

# 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			$\mu\text{H}$	100kHz, 0.1V, 8mADC
DC Resistance			1.2	$\Omega$	
Hipot	1500			V <sub>rms</sub>	1mA Max Complies with IEEE 802.3
Operating Temperature	-40		+85	°C	See options
Storage Temperature	-40		+85	°C	
<b>100 Base-T</b>					
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
<b>1000 Base-T</b>					
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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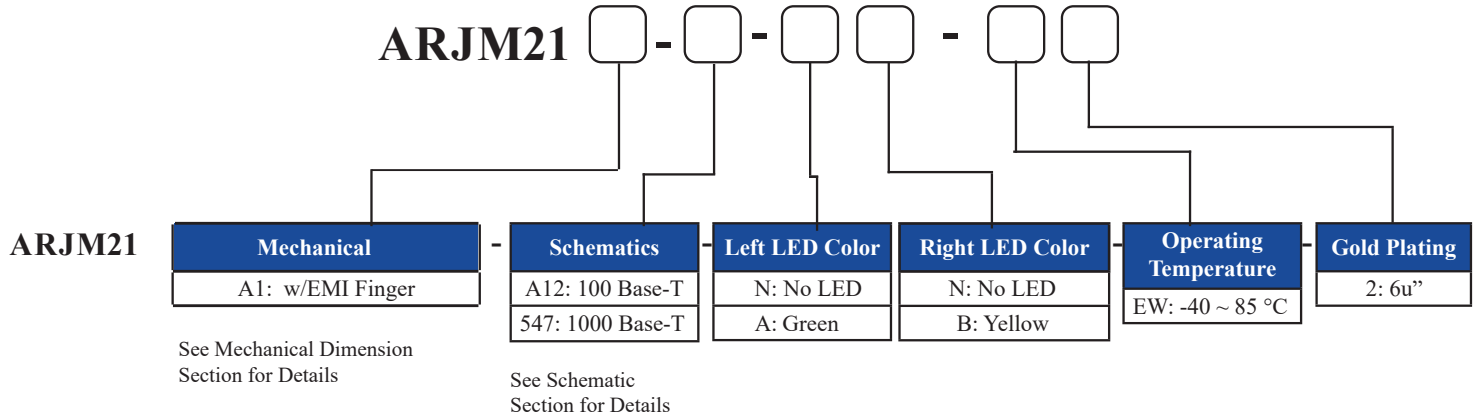


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## Part Number Identification



## 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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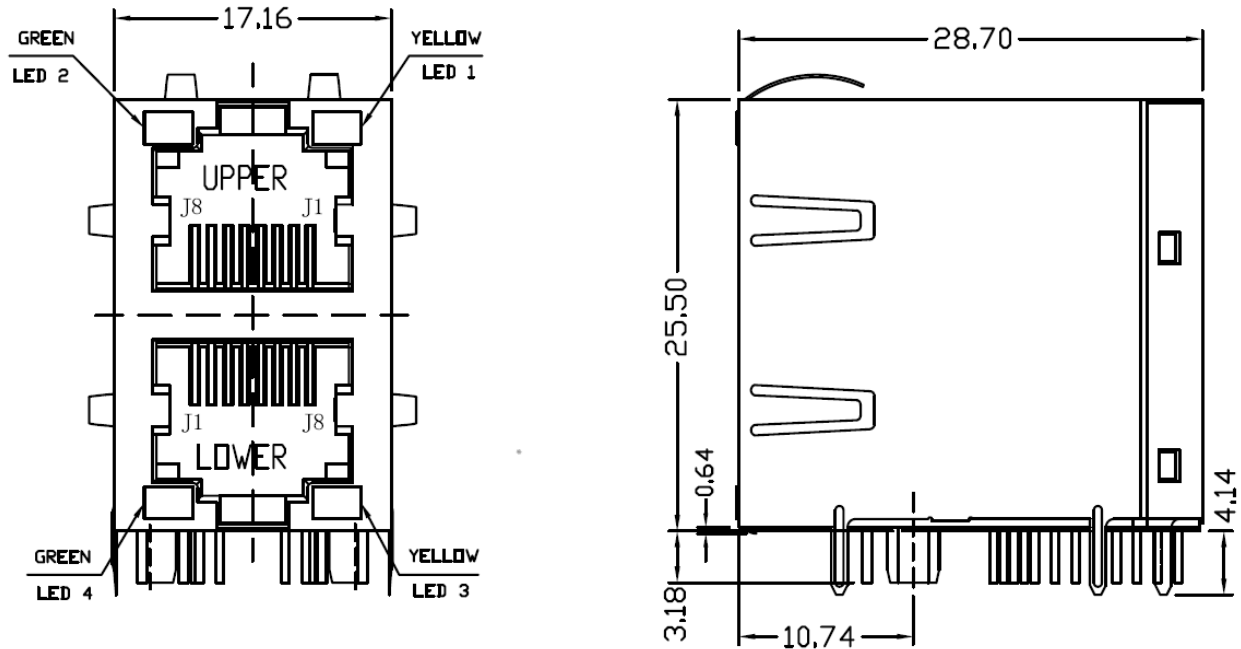
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## Mechanical Specifications

