



Inductors for Power over Coaxial (PoC)

Power injection choke, EIA1210

Series/Type: **ADL32VHC**

Date: January 2024

Inductors for Power over Coaxial (PoC)**Power injection choke, EIA1210****ADL32VHC****Rated inductance: 10 ... 22 μ H****Construction**

- Ferrite I-core, metal shielding
- Winding: enamel copper wire
- Winding welded to terminals

**Features**

- Temperature range up to +150 °C
- Suitable for lead-free reflow soldering as referenced in JEDEC J-STD-020E
- Qualified according to AEC-Q200
- RoHS compatible

Applications

- Automotive Electronics
- Power over Coaxial (PoC)

Terminals

One-sided tinned terminals

- Base material CuSn6
- Layer composition Ni, Sn
- Lead-free tinned

Marking

- Marking on component:
L value (in μ H, coded), date code, pin1 marking
- Minimum data on reel:
Lot number, part number, date of packing

Delivery mode and packing unit

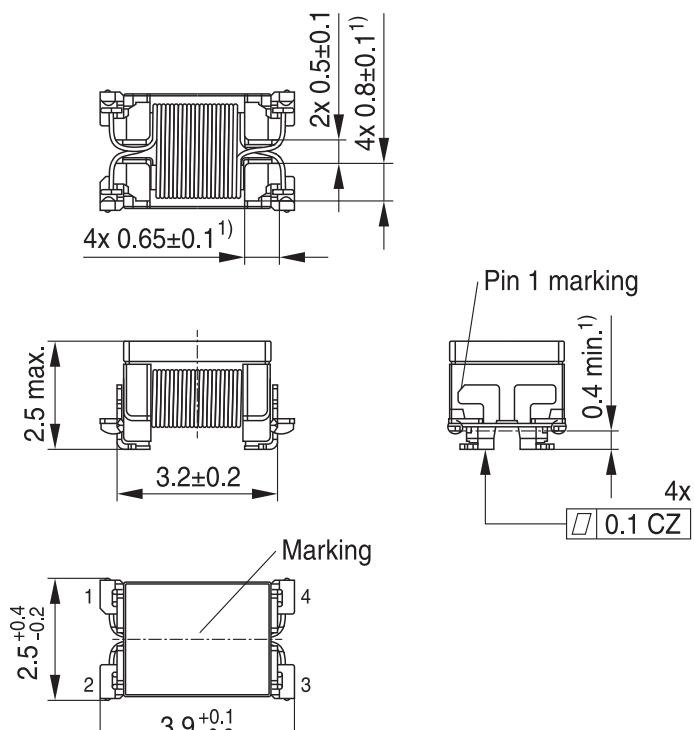
- 12-mm blister tape, wound on 330 mm Ø reel
- Packing unit: 6000 pcs. per reel

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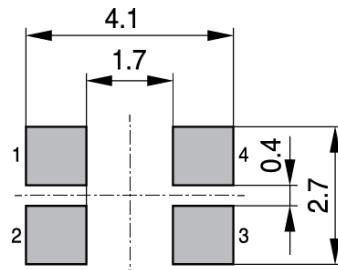
Dimensional drawing



¹⁾ Soldering area

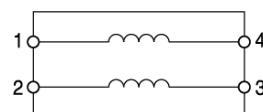
Dimensions in mm

Layout recommendation



1-2 and 3-4 to be joined in PCB

IND1905-S-E



No polarity

1-2 and 3-4 to be joined in PCB

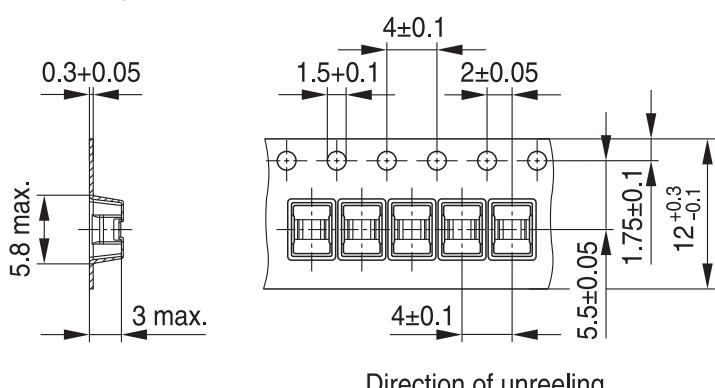
IND1906-T-E



IND1907-U

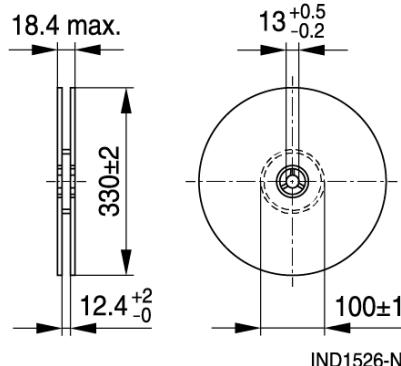
Taping and packing

Blister tape



IND1752-J-E

Reel



Dimensions in mm

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Technical data and measuring conditions

Rated inductance L_R	Measured with Keysight E4980A (or equivalent) at 100 kHz, 100 mV, $+23\text{ }^\circ\text{C} \pm 3\text{ }^\circ\text{C}$, inductance is specified for both windings connected in parallel
Inductance tolerance	$\pm 20\%$
DC resistance R_{DC}	Measured at $+23\text{ }^\circ\text{C} \pm 3\text{ }^\circ\text{C}$, resistance is specified for both windings connected in parallel
Self-resonant frequency f_{res}	Measured with Keysight E4990A (or equivalent), $+23\text{ }^\circ\text{C} \pm 3\text{ }^\circ\text{C}$
Saturation current I_{sat}	Based on the inductance change rate (30% below the initial value)
Rated current I_{temp}	Based on the temperature increase (temperature increase $+40\text{ }^\circ\text{C} / +25\text{ }^\circ\text{C}$ by self-heating) Ambient temperature: $+25\text{ }^\circ\text{C} / +105\text{ }^\circ\text{C} / +125\text{ }^\circ\text{C}$ I_{temp} are reference values evaluated under consideration of generic multilayer PCB
Weight	Approx. 0.08 g

