

Power line chokes

Sine-wave chokes

0.8 ... 2.7 A, 0.5 ... 3.0 mH, +40 °C

Series/Type: **B82614**
Ordering code:

Date: February 2023

Power line chokes

B82614

Sine-wave chokes

Rated voltage 250 V AC

Rated current 0.8 ... 2.7 A

Nominal inductance 0.5 ... 3.0 mH



Construction

- Single choke
- Air-gapped rectangular ferrite core
- Closed plastic coil former (UL 94 V-0)¹⁾
- Without encapsulation
- 4-section winding

Features

- High resonance frequency due to 4-section winding
- Low saturation effects due to gapped core
- Suitable for wave soldering
- Design complies with EN 60938-2 (VDE 0565-2)
- Recyclable owing to omission of encapsulation and glue
- RoHS-compatible

Applications

- Suppression of differential-mode interferences
- Switch-mode applications
- Reduction of harmonics and PFC
- SMPS featuring a current pump circuit

Terminals

- Base material CuNi18Zn20
- Layer composition Ni, Sn
- Hot-dipped
- Pins 0.7 × 0.7 (mm)
- Lead spacing 12.5 × 15 (mm)

Marking

- Product brand (EPCOS), ordering code, rated inductance, rated current, rated voltage, date of manufacture (WWYY)

Delivery mode

- Blister tray in cardbox

1) Additionally certified values:

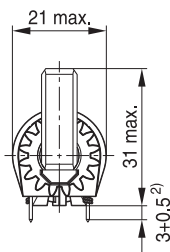
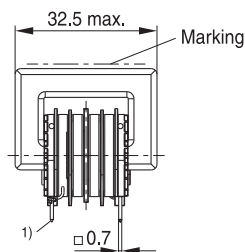
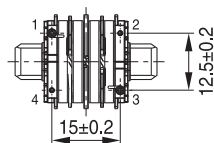
Glow wire flammability index (GWFI to IEC 60695-2-12): +850 °C

Glow wire ignition temperature (GWIT to IEC 60695-2-13): +775 °C

Comparative tracking index (CTI to IEC 60112): 175 V

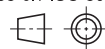
Ball pressure test (BP to IEC 60695-10-2): +125 °C

Dimensional drawing and pin configuration



Tolerances to ISO 2768-cl / ISO 8015.

Size ISO 14405 (E)
All dimensions in mm



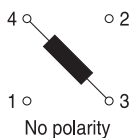
IND1245-O-E

¹⁾ Tin tip permissible

²⁾ Tin tip is not a part of this dimension

IND2129-0-E

Circuit diagram



IND2097-4-E

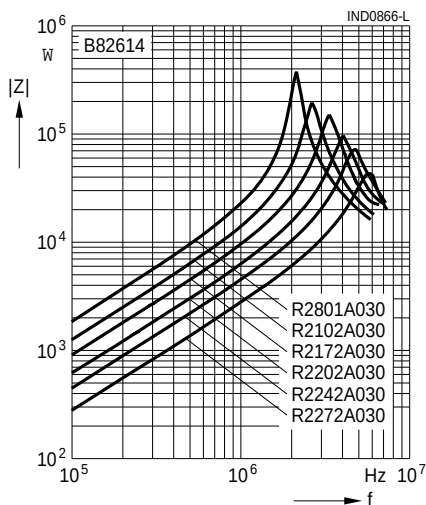
Power line chokes
B82614
Sine-wave chokes
Technical data and measuring conditions

Rated voltage V_R	250 V AC (50/60 Hz)
Rated temperature T_R	+40 °C
Rated current I_R	Referred to 50 Hz and rated temperature
Nominal inductance L_N	Defined at zero DC current bias Measured with Agilent 4284A at 0.1 mA, +20 °C Measuring frequency: $L_R \leq 1 \text{ mH} = 100 \text{ kHz}$ $L_R > 1 \text{ mH} = 10 \text{ kHz}$
Inductance tolerance	$\pm 30\%$ at +20 °C
Inductance at rated current	Measured at DC magnetic bias with I_R with Agilent 4284A at 0.1 mA, +20 °C, typical values Measuring frequency: $L_R \leq 1 \text{ mH} = 100 \text{ kHz}$ $L_R > 1 \text{ mH} = 10 \text{ kHz}$
DC resistance R_{typ}	Measured at +20 °C, typical values
Solderability (lead free)	Sn96.5Ag3.0Cu0.5: +(245 $\pm$ 5) °C, (3 $\pm$ 0.3) s Wetting of soldering area $\geq 95\%$ (to IEC 60068-2-20, test Ta)
Resistance to soldering heat (wave soldering)	+(260 $\pm$ 5) °C, (10 $\pm$ 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, $\leq 75\%$ RH
Weight	Approx. 30 g

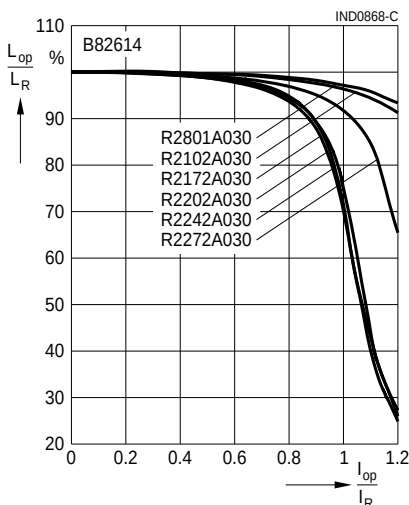
Characteristics and ordering codes

I_R A	L_N mH	L at I_R , typ. mH	R_{typ} Ω	Ordering code
0.8	3.0	2.9	1.9	B82614R2801A030
1.0	2.0	1.9	1.3	B82614R2102A030
1.7	1.5	0.95	0.61	B82614R2172A030
2.0	1.0	0.75	0.43	B82614R2202A030
2.4	0.75	0.50	0.33	B82614R2242A030
2.7	0.5	0.42	0.23	B82614R2272A030

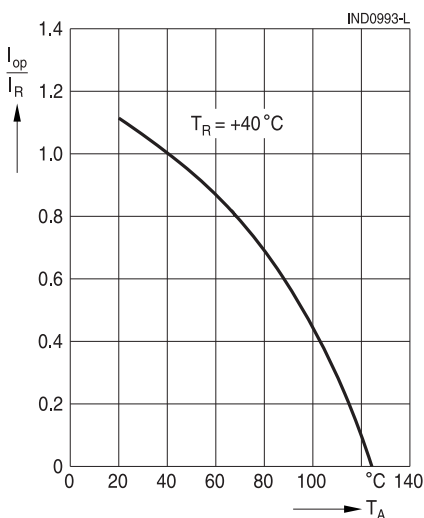
Impedance $|Z|$ versus frequency f
measured at +20 °C, typical values



Relative inductance L_{op}/L_R versus relative current I_{op}/I_R
measured 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) 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.

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, wire insulation, plastics or glue.
 - The effect of the potting material can change the high-frequency behaviour of the components.
 - Many coating materials have a negative effect (chemically and mechanically) on the winding wires, insulation materials and connecting points. Customers are always obligated to determine whether and to what extent their coating materials influence the component. Customers are responsible and bear all risk for the use of the coating material. TDK Electronics does not assume any liability for failures of our components that are caused by the coating material.
- Ceramics / 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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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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Release 2022-07