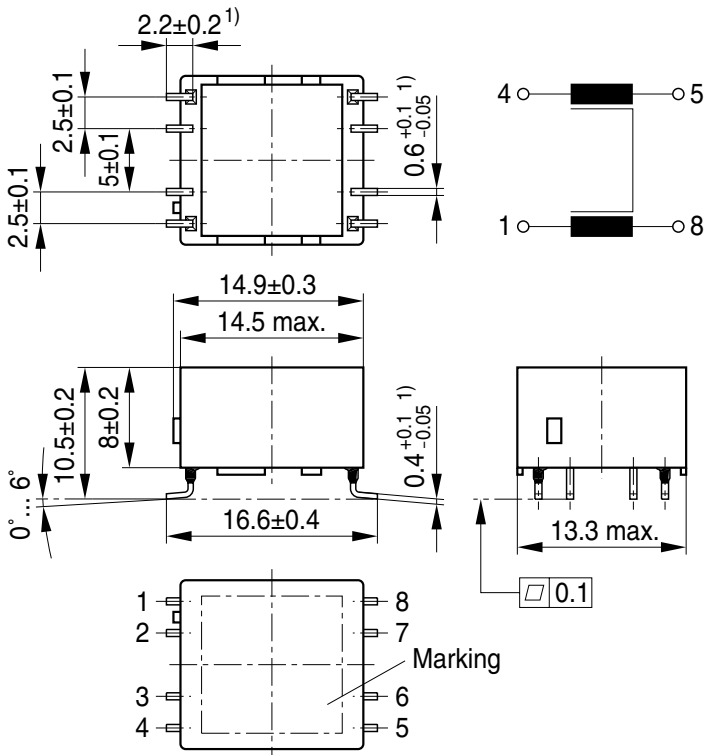
- Marking on component:
Manufacturer, ordering code, rated inductance, rated current, graphic symbol, rated voltage, date of manufacture (YYWWD)
- Minimum data on reel:
Manufacturer, ordering code, rated inductance, rated current, quantity, date of packing

Delivery mode and packing unit

- 24-mm blister tape, wound on 330-mm \varnothing reel
- Packing unit: 350 pcs./reel

Dimensional drawing and pin configuration

Layout recommendation



1) Soldering area

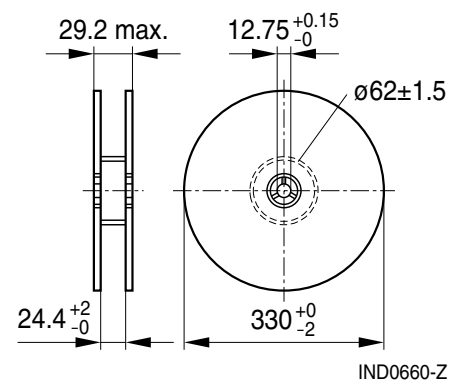
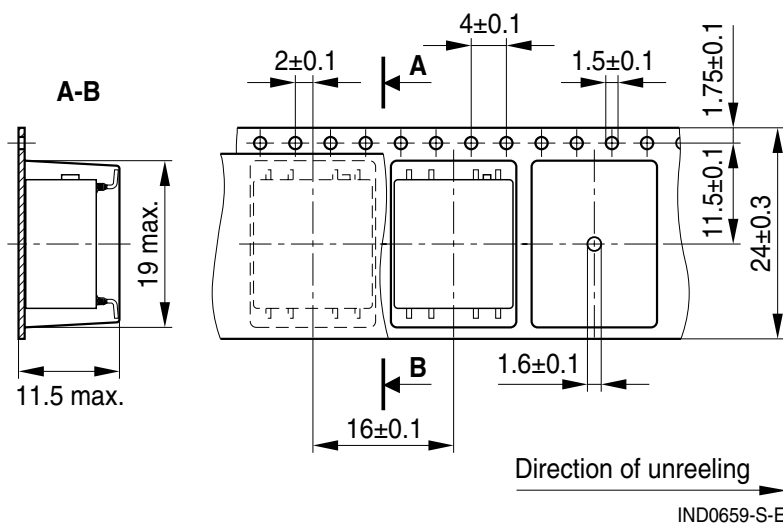
IND0243-T-E

