ADL32VHC-100M Datasheet

https://www.DiGi-Electronics.com

DiGi Electronics Part Number	ADL32VHC-100M-DG
Manufacturer	EPCOS - TDK Electronics
Manufacturer Product Number	ADL32VHC-100M
Description	POC INDUCTOR, 10 UH, EIA 1210
Detailed Description	10 µH Shielded Wirewound Inductor 1 A 310mOhm Max Horizontal, 4 PC Pad

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
ADL32VHC-100M	EPCOS - TDK Electronics
Series:	Product Status:
ADL32VHC	Active
Type:	Material - Core:
Wirewound	Ferrite
Inductance:	Tolerance:
10 µH	±20%
Current Rating (Amps):	Current - Saturation (Isat):
1 A	950mA
Shielding:	DC Resistance (DCR):
Shielded	310mOhm Max
Q @ Freq:	Frequency - Self Resonant:
-	110MHz
Ratings:	Operating Temperature:
AEC-Q200	150°C
Inductance Frequency - Test:	Features:
100 kHz	-
Mounting Type:	Package / Case:
Surface Mount	Horizontal, 4 PC Pad
Supplier Device Package:	Size / Dimension:
Horizontal, 4 PC Pad	0.126" L x 0.098" W (3.20mm x 2.50mm)
Height - Seated (Max):	
0.098" (2.50mm)	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8504.50.4000	

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 µH

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 µH, coded), date code, pin1 marking
- Minimum data on reel:
  Lot number, part number, date of packing

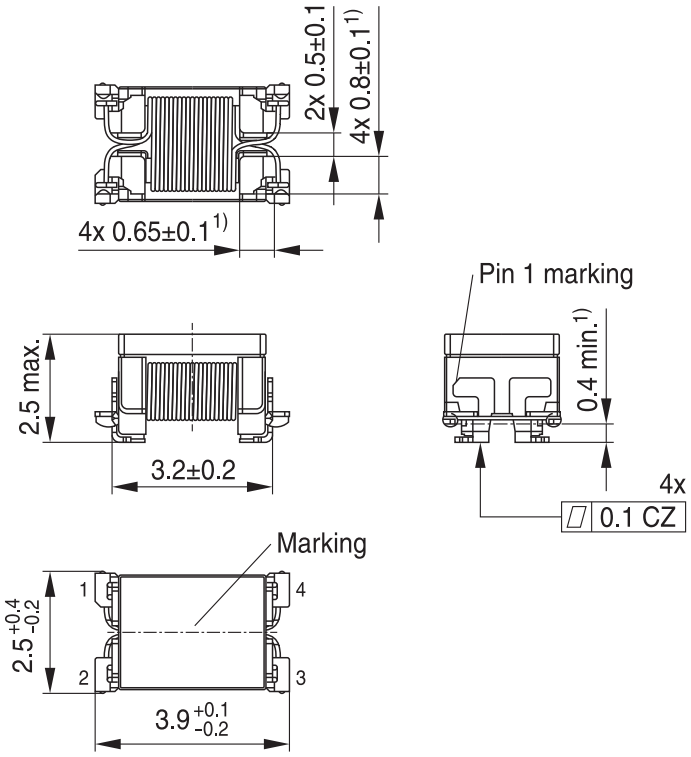
Delivery mode and packing unit

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

Inductors for Power over Coaxial (PoC)

Power injection choke, EIA1210 — ADL32VHC

Dimensional drawing

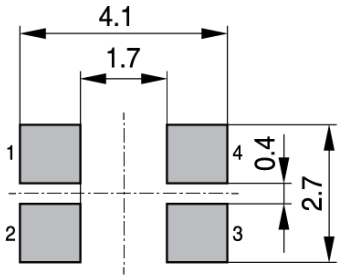


1) Soldering area

IND2259-2-E

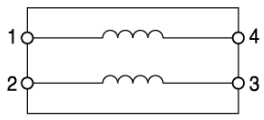
Dimensions in mm

Layout recommendation



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

IND1905-S-E



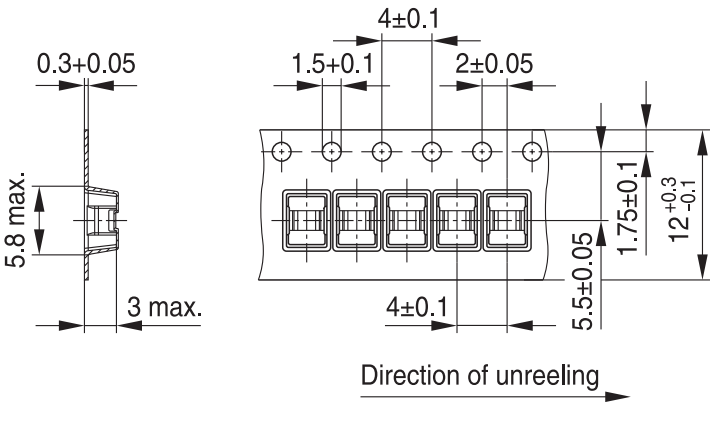
No polarity
1-2 and 3-4 to be joined in PCB

