

Magnetics modules for LAN applications

1000 Base-T magnetics module

Series/Type: **B78476A8317A003**

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SMD

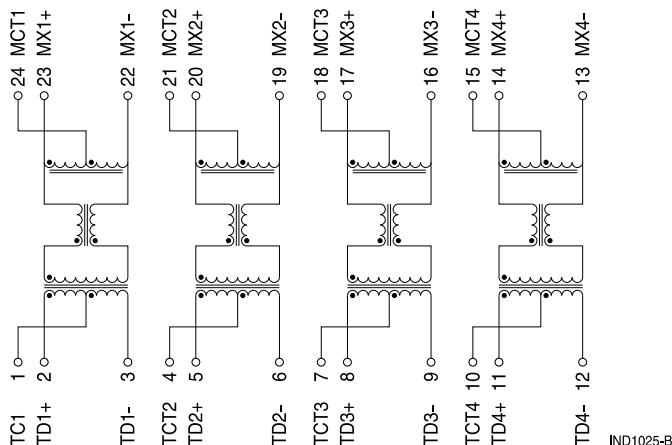
The technical drawing shows a cross-section of a PCB with several layers. The total thickness is indicated as 12.7 [0.500] mm. The core material has a thickness of 0.76 [0.030] mm. The prepreg material has a thickness of 1.27 [0.050] mm. The copper plating on the inner surfaces has a thickness of 13.97 [0.550] μm. The outer surface layer has a thickness of 16.51 [0.650] mm. The drawing also includes a reference to the standard IND1023-T.

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Single port

SMD

Pinning



Characteristics and ordering code

(electrical specifications at +25 °C)

Ordering code	B78476A8317A003	
Turns ratio (primary : secondary)	1CT : 1CT $\pm$ 3%	
Inductance L	350 μ H min.	100 kHz, 100 mV, 8 mA DC bias
Voltage test V_{test}	1500 V AC	50 Hz, 1 min
Insertion loss	-1.0 dB max.	1 MHz ... 100 MHz
Return loss	-18 dB min.	1 MHz ... 40 MHz
	-16 dB min.	50 MHz
	-12 dB min.	60 MHz ... 80 MHz
	-10 dB min.	100 MHz
Crosstalk	-43 dB min.	30 MHz
	-37 dB min.	60 MHz
	-33 dB min.	100 MHz
Differential to common-mode rejection (DCMR)	-43 dB min.	30 MHz
	-37 dB min.	60 MHz
	-33 dB min.	100 MHz
Operating temperature range	0 °C ... +70 °C	
Weight	Approx. 2.2 g	

SMD**Cautions and warnings**

- For soldering conditions of SMD components please refer to JEDEC J-STD-020D.
- 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.

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