



Inductors

Transponder coils
Size $7.8 \times 2.7 \times 2.7$ (mm)

Series/Type: B82450A*E

Date: October 2008

Size 7.8 × 2.7 × 2.7 (mm)

Preliminary data

SMD

Rated inductance 1 mH to 7 mH

Sensitivity 10 to 28 mV/μT



Construction

- Ferrite core
- Winding: enamel copper wire welded to terminals
- Flame-retardant molding

Features

- Robust construction for a high mechanical stability when exposed to shock, drop and bending tests
- Qualified to AEC-Q200
- High sensitivity
- Suitable for pick and place and AOI (Automatic Optical Inspection)
- Suitable for lead-free reflow soldering
- RoHS-compatible

Applications

- Car access systems
 - immobilizer
 - PEPS (Passive Entry, Passive Start)
- TPMS (Tire Pressure Monitoring Systems)

Terminals

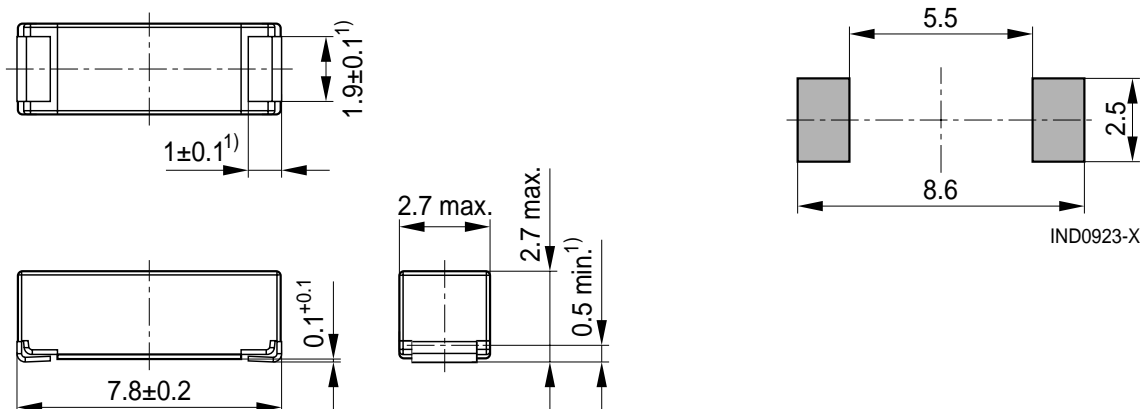
- Base material CuSn6
- Layer composition Ni, Sn (lead-free)
- Electro-plated

Marking

- Marking on component:
Manufacturer, L value in nH, letter “E”, date of manufacture (YWWDD), last five digits of lot number, internal information
- Minimum data on reel:
Manufacturer, ordering code, L value, quantity, date of packing

Delivery mode and packing unit

- 16-mm blister tape, wound on 330-mm Ø reel
- Packing unit: 2500 pcs./reel

Dimensional drawing and layout recommendation


1) Soldering area

IND0903-K-E

Dimensions in mm

Technical data and measuring conditions

Rated inductance L_R	Measured with Agilent 4294A and test fixture Agilent 16034 at frequency f_L , RMS voltage 500 mV, 20 °C
Q factor Q_{\min}	Measured with Agilent 4294A and test fixture Agilent 16034 at frequency f_Q , RMS voltage 500 mV, 20 °C
Sensitivity S_{typ}	Measured with Helmholtz coil test setup at 125 kHz
Resonance frequency f_{res}	Measuring with network analyzer Agilent 8753D, 20 °C
DC resistance R_{max}	Measured at 20 °C
Solderability (lead-free)	Sn95.5Ag3.8Cu0.7: (245 ± 5) °C, 3 s Wetting of soldering area ≥ 90% (based on IEC 60068-2-58)
Climatic category	40/125/56 (to IEC 60068-1)
Storage conditions	Mounted: -40 °C ... +125 °C Packaged: -25 °C ... +40 °C, ≤ 75% RH
Weight	Approx. 0.25 g

Characteristics and ordering codes

L_R	L tolerance	Q_{\min}	f_L, f_Q	S_{typ}	R_{max}	f_{res}	Ordering code
mH			kHz	$\frac{\text{mV}}{\mu\text{T}}$	Ω	MHz	
1.0	±3%	35	125	10	16	3.0	B82450A1004E000
2.36		35	125	16	30	2.0	B82450A2364E000
7.0		35	125	28	100	1.1	B82450A7004E000

Characteristics and ordering codes for other L values available on request.

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.
- 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.

Important notes

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**.

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