



Power line chokes

Current-compensated ring core double chokes

250 V AC, 4.7 ... 47 mH, 0.25 ... 1.0 A, +40 °C / +60 °C / +70 °C




Series/Type: B82791G/H/K

Date: May 2021

Rated voltage 250 V AC
Rated current 0.25 A ... 1.0 A / +40 °C, +60 °C, +70 °C
Nominal inductance 4.7 mH ... 47 mH
Construction

- Current-compensated ring core double choke
- MnZn Ferrite core with epoxy coating (UL 94 V-0)
- Plastic case (UL 94 V-0)¹⁾ with in-molded pins
- Sector winding
- Clearance and creepage distances ≥ 3 mm

Features

- Very compact design, suitable for post-design EMC tuning on finished PCB
- Types with increased inductance per current ratio (B82791K2*A040)
- High resonance frequency due to special winding technique and omission of potting
- Up to 1.7% stray inductance for symmetrical interference suppression
- Suitable for wave soldering
- Design complies with EN 60938-2 (VDE 0565-2)
- UL²⁾ and ENEC (VDE) approvals   
- RoHS-compatible

Applications

- Suppression of common-mode interferences
- Electronic ballasts in lamps and LED driver circuits
- Compact switch-mode power applications

Terminals

- Base material CuNi18Zn20
- Layer composition Ni, Sn
- Hot-dipped
- Pins \varnothing 0.6 mm
- Lead spacing 10 × 15 mm or 12.7 × 5.08/2.54 mm

Marking

- Product brand (EPCOS), ordering code, approval signs, graphic symbol, rated inductance, rated current, rated voltage, date of manufacture (YYWWD), production place identification code

Delivery mode³⁾

- Cardboard box

1) Additionally certified values:

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

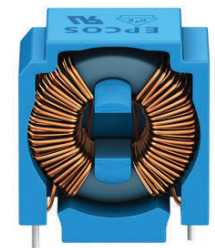
Glow wire ignition temperature (GWIT to IEC 60695-2-13): +775 °C

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

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

2) UL approval with 300 V AC.

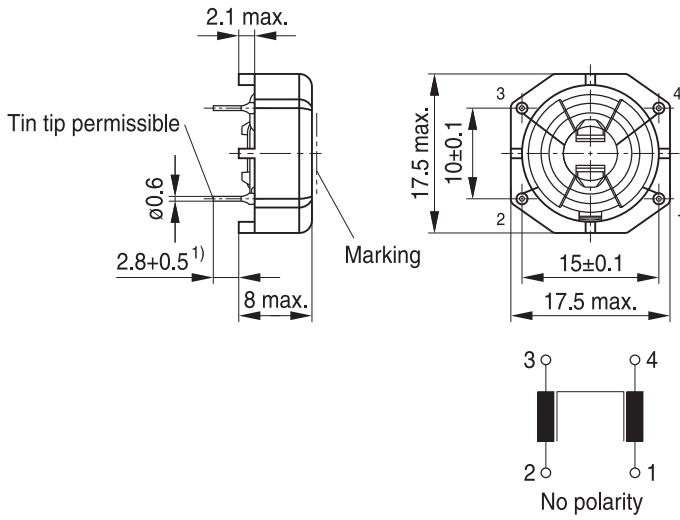
3) Delivery in tube magazine is available on request


B82791G

B82791H

B82791K

Dimensional drawings and pin configurations

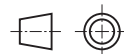
Horizontal version (B82791G)



¹⁾ Tin tip is not a part of this dimension

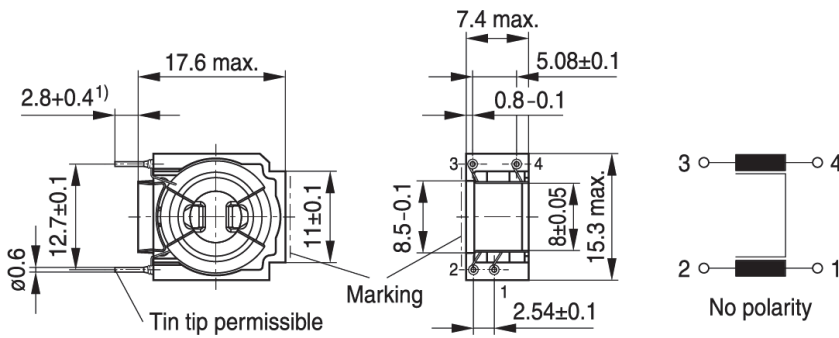
IND1770-1-E

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



IND1276-L-E

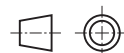
Vertical version (B82791H)