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

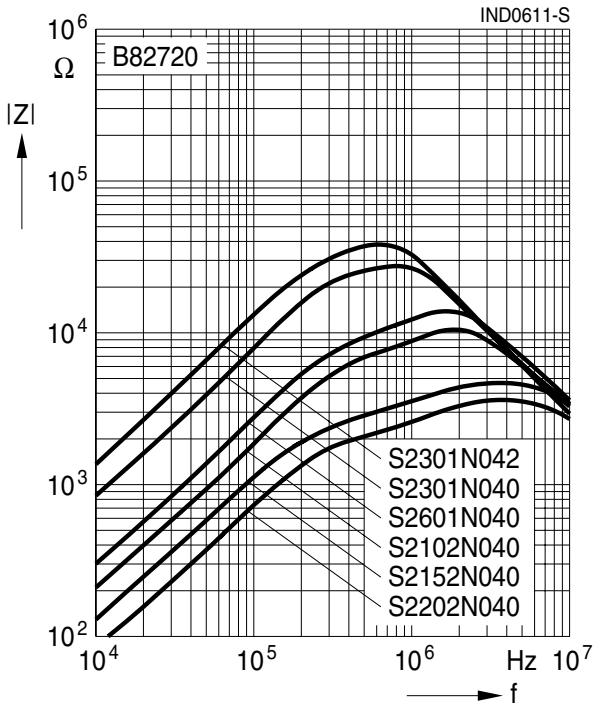
Characteristics and ordering codes

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

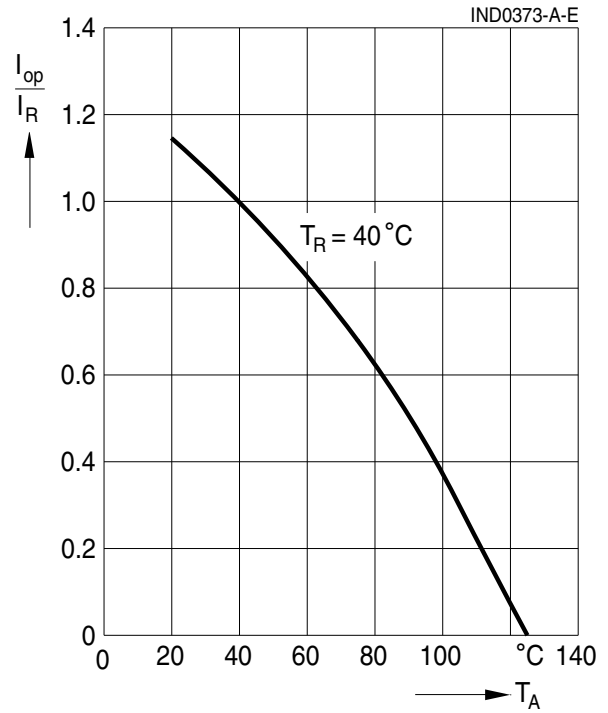
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Impedance $|Z|$ versus frequency f
 measured with windings in parallel at 20 °C,
 typical values

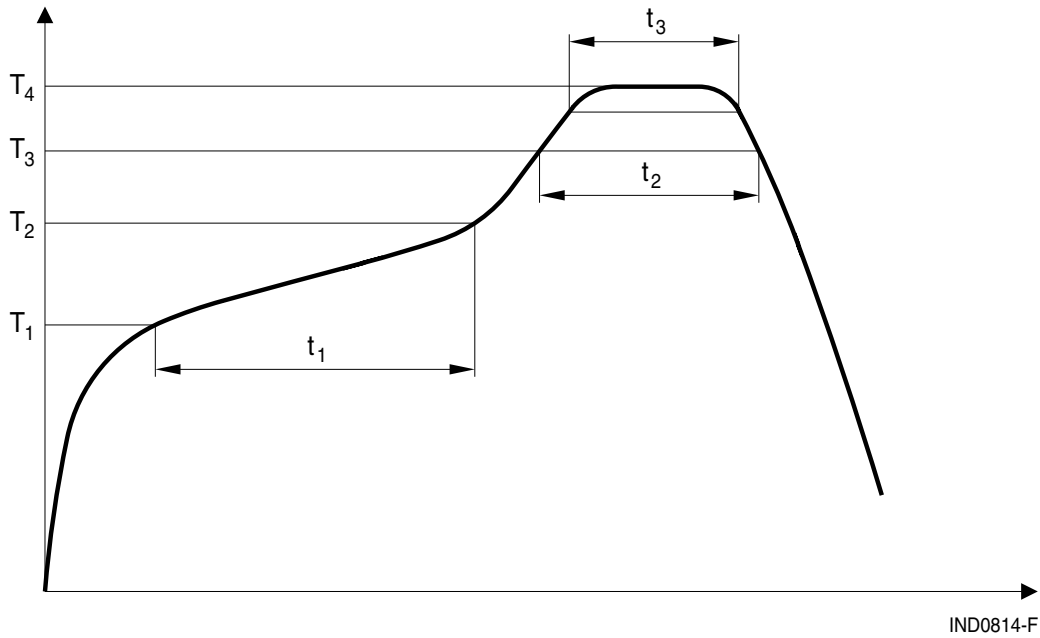


Current derating I_{op}/I_R
versus temperature T_A



Recommended reflow soldering profile

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



IND0814-F

T_1 °C	T_2 °C	T_3 °C	T_4 °C	t_1 s	t_2 s	t_3 s
150	200	217	245	< 110	< 90	< 30 @ $T_4 - 5$ °C

Time from 25 °C to T_4 : 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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