

# RJ45 Dual Port 10GBase-T Magnetic Module



ARJM21A-J3752ZZEWCB

41.1 x 17.0 x 27.1 mm  
RoHS/RoHS II Compliant  
MSL = 1

## Features

- Dual Port RJ45 with Magnetics
- Supports speed up to 10 Gbps
- Operating temperature range up to 0°C to +70°C
- Different Gold plating options
- Compatible with major IC's for Ethernet applications
- High performance magnetics for EMI suppression and common mode noise rejection
- 1CT:1CT TX and RX Transformers

## Applications

- Fast and gigabit Ethernet
- Hubs, Servers, Switches, Routers, Access points
- IP cameras, surveillance, and phone
- Industrial computers and robotics
- Networking and communications
- Broadcast video
- Set top box
- Test and Measurement

## Electrical Specifications

| Parameters         | Minimum             | Typical | Maximum | Units | Notes                           |
|--------------------|---------------------|---------|---------|-------|---------------------------------|
| Inductance         | 180                 |         |         | μH    | 100 kHz, 0.1V with 0 mA DC Bias |
| Leakage Inductance |                     |         | 0.4     | μH    | 100 kHz, 0.1V                   |
| DC Resistance      |                     |         | 1.0     | Ω     |                                 |
| Hipot              | 2250                |         |         | VDC   | 60 s                            |
| Insertion Loss     |                     |         | 3.0     | dB    | 100 kHz                         |
|                    |                     | 1.4     | 2.0     |       | 1-400 MHz                       |
| Return Loss        | 22                  |         |         | dB    | 1-100 MHz                       |
|                    | 22-20.75log(*f/100) |         |         |       | 100-500 MHz                     |
| Crosstalk          | 28                  |         |         | dB    | 1-100 MHz                       |
|                    | 19                  |         |         |       | 100-500 MHz                     |
| CMR                | 30                  |         |         | dB    | 1-40 MHz                        |
|                    | 28                  |         |         |       | 40-100 MHz                      |
|                    | 26                  |         |         |       | 100-500 MHz                     |
| DCR                | 30                  |         |         | dB    | 1-250 MHz                       |
|                    | 22                  |         |         |       | 250-500 MHz                     |
| Turn Ratio         | 1CT : 1CT           |         |         |       | ± 2%                            |

\*f represents the test frequency specified in MHz

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## Material Specifications

| Parameter   | Specification   |                                  |
|-------------|---|----------------------------------|
| Housing     | Material  | Glass Filled PA6T, Black         |
|             | Flammability Rating   | UL94V-0 (RoHS)                   |
| Contact     | Material  | Phosphor Bronze, 50-100 u" (min) |
|             | Plating (1)   | Nickel                           |
|             | Plating (2)   | **Gold, 50 u"                    |
| Shield      | Material  | Copper Alloy, 0.2mm              |
| Jack Cavity | In conformance with the FCC Rules and Regulations Part 68 Subpart F |                                  |

\*For alternative Gold plating thickness, please contact ABRACON.

## Environmental Specifications

| Parameters            | Specification    |
|-----------------------|------------------|
| RoHS                  | RoHS Compliant   |
| MSL                   | 1                |
| Operating Temperature | 0 °C to +70 °C   |
| Storage Temperature   | -40 °C to +85 °C |

