



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

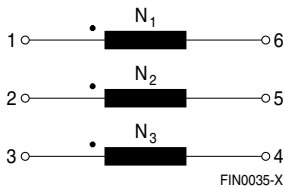
Applications

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

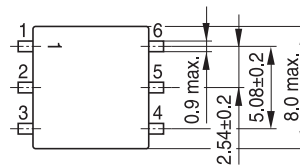
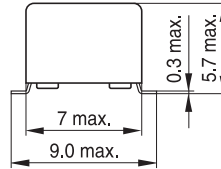
Delivery mode and packing unit

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

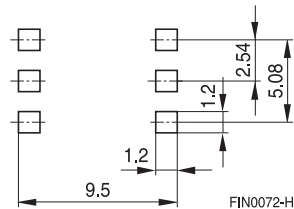
Pinning



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_{stray} (1-6)	10 kHz, 10 mV, short 2-5, 3-4
Resistance R_{DC} (1-6)	Measured on 1-6
Capacitance C_i (1-2)	10 kHz, 100 mV
Resonance frequency f_{res}	Primary winding 1-6
Test voltage V_{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_{stray} μH	R_{DC} Ω	C_i pF	$B_{3\text{dB}}$ MHz	f_{res} MHz	V_{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.

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