

RJ45, 2x1 Multi Port, 10/100/1G Base-T Magnetics Module

ARJM21 Series

Request Samples



Check Inventory



17.2 x 28.7 x 25.5 mm

RoHS/RoHS II Compliant

MSL Level = 1

Features

- IEEE 802.3 compliant and UL certified
- High performance integrated magnetics for EMI suppression
- Suitable for CAT5 and CAT6 UTP cabling
- RoHS peak wave solder temperature rating 265°C
- Extended operating temperature -40 to 85°C option

Applications

- Multiport 10/100/1G Base-T LAN
- Network Interface Cards
- High Density Data Center Switches
- NAS / Expander storage
- Data Center Servers, Routers
- Media converters

Electrical Specifications

| Parameters | Minimum | Typical | Maximum | Units | Notes |
|--------------------------|---------|---------|------------------------------|--------------------|-------------------------------------|
| Turn Ratio ($\pm 3\%$) | 1CT:1CT | | | | 100kHz, 0.1V |
| Inductance | 350 | | | μH | 100kHz, 0.1V, 8mADC |
| DC Resistance | | | 1.2 | Ω | |
| Hipot | 1500 | | | Vrms | 1mA Max Complies with IEEE 802.3 |
| Operating Temperature | -40 | | +85 | $^{\circ}\text{C}$ | See options |
| Storage Temperature | -40 | | +85 | $^{\circ}\text{C}$ | |
| 100 Base-T | | | | | |
| Insertion Loss | -1.0 | | | dB | 0.-100MHz |
| Return Loss | | | -20 | dB | 1-30MHz |
| | | | -15 | | 30-60MHz |
| | | | -10 | | 60-80MHz |
| Crosstalk | | | -30 | dB | 1-100MHz |
| CMRR | | | -30 | dB | 1-100MHz |
| 1000 Base-T | | | | | |
| Insertion Loss | -1.1 | | | dB | 0.5-100MHz |
| Return Loss | | | -18 | dB | 0.5-40MHz |
| | | | $-12+20\log(f/80)^{\dagger}$ | | 40.1-100MHz |
| Crosstalk | | | -35 | dB | 0.5-40MHz |
| | | | $-33+20\log(f/50)^{\dagger}$ | | 40.1-100MHz |
| CMRR | | | -30 | dB | 0.5-100MHz |

\dagger f represents the test frequency specified in MHz

ARJM24 Series is RoHS/RoHS II Compliant

MSL level: 1

UL Certification Number: E503350



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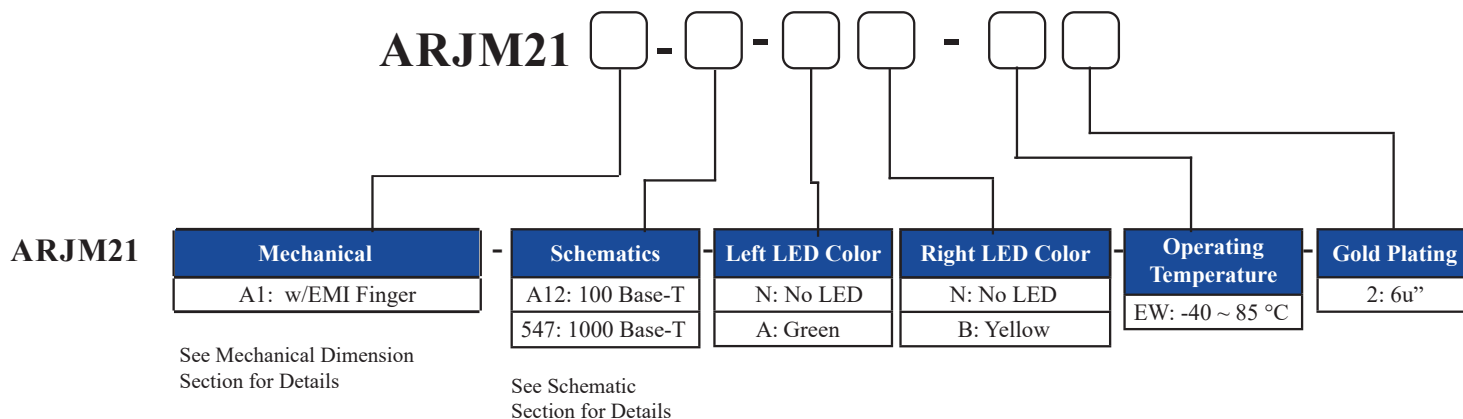