# RJ45 Dual Port 10GBase-T Magnetic Module

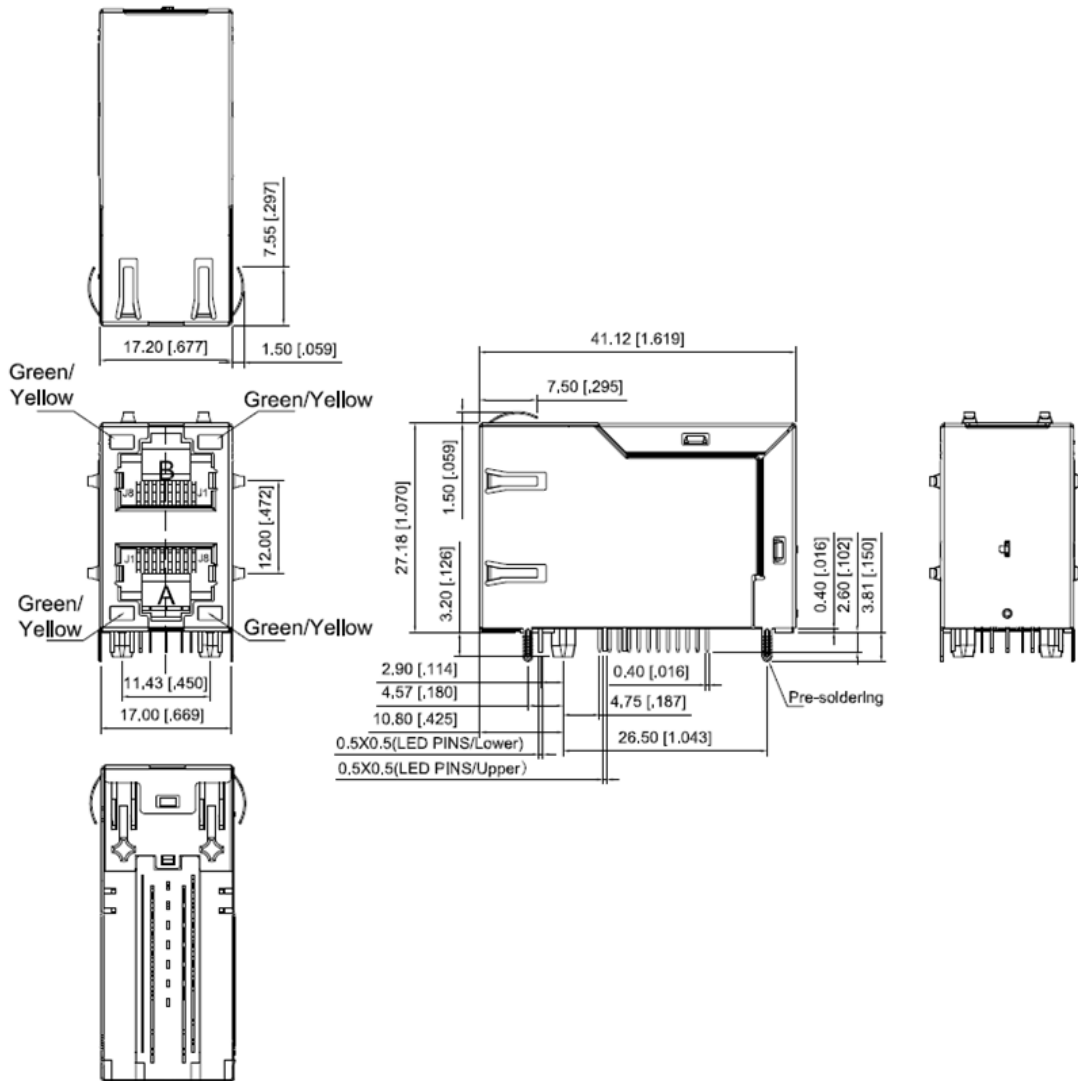


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## Mechanical Dimensions

W Shield, W EMI Fingers, Tab UP/DOWN



Dimensions: mm[inch]  
 (Unless otherwise specified, all tolerances are  $\pm 0.25$ [0.010])