¹⁾ Tin tip is not a part of this dimension

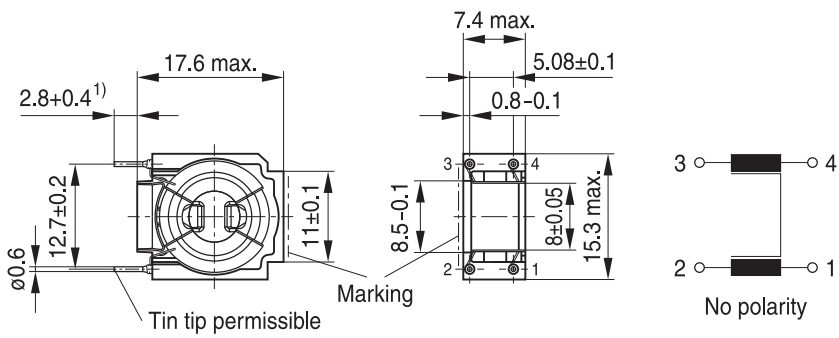
IND1623-C-E

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



IND1276-L-E

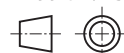
Vertical version (B82791K)



¹⁾ Tin tip is not a part of this dimension

IND1769-0-E

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





IND1276-L-E

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, +60 °C or +70 °C
Rated current I_R	Referred to 50 Hz and rated temperature
Nominal inductance L_N	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, typ. 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. 3 g
Approvals	IEC EN 60938-2, UL 1283

Characteristics and ordering codes



I _R A	L _N mH	L _{stray,typ} μH	R _{typ} mΩ	T _R °C	Ordering code		Approvals	
					Horizontal version	Vertical version ¹⁾		
0.25	47	600	2400	+40	B82791G2251N020	B82791H2251N020	×	×
0.3	30	500	2200	+40	B82791G2301N001	B82791H2301N001	×	×
0.35	22	400	1900	+40	B82791G2351N001	B82791H2351N001	×	×
0.4	15	250	1350	+40	B82791G2401N001	B82791H2401N001	×	×
0.5	10	170	1000	+40	B82791G2501N001	B82791H2501N001	×	×
0.6	6.8	120	630	+40	B82791G2601N001	B82791H2601N001	×	×
0.7	4.7	75	440	+40	B82791G2701N001	B82791H2701N001	×	×
0.9	4.7	55	250	+60	B82791G2901N020	B82791H2901N020	×	×

1) Vertical versions with symmetrical lead spacing (B82791K) are available on request

× = approval granted

P = pending

Types with increased current capability

I _R A	L _N mH	L _{stray,typ} μH	R _{typ} mΩ	T _R °C	Ordering code ¹⁾	Approvals	
					Vertical version K		
0.7	10	85	330	+70	B82791K2701A040	–	P
1.0	4.8	30	185	+70	B82791K2102A040	–	P

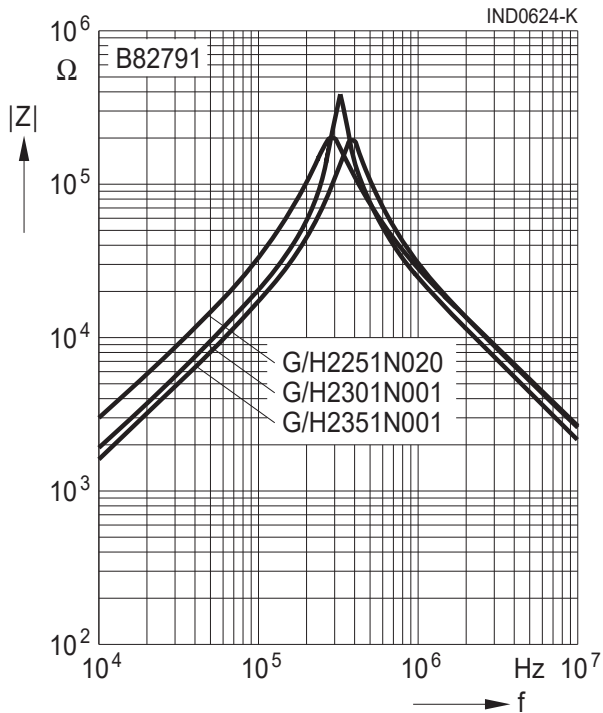
1) Vertical versions with asymmetrical lead spacing (B82791H) and horizontal version (B82791G) are available on request

