



## SMT current sense transformers

E 5 core

$L_{\min}$  80  $\mu\text{H}$  ... 3000  $\mu\text{H}$ , sensed current 20 A

**Series/Type:** B82801B

**Date:** September 2008, September 2009

**Application**

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

**Features**

- Very low DC resistance
- Different turns ratios
- Small package
- Other pinning on request
- RoHS-compatible

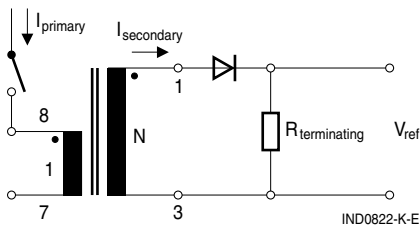
**Marking**

Middle block of ordering code

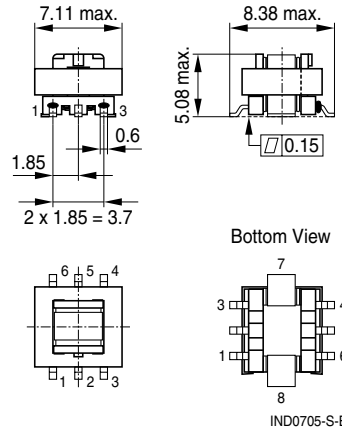
**Delivery mode and packing units**

- 16-mm blister tape, 330-mm Ø reel
- Carton packaging
- Packing units: 900 pcs./reel;  
7200 pcs./carton

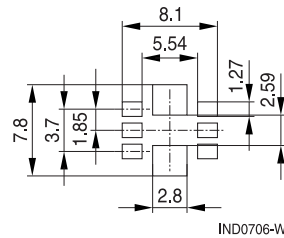
**Application circuit and pinning**



**Dimensional drawing**



**Layout recommendation**



Dimensions in mm

**Technical data and measuring conditions**

Frequency range	50 kHz ... 1 MHz
Inductance L (1-3)	100 kHz, 1.0 V, 25 °C
DC resistance $R_{max}$	Measured at 25 °C
Sensed current	The max. primary current of 20 A cause approx. 40 °C temperature rise
Test voltage $V_{test}$	50 Hz, 1 s
Operating temperature range	-40 °C ... +125 °C
Weight	Approx. 0.35 g

**Characteristics and ordering codes**

$L_{min}$ $\mu H$	Turns ratio $N_p : N_s$	DC resistance $R_{max}$ (m $\Omega$ )		Sensed current A	$V_{test}$ V AC	Ordering code
		primary	secondary			
80	1 : 20	0.8	400	20	500	B82801B0803A020
180	1 : 30	0.8	870	20	500	B82801B0184A030
320	1 : 40	0.8	1140	20	500	B82801B0324A040
500	1 : 50	0.8	1500	20	500	B82801B0504A050
720	1 : 60	0.8	1980	20	500	B82801B0724A060
980	1 : 70	0.8	4750	20	500	B82801B0984A070
2000	1 : 100	0.8	5500	20	500	B82801B0205A100
3000	1 : 125	0.8	6500	20	500	B82801B0305A125

## 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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