



## **SMT current sense transformers**

E 4.2 core

$L_{\min}$  33 ... 1280  $\mu\text{H}$ , sensed current 7 A

**Series/Type:** B78302A\*A003

**Date:** March 2008

**Applications**

- Switching power supplies
- Feedback control
- Overload sensing
- Load drop/shut down detection

**Features**

- Very low DC resistance
- Different turn ratios
- Very small package
- RoHS-compatible

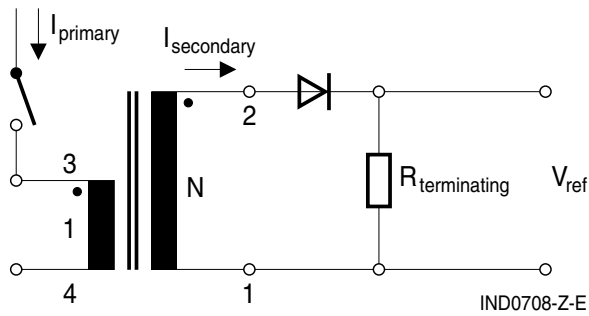
**Marking**

No marking on component

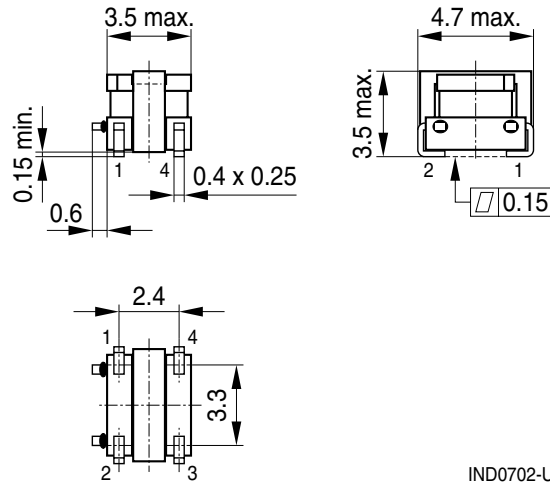
**Delivery mode and packing units**

- 12-mm blister tape, Ø 178-mm reel
- Carton packaging
- Packing units: 600 pcs./reel;  
3000 pcs./carton

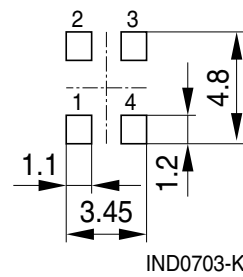
**Application circuit and pinning**



**Dimensional drawing**



**Layout recommendation**



Dimensions in mm

**Technical data and measuring conditions**

Main inductance L (3-4)	100 kHz, 1.0 V, 25 °C
DC resistance R <sub>max</sub>	Measured at 25 °C
Sensed current	The max. primary current of 5 A cause approx. 40 °C temperature rise
Operating temperature range	-40 °C ... +125 °C
Weight	Approx. 0.15 g

**Characteristics and ordering codes**

L <sub>min</sub> μH	Turn ratio N <sub>p</sub> : N <sub>s</sub>	DC resistance R <sub>max</sub> (mΩ)		Sensed current A	V <sub>test</sub> V AC	Ordering code
		primary	secondary			
33	1 : 20	2.5	320	7	360	B78302A8041A003
74	1 : 30	2.5	800	7	360	B78302A8042A003
132	1 : 40	2.5	1300	7	360	B78302A8043A003
205	1 : 50	2.5	2200	7	360	B78302A8044A003
295	1 : 60	2.5	3600	7	360	B78302A8045A003
400	1 : 70	2.5	4600	7	360	B78302A7981A003
820	1 : 100	2.5	8700	7	360	B78302A8046A003
1280	1 : 125	2.5	13000	7	360	B78302A8047A003

## 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**.

As a rule, EPCOS is 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 an EPCOS product with the properties described in the product specification is suitable for use in a particular customer application.

2. We also point out that **in individual cases, a malfunction of passive electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified**. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of a passive electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of a passive electronic component.
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