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Part Number Identification



Available Part Numbers

| Part Number | Speed | Tab Direction | LED (Left:Right) | Operating Temperature | Solder Method | Gold Plating |
|---------------------|---------------|---------------|------------------|-----------------------|---------------|--------------|
| ARJM21A1-547-AB-EW2 | 1000 Base-T | Up/Down | G : Y | 0°C ~ 70°C | Wave | 6μ" |
| ARJM21A1-A12-NN-EW2 | 10/100 Base-T | Up/Down | none | -40°C ~ 85°C | Wave | 6μ" |

Materials

- Housing:**
Material: PBT, UL94V-0
Standard Color: Black
- Contact Pin:**
Material: Phosphor Bronze
Plating (1): Nickel
Plating (2): 100%Sn
- Insert:**
Material: PBT, UL94V-0

Contact Material: Phosphor Bronze
Plating (1): Nickel
Plating (2): Gold, 6u"
- LED:**
Material: Diffused Epoxy Lens, 0.5x0.5mm
Carbon Steel wireframe leads
- Metal Shell:**
Material: Brass
Plating (1): Nickel

Note: Abracon LLC will not alter any material composition, without prior written notification.



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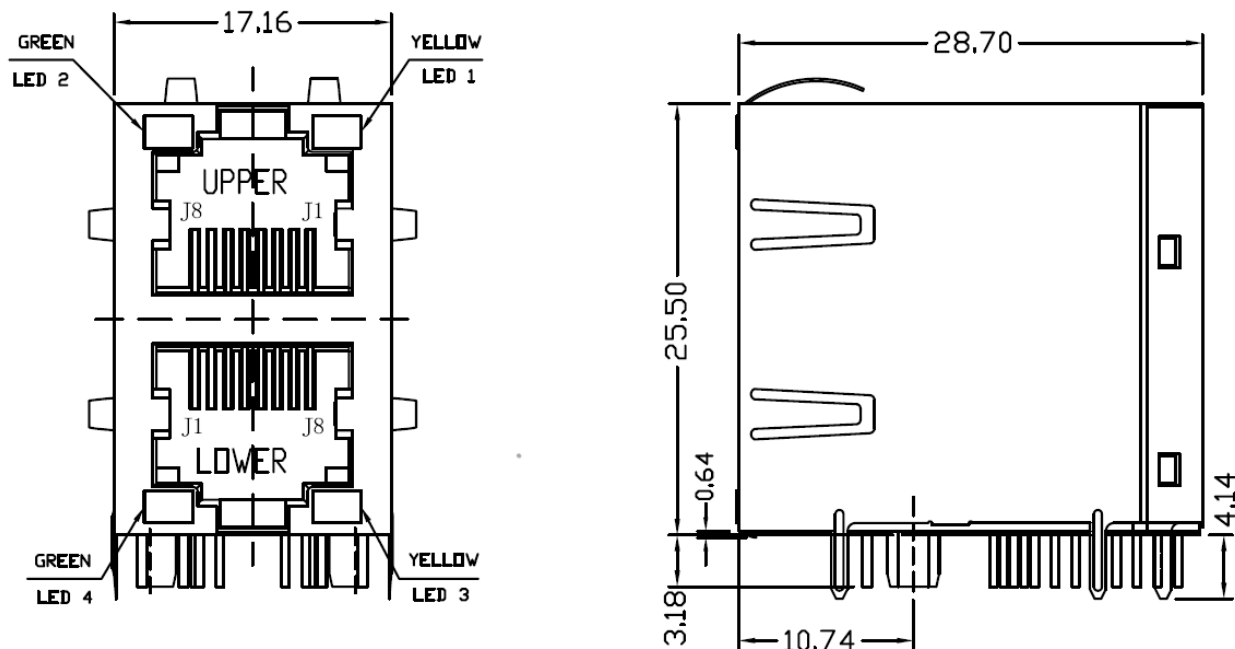
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Mechanical Specifications

A1: 2 x 1, w/ EMI Fingers



Dimensions are in mm. Unless otherwise noted, tolerance is ± 0.25 mm.