× = approval granted

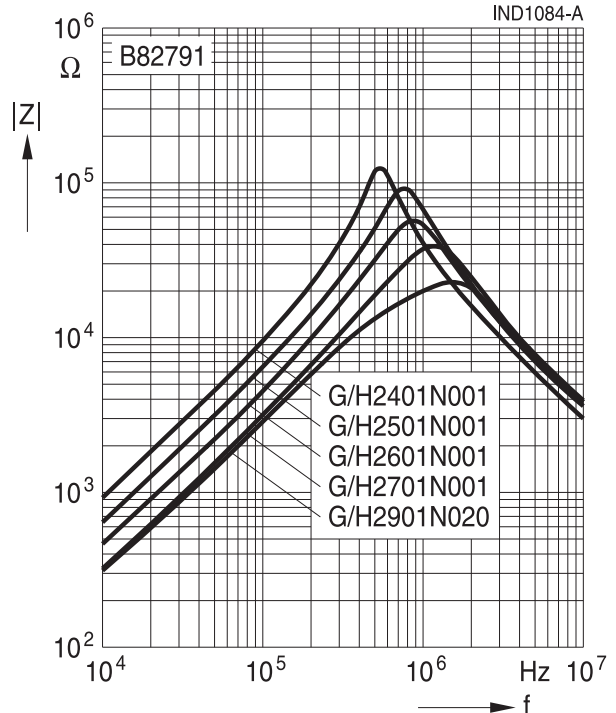
P = pending

Current-compensated ring core double chokes

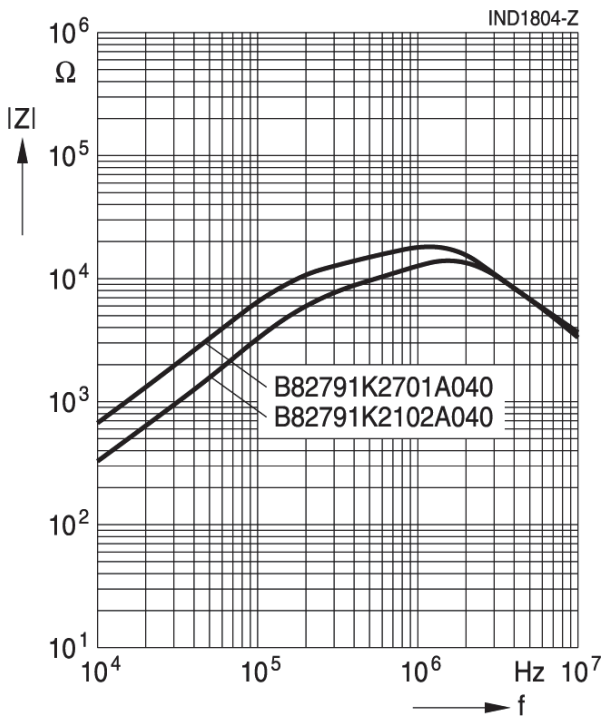
Impedance $|Z|$ versus frequency f
measured with windings in parallel at +20 °C,
typical values



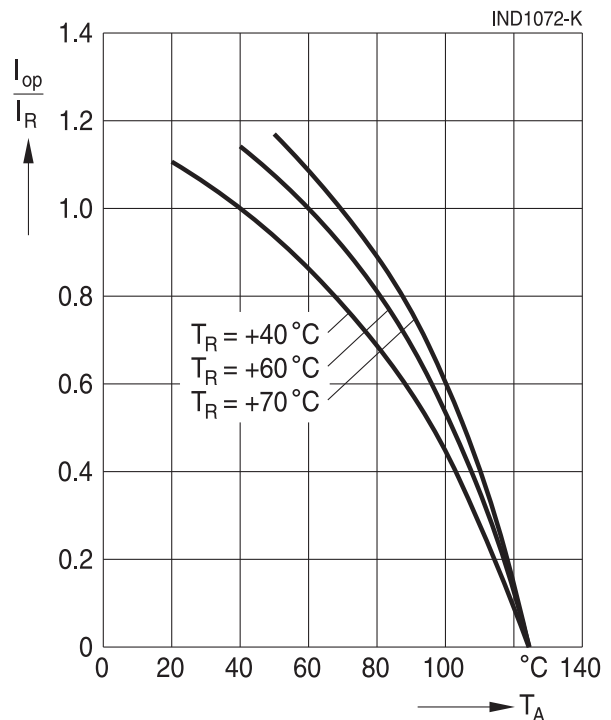
Impedance $|Z|$ versus frequency f
measured with windings in parallel at +20 °C,
typical values



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



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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1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application**. As a rule, we are either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether a product with the properties described in the product specification is suitable for use in a particular customer application.
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 2020-06