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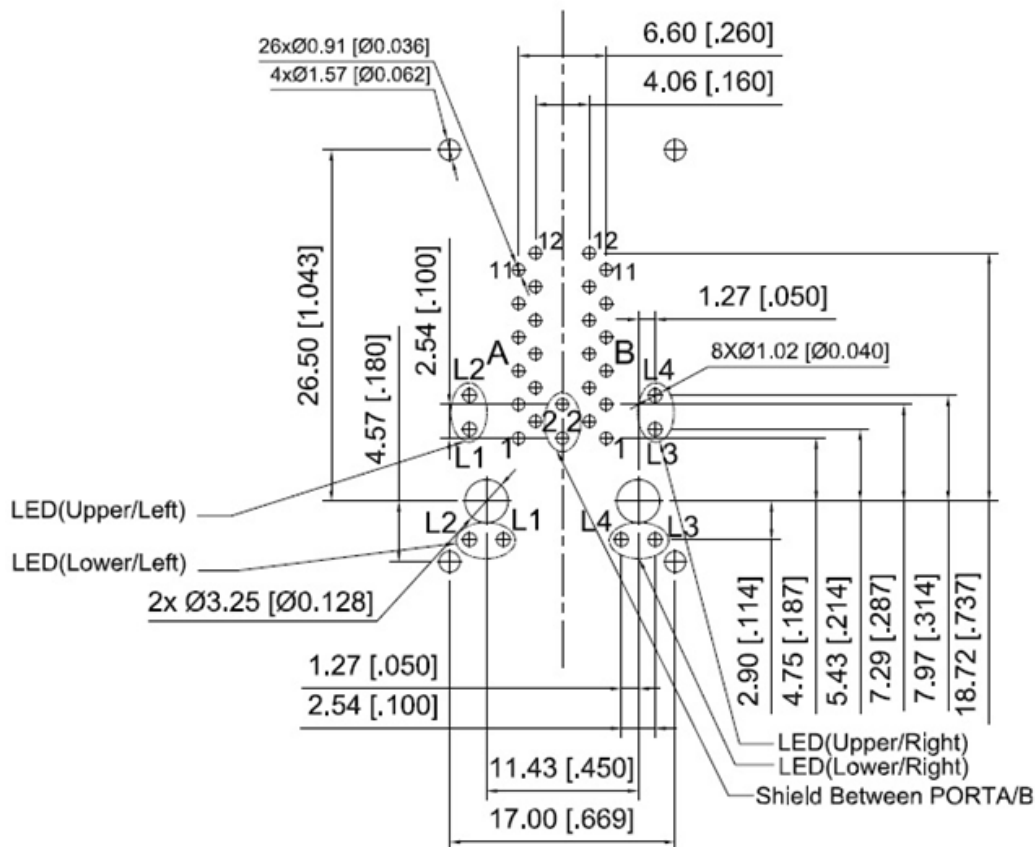


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## Mechanical Dimensions

### Pin Layout



Dimensions: mm[inch]  
(Unless otherwise specified, all tolerances are ±0.05[0.002])

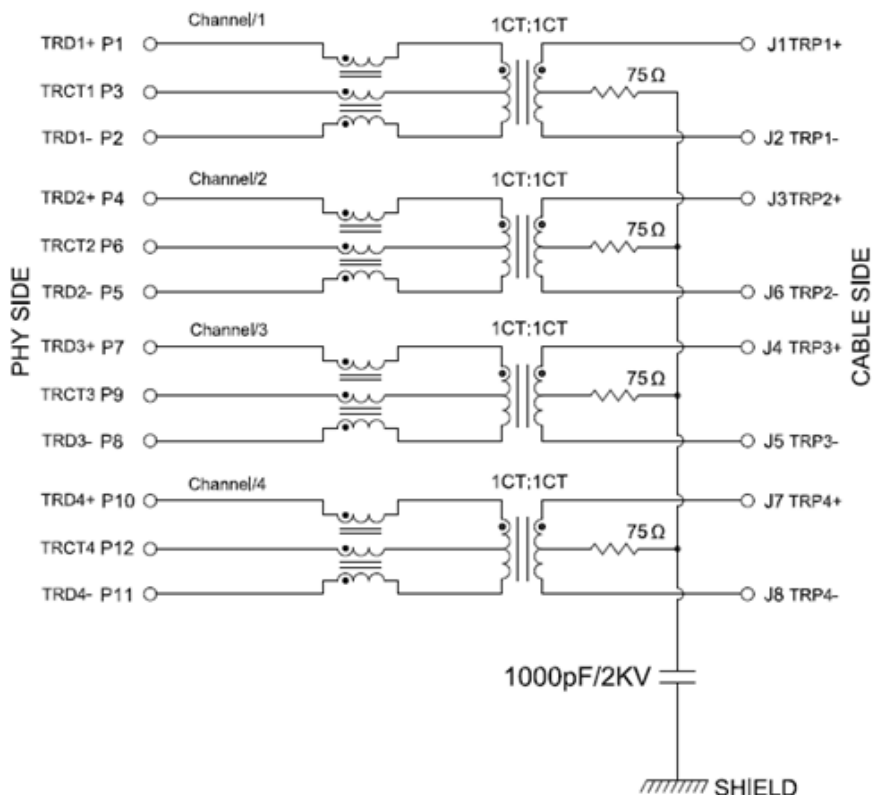
# RJ45 Dual Port 10GBase-T Magnetic Module



