



## **RJ45 Jacks with integrated magnetics**

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

**Series/Type:**        **B78477P100\*A\*24**

**Date:**                August 2012

### 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  $\mu\text{m}$  (50  $\mu\text{in}$ ) Ni underplating, 0.4  $\mu\text{m}$  (15  $\mu\text{in}$ ) 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: 320 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**

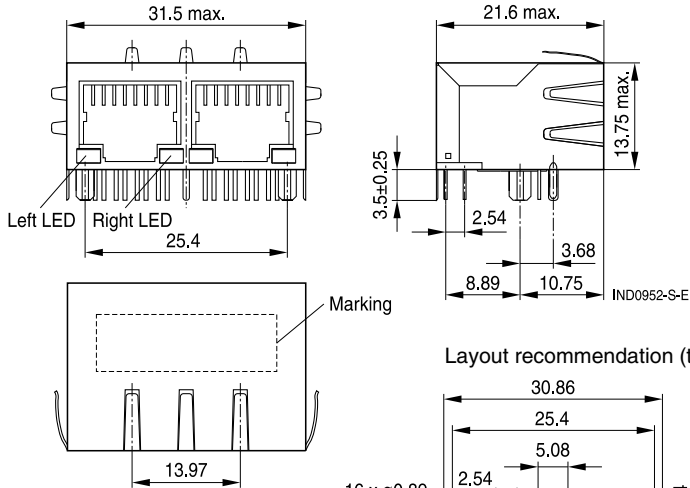
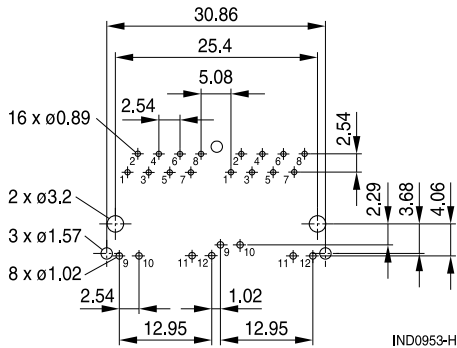
LED colour	Wave length	Forward voltage	
		Max.	Typical
Green	565 nm	2.6 V	2.2 V
Yellow	585 nm	2.6 V	2.1 V

**Characteristics and ordering codes**

(electrical specifications at +25 °C)

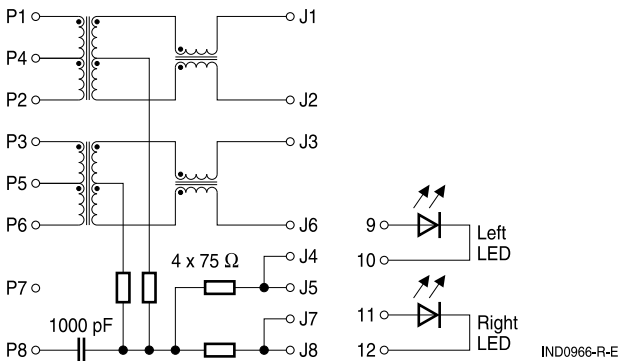
Ordering code	B78477P1008A024	B78477P1009A124	
LED (left - right)	–	Yellow - green	
Turns ratio (primary : secondary)	1CT : 1CT ±3%		
Inductance L	350 µH min.		100 kHz, 100 mV, 8 mA DC bias
Voltage test $V_{test}$ (primary : secondary)	1500 V AC		50 Hz, 1 min
Insertion loss	–1.0 dB max.		1 MHz ... 100 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. 11 g		



**Dimensional drawing for B78477P1009A124**

**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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