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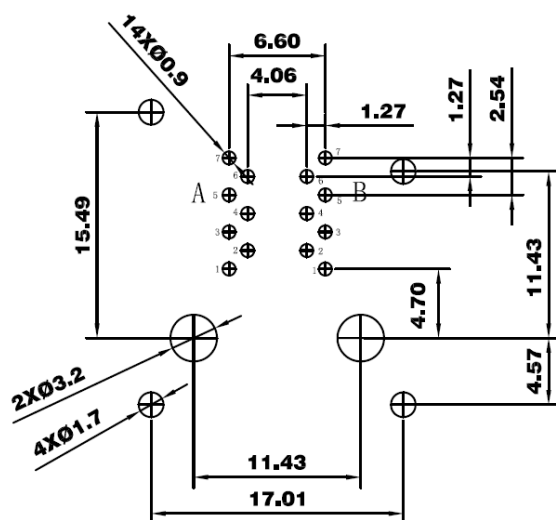
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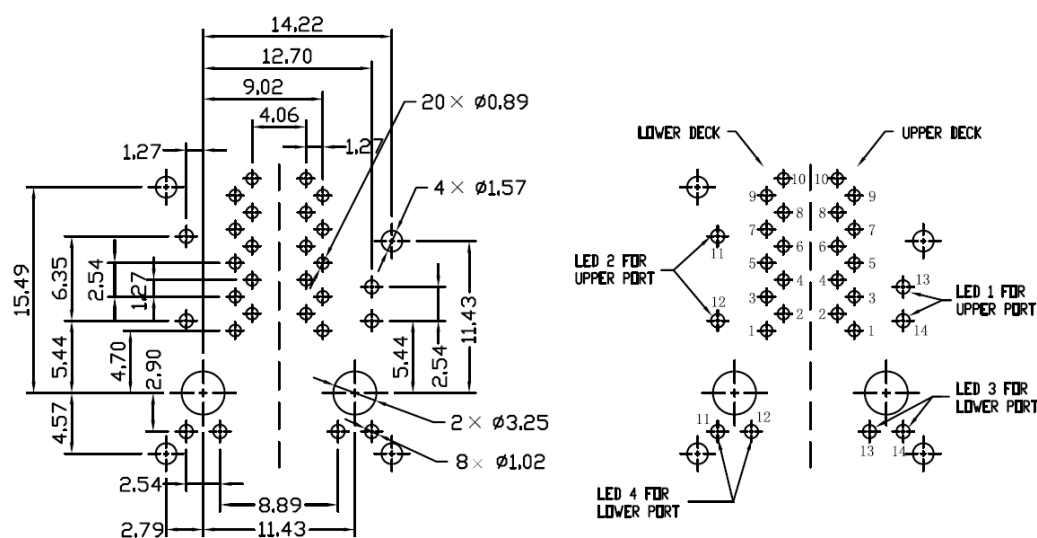
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Recommended Layout

10/100 Base-T



1000 Base-T



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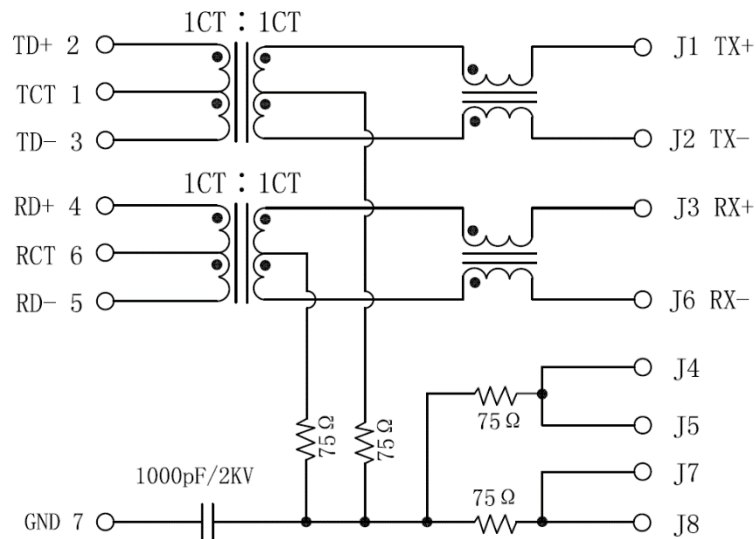
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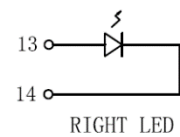
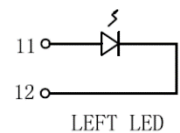
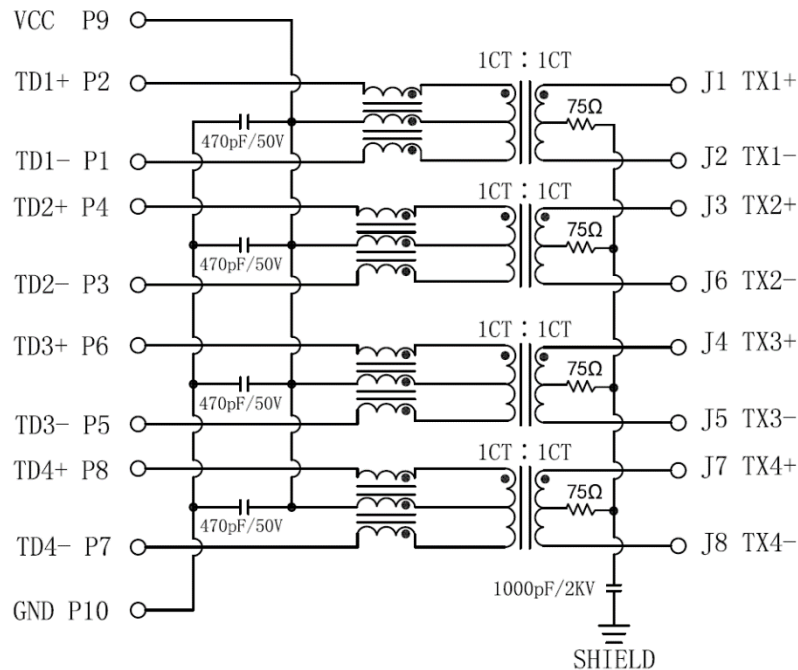
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Schematic

