



Magnetics modules for LAN applications

10/100 Base-T magnetics module

Ordering code: B78476A8245A003

Date: July 2008

SMD

Features

- Ferrite toroid, case and potting (UL 94 V-0)
- Compliant with IPC/JEDEC J-STD-020C
- Compliant with IEEE 802.3af
- MSL level 2
- RoHS-compatible

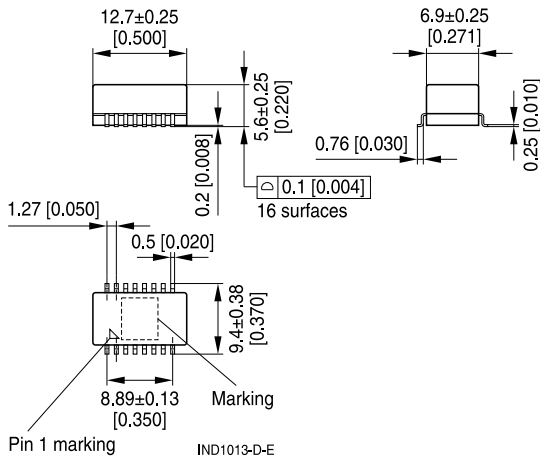
Marking

- EPCOS, middle block of ordering code, date code

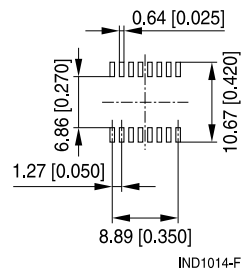
Delivery mode and packing unit

- 24-mm blister tape,
330-mm Ø reel (cardboard packaging)
- Packing unit: 500 pcs./reel

Dimensional drawing

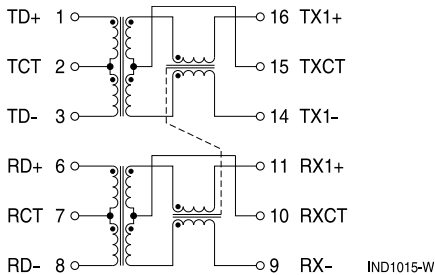


Layout recommendation



Units: mm [inch]

Values without tolerances are nominal values for reference.

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Pinning

Characteristics and ordering code

(electrical specifications at 25 °C)

Ordering code	B78476A8245A003	
Turns ratio (primary : secondary)	1CT : 1CT ±3%	
Inductance L	350 µH min.	100 kHz, 100 mV, 8 mA DC bias
Voltage test V_{test}	1500 V AC	50 Hz, 1 min
Insertion loss	-1.2 dB max.	0.1 MHz ... 100 MHz
Return loss	-16 dB min. -14 dB min. -13 dB min. -12 dB min.	1 MHz ... 30 MHz 40 MHz 50 MHz 60 MHz ... 80 MHz
Crosstalk	-45 dB min. -40 dB min. -35 dB min.	30 MHz 60 MHz 100 MHz
Differential to common-mode rejection (DCMR)	-43 dB min. -37 dB min. -33 dB min.	30 MHz 60 MHz 100 MHz
Operating temperature range	0 °C ... +70 °C	
Weight	Approx. 0.8 g	

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Cautions and warnings

- For soldering conditions please refer to JEDEC J-STD-020C.
- 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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