



Inductors

SMT current sense transformers, EE 12.6

Series/Type: **B82801C**

Date: 2009-08-14

Version: 1

SMD

Applications

- Switching power supplies
- Sensing and monitoring continuous currents to <40 A in analog systems
- Frequency range: 50 kHz ... 500 kHz

Features

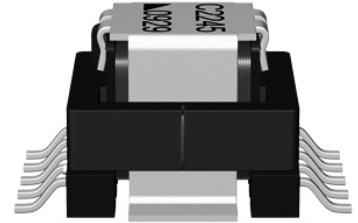
- Very low DC resistance
- Different turns ratios
- RoHS-compatible

Marking

- Four digits from the middle block of ordering code

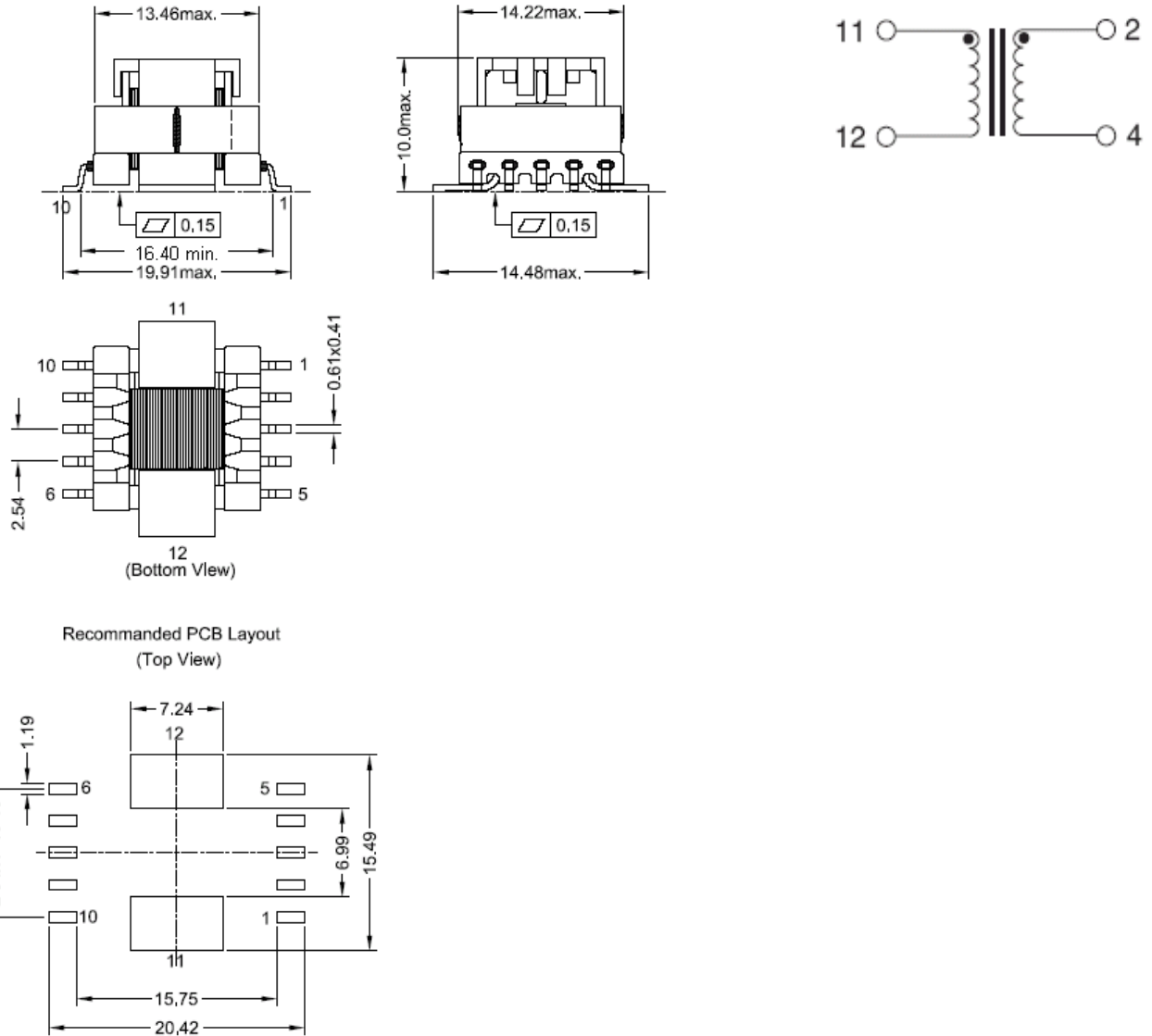
Delivery mode and packing unit

- 32-mm blister tape, 330-mm Ø reel
- Carton packaging
- Packing units:
200 pcs./reel, 800 pcs./carton

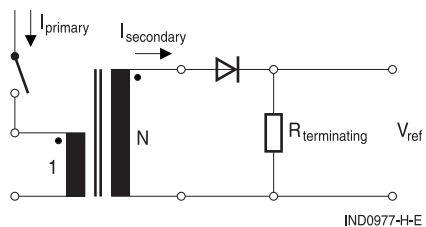


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Dimensional drawing and pin configuration