Characteristics and ordering codes

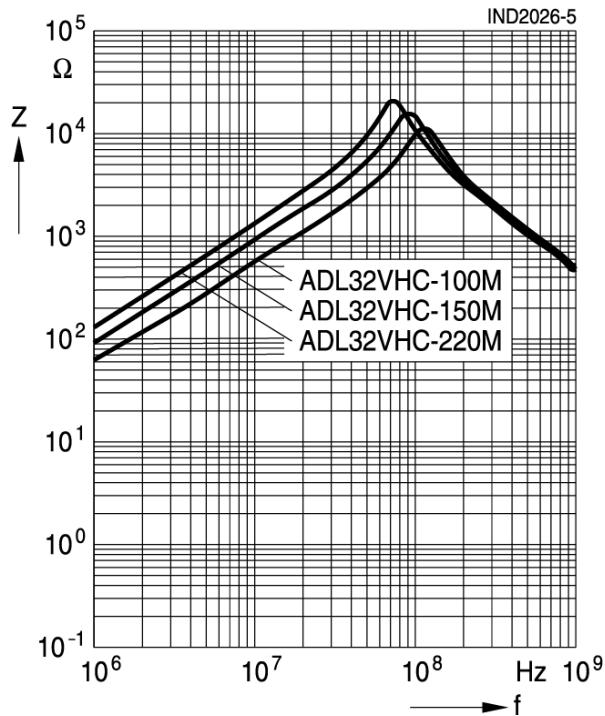
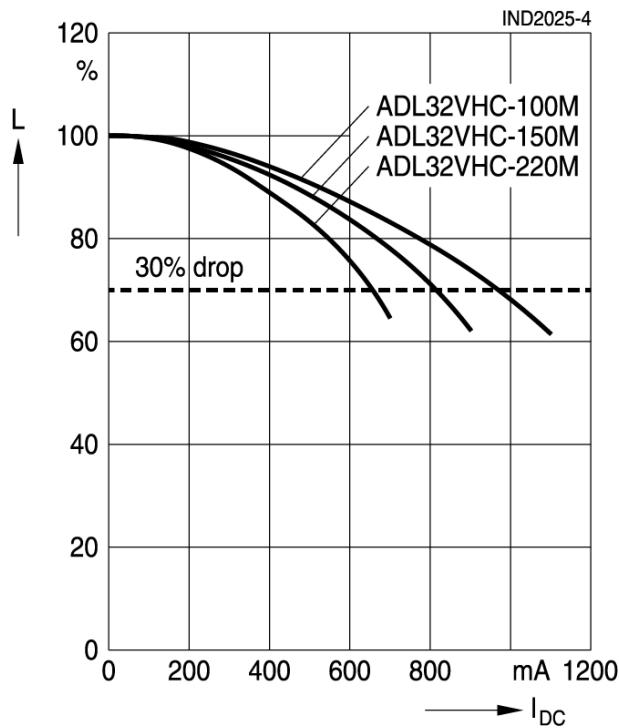
L_R μH	$R_{DC,max}$ Ω	$f_{res,typ}$ MHz	$I_{sat,typ}$ $@T_{amb}$ $+25\text{ }^\circ\text{C}$ mA	$I_{temp,typ}$ $@T_{amb}$ $+25\text{ }^\circ\text{C}$ $+25+40$ mA	$+ temp. increase in \text{ }^\circ\text{C}$ $+105+40$ mA	$+125+25$ mA	Internal code	Ordering code
10	0.31	110	950	1000	900	710	B82782L1103H100	ADL32VHC-100M
15	0.63	90	750	700	620	500	B82782L1153H100	ADL32VHC-150M
22	0.89	70	640	580	520	420	B82782L1223H100	ADL32VHC-220M

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Impedance versus frequency (typical curves)

Saturation current I_{sat} (typical curves)

Cautions and warnings

- Please note the recommendations in our Inductors data book (latest edition), online catalogs and in the data sheets.
 - Particular attention should be paid to the derating curves, if given. Derating applies in the case the ambient temperature in application exceeds the rated temperature of the component.
 - Ensure the operation temperature of the component in application not to exceed the maximum specified value or the upper climatic category temperature.
 - 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. 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, sealed, or varnished in customer applications:
 - Many potting, sealing, or varnishing 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, sealing or varnishing materials used attack or destroy the wire insulation, plastics, or glue.
 - The effect of the potting, sealing, or varnishing materials may change the high-frequency behavior of the components.
- Magnetic core materials such as ferrites are sensitive to direct impact. This can cause the core material to flake or lead to breakage of the magnetic core material.
- Any type of tension or pressure on the product may result in damage and affect its functionality and reliability.
 - The products are only to be attached to fixings or mounting holes provided for this purpose in accordance with the data sheet.
 - If additional mechanical forces are applied to the component, e.g., application of gap pads, it is necessary to check whether they attack or destroy any part of the component.
 - It is not permitted for the product specified in the data sheet to assume a mechanical function in the final application.
- Inductance value can drop if external metallic or magnetic parts will be put close to the coil or into the air gap of the coil or core or magnetic material.
- 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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