RJ45 Jacks with integrated magnetics

10/100 Base-T, quad port, tab down

Ordering code: **B78477P1***A*44**
Date: October 2008

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Applications

- Local Area Networks using Ethernet protocol
- Hubs, switches, routers
- ADSL modems
- Industrial automation equipment using Ethernet protocol for communication

Features

- Fully compliant with IEEE 802.3
- With EMI fingers for shielding
- High electrical performance and EMI suppression
- Optimized for all major transceiver ICs
- Industry standard footprint
- RoHS-compatible

Construction

- Housing: Thermoplastic, UL 94 V-0
- Shield: Ni plated on copper alloy
- Contact: Phosphor bronze, 1.27 µm (50 µ") Ni underplating, 0.4 µm (15 µ") selective gold plating
- Connector dimensions comply with TIA-968 (FCC 68.5) dimension requirements

Marking

- EPCOS, middle block of ordering code, date code

Delivery mode and packing unit

- Blister trays in carton box
- Packing unit: 192 pcs. per carton box (8 trays)

Mechanical characteristics

Insertion force	20 N max.
Retention force	75 N min.
Durability	750 mating cycles min.

LED specification

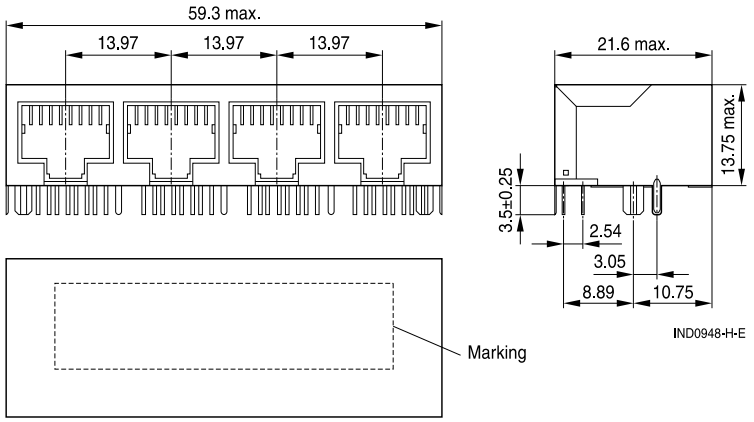
LED colour	Wave length	Forward voltage	
		Max.	Typical
Green	565 nm	2.6 V	2.2 V
Yellow	585 nm	2.6 V	2.1 V

Characteristics and ordering codes

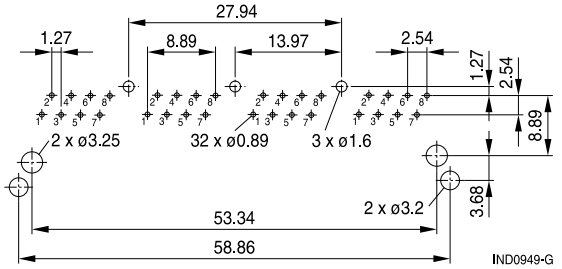
(electrical specifications at 25 °C)

Ordering code	B78477P1011A044	B78477P1010A344	
LED (left - right)	–	Green - yellow	
Turns ratio (primary : secondary)	1CT : 1CT ±3%		
Inductance L	350 µH min.		100 kHz, 100 mV, 8 mA DC bias
Voltage test V_{test} (primary : secondary)	1500 V AC		50 Hz, 1 min
Insertion loss	−1.0 dB max.		1 MHz ... 100 MHz
Return loss	−18 dB min. −14 dB min. −12 dB min. −10 dB min.		1 MHz ... 40 MHz 60 MHz 80 MHz 100 MHz
Crosstalk	−33 dB min.		1 MHz ... 100 MHz
Common-mode rejection	−30 dB typ.		1 MHz ... 100 MHz
Operating temperature range	0 °C ... +70 °C		
Weight	Approx. 19.3 g		

Dimensional drawing for B78477P1011A044

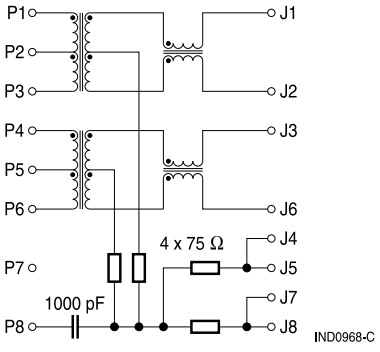


Layout recommendation (top view)

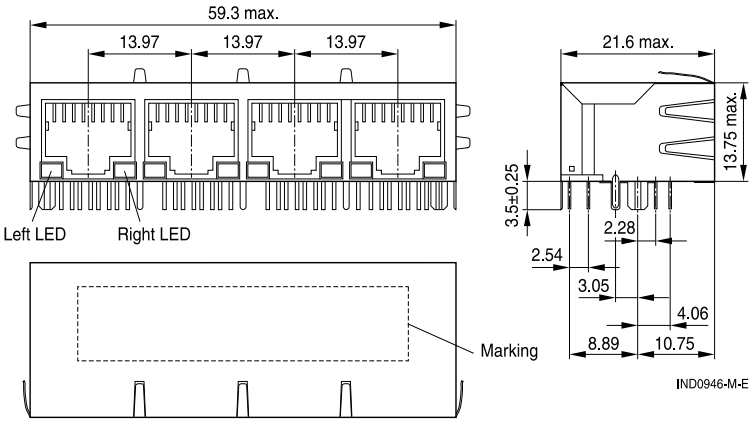


Dimensions in mm
Values without tolerances are nominal values for reference.

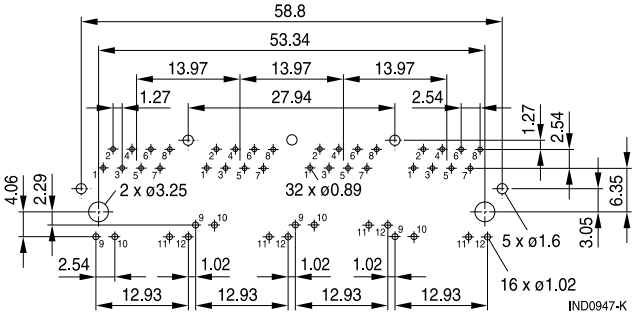
Pinning



Dimensional drawing for B78477P1010A344

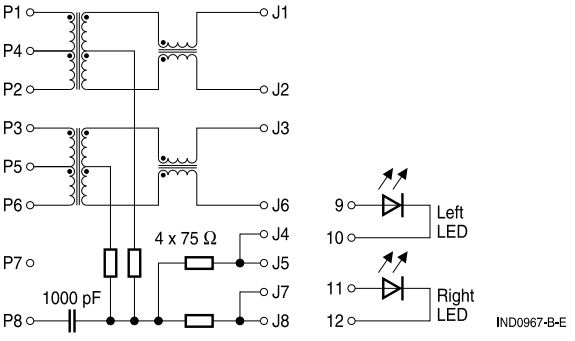


Layout recommendation (top view)



Dimensions in mm
Values without tolerances are nominal values for reference.

Pinning



Cautions and warnings

- 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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