

## **Inductors for Power over Coaxial (PoC)**

Power injection choke, EIA1210

**Series/Type:**        **ADM32FSC**  
**Date:**                October 2022

**Rated inductance: 10 ... 22  $\mu$ H**

### Construction

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



### Features

- Temperature range up to +165 °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

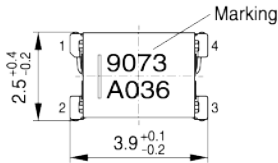
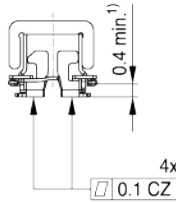
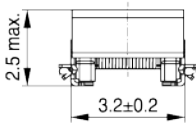
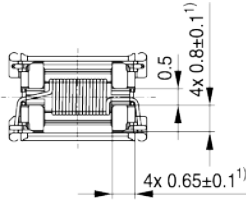
- Base material CuSn6
- Layer composition Ni, Sn
- Lead-free tinned

### Marking

- Marking on component:  
L value (in  $\mu$ H, coded), date code, pin 1 marking
- Minimum data on reel:  
Lot number, part number, date of packing

### Delivery mode and packing unit

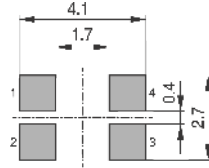
- 12-mm blister tape, wound on 330-mm  $\varnothing$  reel
- Packing unit: 6000 pcs./reel

**Dimensional drawing**


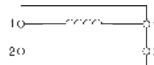
1) Soldering area

IND2075-I-E

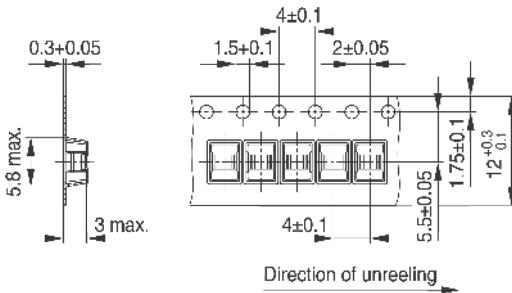
Dimensions in mm

**Layout recommendation**

 1-2 and 3-4 to be joined in PCB  
 IND1749-G-F

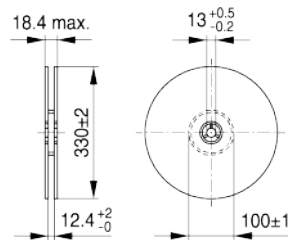
Dimensions in mm


 No polarity  
 1-2 and 3-4 to be joined in PCB  
 IND1754-H-F


IND1751-

**Taping and packing**
**Blister tape**


IND1752-I-F

**Reel**


IND1526-N

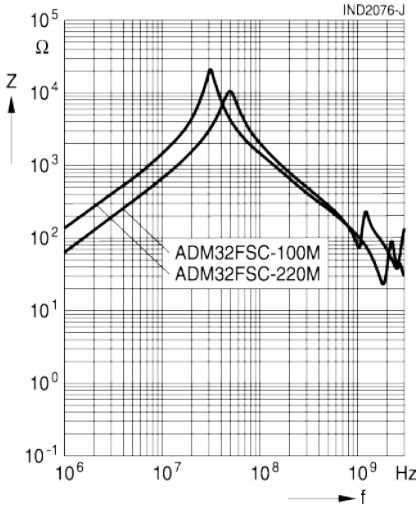
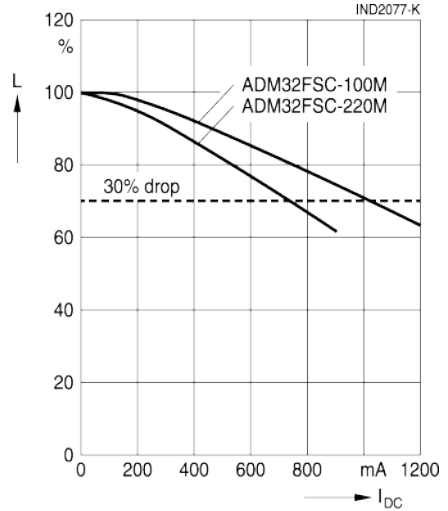
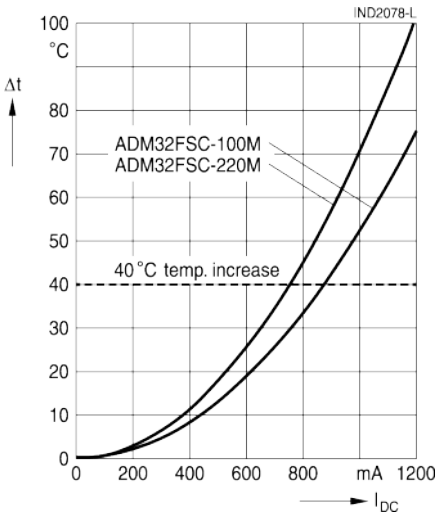
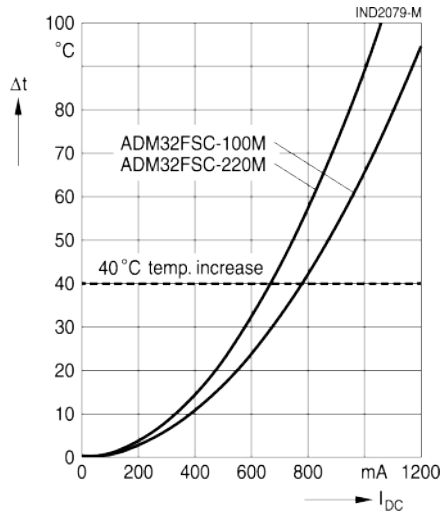
Dimensions in mm

**Technical data and measuring conditions**

Rated inductance $L_R$	Measured with Keysight E4980A (or equivalent) at 100 kHz, 0.1 mA, +23 °C ±3 °C
Inductance tolerance	±20%
DC resistance $R_{DC}$	Measured at +23 °C ±3 °C
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 (+40 °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**

$L_R$ μH	$R_{DC}$ Ω max.	$f_{res}$ MHz typ.	$I_{sat,typ}$ mA @ Ambient temp. +25 °C	$I_{temp,typ}$ mA @ Ambient temp. + temp. increase in (°C) +25+40   +105+40   +125+40			Internal code	Ordering code
10	0.42	52	1060	880	790	770	B82782N1103H100	ADM32FSC-100M
22	0.60	33	740	740	680	660	B82782N1223H100	ADM32FSC-220M

**Impedance versus frequency (typical curves)**

**Saturation current  $I_{sat}$  (typical curves)**

**Rated current  $I_{temp}$  (typical curves at ambient temp. +25 °C)**

**Rated current  $I_{temp}$  (typical curves at ambient temp. +125 °C)**


### 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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## Important notes

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