IND1906-T-E

IND1907-U

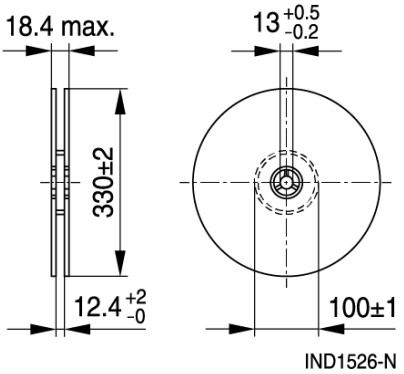
Taping and packing

Blister tape



IND1752-J-E

Reel



IND1526-N

Dimensions in mm

Inductors for Power over Coaxial (PoC)

Power injection choke, EIA1210 — ADL32VHC

Technical data and measuring conditions

Rated inductance L_R	Measured with Keysight E4980A (or equivalent) at 100 kHz, 100 mV, +23 °C ±3 °C, inductance is specified for both windings connected in parallel
Inductance tolerance	±20%
DC resistance R_{DC}	Measured at +23 °C ±3 °C, resistance is specified for both windings connected in parallel
Self-resonant frequency f_{res}	Measured with Keysight E4990A (or equivalent), +23 °C ±3 °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 °C / +25 °C by self-heating) Ambient temperature: +25 °C / +105 °C / +125 °C I_{temp} are reference values evaluated under consideration of generic multilayer PCB
Weight	Approx. 0.08 g

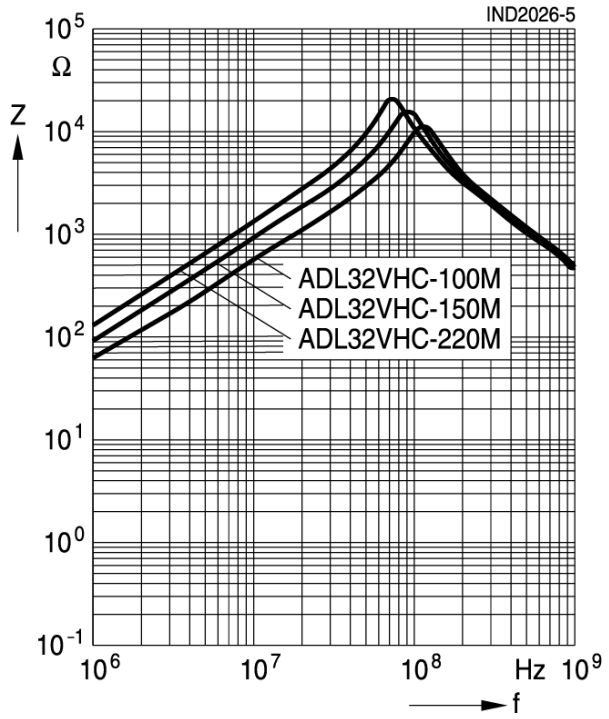
Characteristics and ordering codes

L_R	$R_{DC,max}$	$f_{res,typ}$	$I_{sat,typ}$ @T_{amb}	$I_{temp,typ}$ @T_{amb} + temp. increase in °C			Internal code	Ordering code
			+25 °C	+25+40	+105+40	+125+25		
µH	Ω	MHz	mA	mA				
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

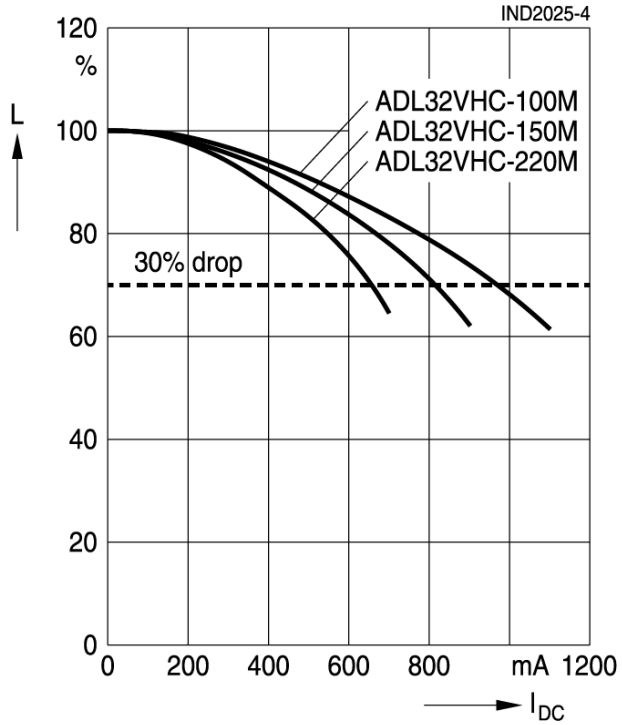
Inductors for Power over Coaxial (PoC)

Power injection choke, EIA1210 — ADL32VHC

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.

Display of ordering codes for TDK Electronics products

The ordering code for one and the same product can be represented differently in data sheets, data books, other publications, on the company website, or in order-related documents such as shipping notes, order confirmations and product labels. **The varying representations of the ordering codes are due to different processes employed and do not affect the specifications of the respective products**. Detailed information can be found on the Internet under www.tdk-electronics.tdk.com/orderingcodes.

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The following applies to all products named in this publication:

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.

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3. **The warnings, cautions and product-specific notes must be observed**.

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Important notes

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