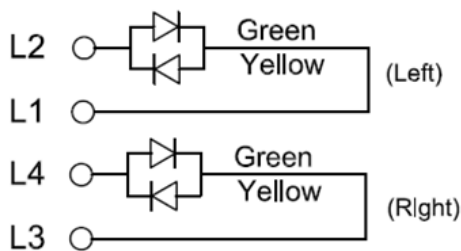
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## Schematic



## LED Specification. @ 20mA Forward Current



| LED Color | Wavelength | Forward Voltage |       |
|-----------|------------|-----------------|-------|
|           |            | Typ.            | Max.  |
| Green     | 565 nm     | 2.2 V           | 2.4 V |
| Yellow    | 590 nm     | 2.1 V           | 2.5 V |

\*For alternative LED colors, please contact ABRACON.

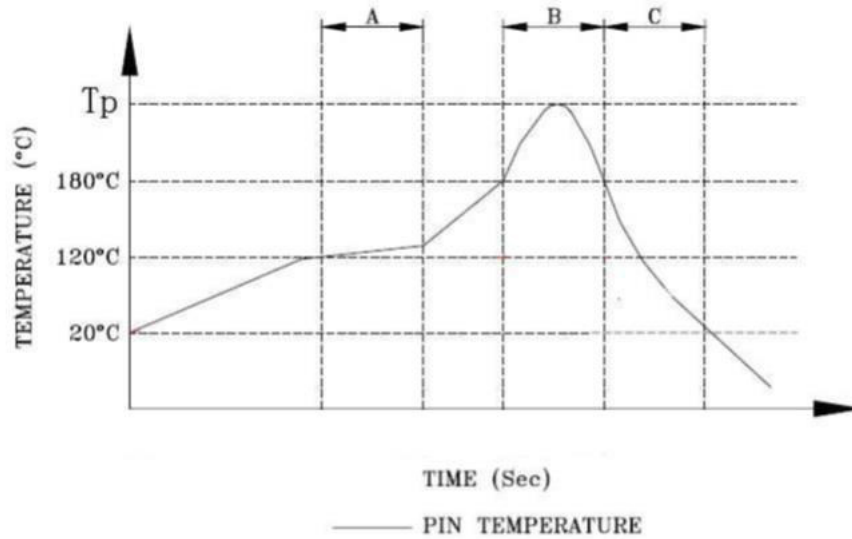
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## Wave Soldering Profile



Peak Temperature ( $T_p$ ) = 260 °C (max)

Peak Time ( $t_p$ ) = 10 s (max)

## Packaging

Pieces per Tray: 20

Pieces per Carton: 60

Weight of a Carton: 2.5 Kg

Dimension of the Carton: 360 x 210 x 175 mm

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