

Power line chokes

Current-compensated E core double chokes
250 V AC, 0.3 ... 1.8 A, 3.3 ... 100 mH, +40 °C

Series/Type: B82731T

Date: July 2012




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Current-compensated E core double chokes
Rated voltage 250 V AC
Rated current 0.3 ... 1.8 A
Rated inductance 3.3 ... 100 mH
Construction

- Current-compensated double choke
- Closed E ferrite core
- Closed PET coil former with 4 sections (UL 94 V-0)
- Without encapsulation
- 4-section winding
- Clearances > 2.5 mm, creepage distances > 3 mm


Features

- High resonance frequency due to 2-section winding
- High pulse strength
- Low whirring noise
- Approx. 2% stray inductance for symmetrical interference suppression
- Suitable for wave soldering
- Design complies with EN 60938-2 (VDE 0565-2) and UL 1283
- UL and ENEC (VDE) approvals   
- RoHS-compatible

Applications

- Suppression of common-mode interferences
- Electronic ballasts for lamps
- Switch-mode power supplies for consumer electronics

Terminals

- Pins 0.64 × 0.64 (mm)
- Lead spacing 10 × 10 (mm)

Marking

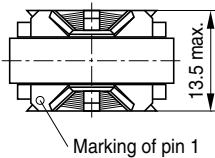
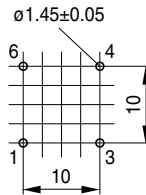
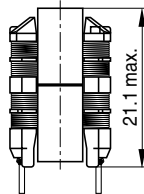
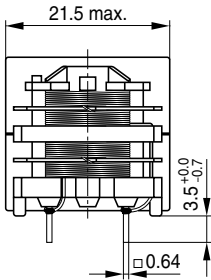
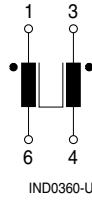
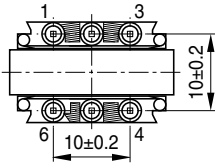
Manufacturer, rated current, rated inductance, approvals, pin 1 marking, ordering code, date of manufacture (YYWW), production place

Delivery mode

Blister tray in cardboard box

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Dimensional drawing and pin configuration



IND0359-Z-E

Recommended hole arrangement (view in mounting direction)
 IND0361-L-E

Tolerances to ISO 2768-C unless otherwise noted.
 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 $L_{\text{stray,typ}}$	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 60068-2-20, 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. 15 g
Approvals	EN 60938-2, UL 1283

Characteristics and ordering codes

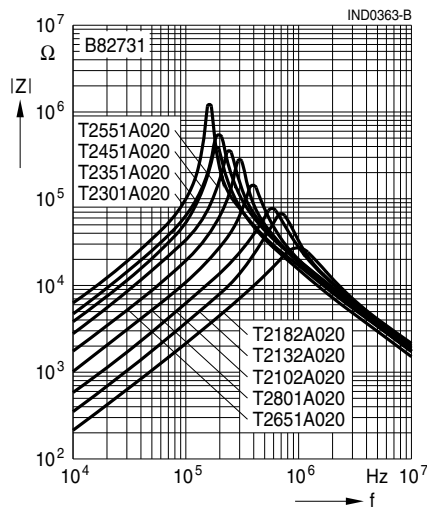
I_R A	L_R mH	$L_{\text{stray,typ}}$ μH	R_{typ} $\text{m}\Omega$	Ordering code	Approvals	
0.30	100	2000	6600	B82731T2301A020	×	×
0.35	68	1300	4400	B82731T2351A020	×	×
0.45	47	950	2800	B82731T2451A020	×	×
0.55	39	800	2200	B82731T2551A020	×	×
0.65	27	550	1600	B82731T2651A020	×	×
0.8	15	300	950	B82731T2801A020	×	×
1.0	10	200	630	B82731T2102A020	×	×
1.3	6.8	140	370	B82731T2132A020	×	×
1.8	3.3	65	200	B82731T2182A020	×	×

× = approval granted

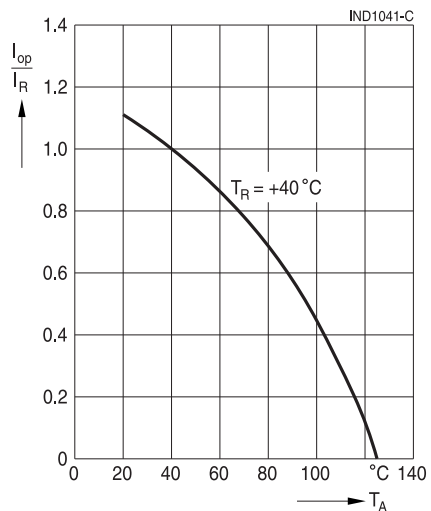
Sample kit available. Ordering code: B82731X002

For more information refer to chapter “Sample kits”.

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

Current-compensated ring core double chokes

- 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. Derating must be applied in case the ambient temperature in the application exceeds the rated temperature of the component.
 - Ensure the operation temperature (which is the sum of the ambient temperature and the temperature rise caused by losses / self-heating) of the component in the application does not exceed the maximum value specified in the climatic category.
 - 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.

Important notes

Current-compensated ring core double chokes

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