A12 (10/100 Base-T)



547 (1000 Base-T)



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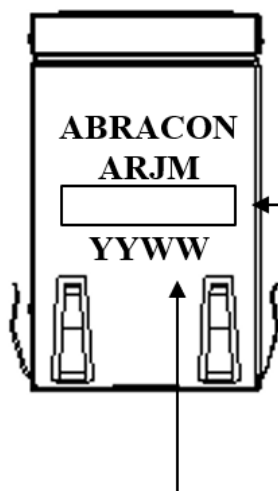
LED SPECIFICATION. @20mA Forward Current

AB option (Left: Green – Right: Yellow)

| Color | Green | Yellow |
|-----------------|-----------|-----------|
| Wavelength | 565nm Typ | 585nm Typ |
| Forward Voltage | 2.2V Typ | 2.1V Typ |

NN option (no LEDs)

Part Marking



Part number

XXXX-XXX-XX-XXX

e.g. 21A1-A12-NN-EW2

YY: Year: E.g. 21 for 2021

WW: Week: E.g. 05 for
the 5th week of the year.

Marking Method = Laser Marking



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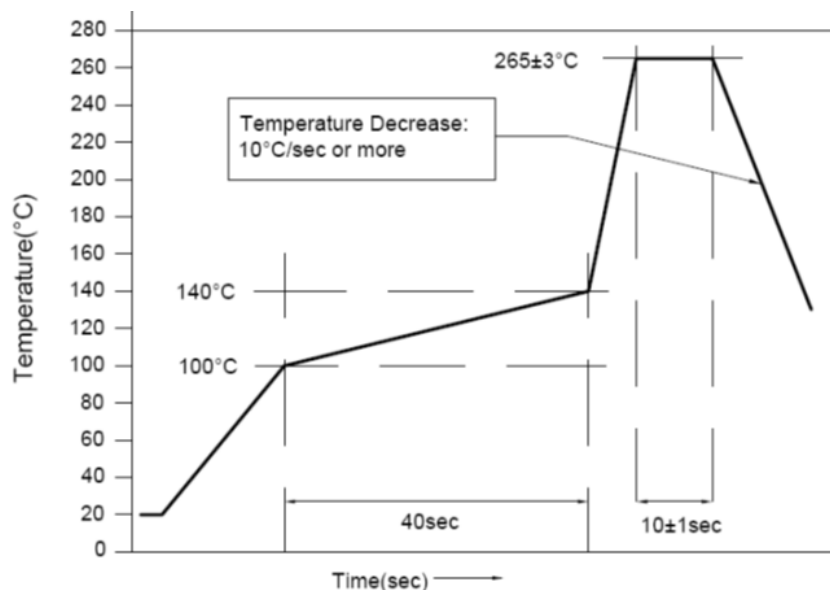


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MSL Level = 1

Wave Profile



Packaging

| Series | Approximate Weight / Pc | Approximate Weight / Carton | Qty / Carton (pcs) | Tray / Carton | MOQ (pcs) | Carton Dimensions (LxWxH) |
|--------|-------------------------|-----------------------------|--------------------|---------------|-----------|---------------------------|
| ARJM21 | 13.50 g | 5370 g | 320 | 8 | 320 | 340 x 215 x 275mm |

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