



## Inductors

DC/DC converters  
E 6.3

**Series/Type:** B78304B\*A003

**Date:** March 2008

**SMD**

**Construction**

- E 6.3 ferrite core
- Cover cap
- 6 gullwing terminals

**Features**

- Very small size
- Low stray inductance, low winding capacitance, low DC resistance

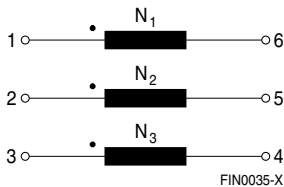
**Applications**

- Pulse transformers
- Broadband transformers
- Drive transformers for power semiconductors
- Low-power DC/DC converters (B78304B1016A003)

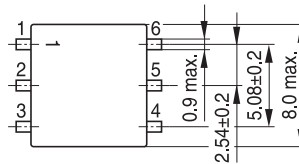
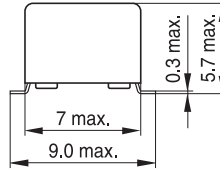
**Delivery mode and packing unit**

- 16-mm blister tape, 330-mm  $\varnothing$  reel
- Packing unit: 900 pcs./reel

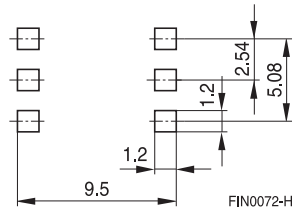
**Pinning**



**Dimensional drawing**



**Layout recommendation**



Dimensions in mm

**SMD**
**Technical data and measuring conditions**

Main inductance L (1-6)	10 kHz, 10 mV
Inductance tolerance	±55%
Stray inductance $L_{\text{stray}}$ (1-6)	10 kHz, 10 mV, short 2-5, 3-4
Resistance $R_{\text{DC}}$ (1-6)	Measured on 1-6
Capacitance $C_1$ (1-2)	10 kHz, 100 mV
Resonance frequency $f_{\text{res}}$	Primary winding 1-6
Test voltage $V_{\text{test}}$	50 Hz, 1 s
Operating temperature range	-40 °C ... +85 °C
Weight	Approx. 0.6 g

**Characteristics and ordering codes**

L mH	$N_1 : N_2 : N_3$	$L_{\text{stray}}$ μH	$R_{\text{DC}}$ Ω	$C_1$ pF	$B_{3\text{dB}}$ MHz	$f_{\text{res}}$ MHz	$V_{\text{test}}$ V AC	Ordering code
0.1	1:1:1	0.3	< 0.2	15	0.05 ... 60	Approx. 9.0	500	B78304B1030A003
1.0	1:1:1	1.0	< 0.9	30	0.03 ... 23	Approx. 4.0	500	B78304B1031A003
10.0	1:1:1	4.0	< 6.0	80	0.01 ... 1.6	Approx. 0.2	500	B78304B1032A003
4.3	1: 0.21:0.21	20.0	< 6.0	—	—	> 0.6	500	B78304B1016A003

## 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:

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