Transformers

DC/DC converters
E 6.3

Series/Type: **B78304B*A003**

Date: October 2012

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Construction

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

Features

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

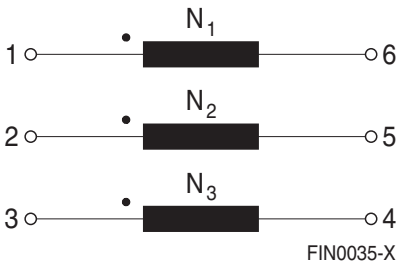
Applications

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

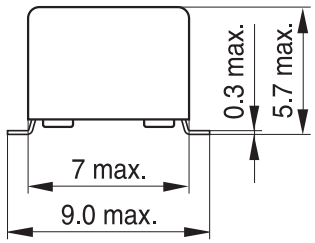
Delivery mode and packing unit

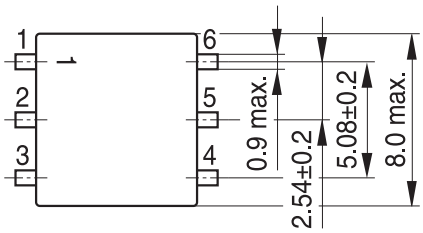
- 16-mm blister tape, reel 330 mm
- Packing unit: 900 pcs./reel

Pinning

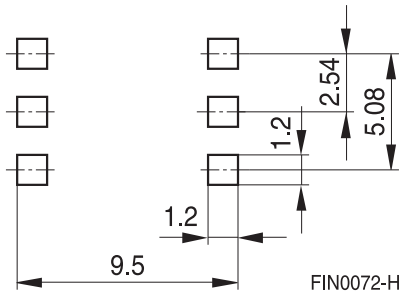


Dimensional drawing





Layout recommendation



Dimensions in mm

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_{3dB} 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.
  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 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.** 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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