

Power line chokes

Current-compensated ring core double chokes
250 V AC, 0.25 ... 0.9 A, 4.7 ... 47 mH

Series/Type: B82791G/H

Date: July 2012


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Rated voltage 250 V AC
Rated current 0.25 A to 0.9 A
Rated inductance 4.7 mH to 47 mH
Construction

- Current-compensated ring core double choke
- Ferrite core with epoxy coating (UL 94 V-0)
- Polycarbonate case (UL 94 V-0)
- Sector winding

Features

- Without potting
- High resonance frequency due to special winding technique and omission of potting
- Approx. 1.5% stray inductance for symmetrical interference suppression
- Suitable for wave soldering
- Design complies with EN 60938-2 (VDE 0565-2) and UL 1283
- UL¹⁾ and ENEC (VDE) approvals 
- RoHS-compatible

Applications

- Suppression of common-mode interferences
- Electronic ballasts in lamps
- Switch-mode power supplies

Terminals

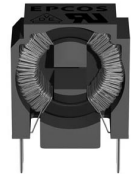
- Base material CuNi18Zn20
- Layer composition Ni, Sn
- Hot-dipped
- Pins \varnothing 0.6 mm
- Lead spacing 10×15 (mm) or $12.7 \times 5.08/2.54$ (mm)

Marking

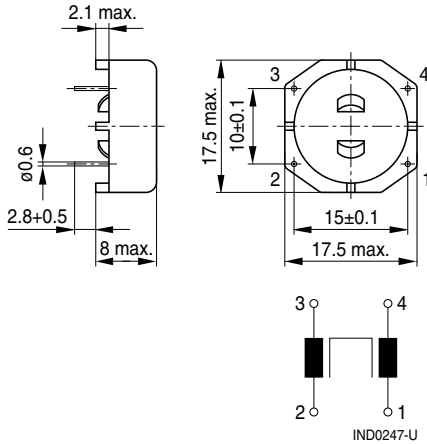
Manufacturer, approval signs, ordering code, graphic symbol, rated current, rated voltage, rated inductance, date of manufacture (YYWWD)

Delivery mode

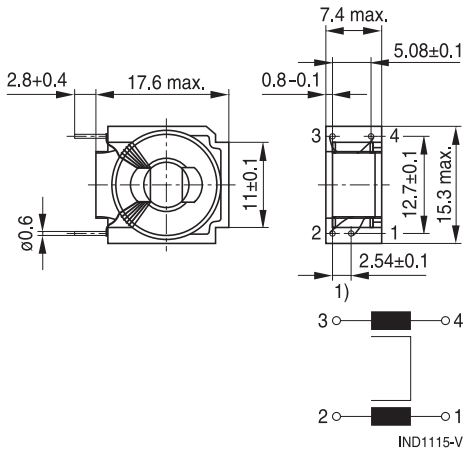
Cardboard box


B82791G

B82791H

1) UL approval with 300 V AC.

Dimensional drawings and pin configurations
Horizontal version (B82791G)


Tolerances to ISO 2768-M
unless otherwise noted.
Dimensions in mm.


Vertical version (B82791H)


Tolerances to ISO 2768-M
unless otherwise noted.
Dimensions in mm.





1) Vertical version with symmetrical lead spacing (5.08 mm × 12.7 mm) is available on request (B82791K).

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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 or +60 °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, 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	EN 60938-2, UL 1283

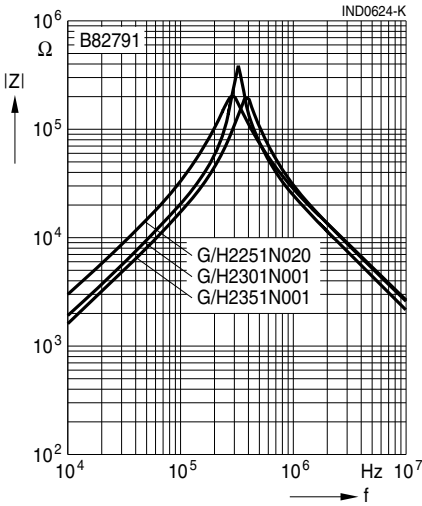
Characteristics and ordering codes

I_R A	L_R mH	$L_{\text{stray,typ}}$ μH	R_{typ} mΩ	T_R °C	Ordering code		Approvals	
					Horizontal version	Vertical version		
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	×	×

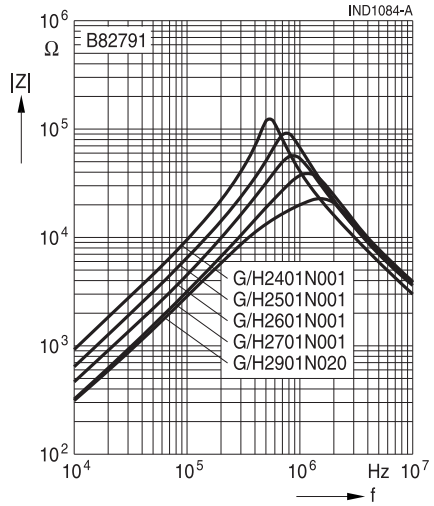
× = approval granted

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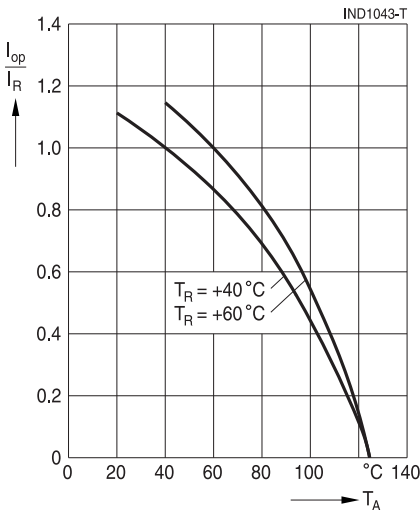
Impedance $|Z|$ versus frequency f
 measured with windings in parallel at +20 °C,
 typical values



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

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.

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