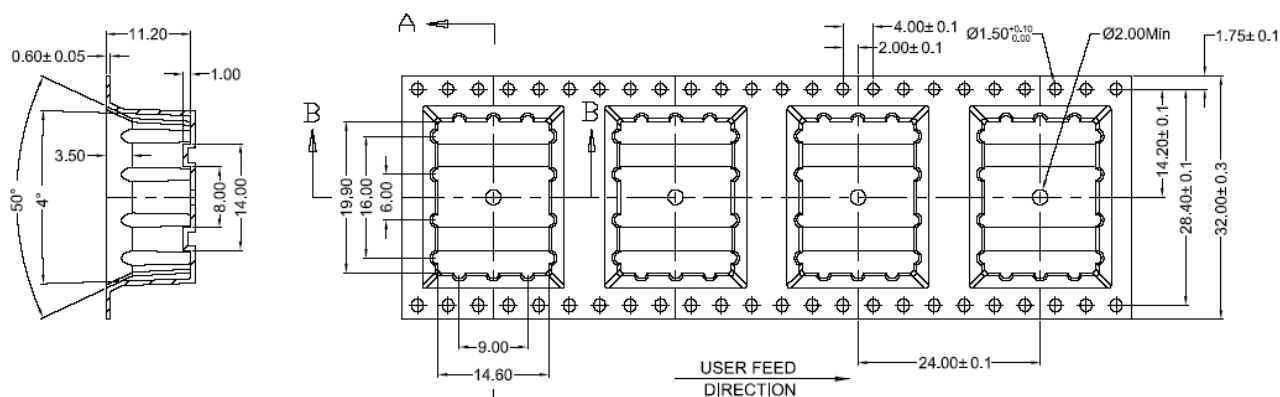


Application circuit

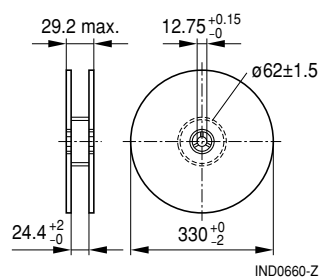


Taping and packing

Blister tape



Reel



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Technical data and measuring conditions

Frequency range	50 kHz ... 500 kHz
Sensed current	The max. primary current of 40 A causes approx. 40 °C temperature rise.
Test voltage V_{test}	50 Hz, 1 s (winding/winding)
Rated temperature	Approx. 40 °C
Inductance L (2–4)	100 kHz, 1.0 V, 25 °C
DC resistance R_{max}	Measured at 25 °C
Solderability	≥99.9 Sn lead-free or Sn96.5Ag3.0Cu0.5: (245 ±5) °C, (3 ±0.3) s Wetting of soldering area: ≥95% (to IEC 60068-2-58)
Resistance to soldering heat (reflow soldering)	Reflow process at 245 ±5 °C (to JEDEC J-STD 020C)
Storage conditions	–20 °C ... +40 °C, ≤ 75 %
Operating temperature range	–40 °C ... +130 °C
Weight	Approx. 4.8 g

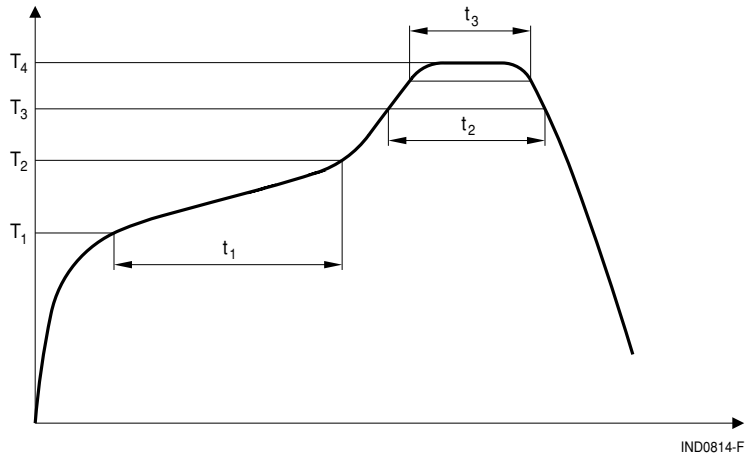
Characteristics and ordering codes

L_{min} mH	Turns ratio $N_p : N_s$	DC resistance R_{max} (mΩ)		Sensed current A	V_{test} V AC	Ordering code
		primary	secondary			
1.4	1 : 50	0.28	400	40	1500	B82801C0145A050
5.6	1 : 100	0.28	1000	40	1500	B82801C0565A100
12.6	1 : 150	0.28	2200	40	1500	B82801C1265A150
22.4	1 : 200	0.28	2900	40	1500	B82801C2245A200

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Recommended reflow soldering curve

Pb-free solder material (based on JEDEC J-STD 020C)



Classification of reflow soldering process

T_1 °C	T_2 °C	T_3 °C	T_4 °C	t_1 s	t_2 s	t_3 s
150	200	217	245	<110	<90	$T_4 - 5$ °C

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Cautions and warnings

- Please note the recommendations in our Inductors data book (latest edition or in the Internet) 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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