A1: 2 x 1, w/ EMI Fingers



Dimensions are in mm. Unless otherwise noted, tolerance is  $\pm 0.25$ mm.

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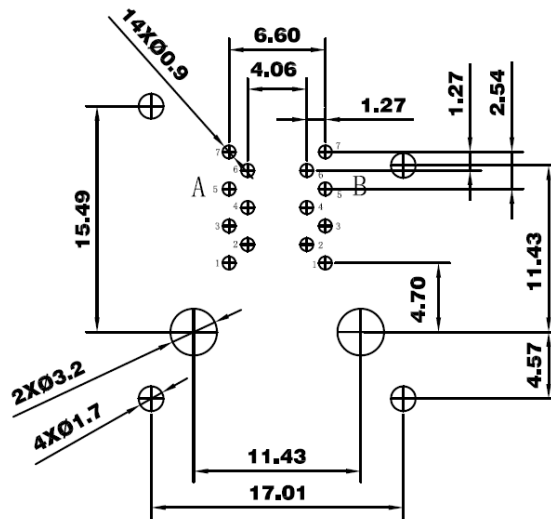
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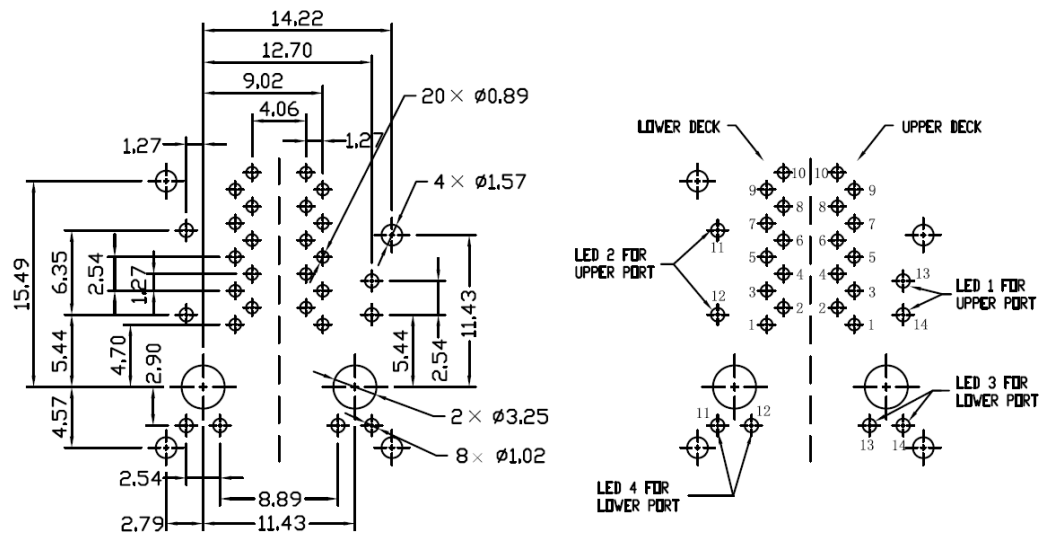
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## Recommended Layout

### 10/100 Base-T



### 1000 Base-T



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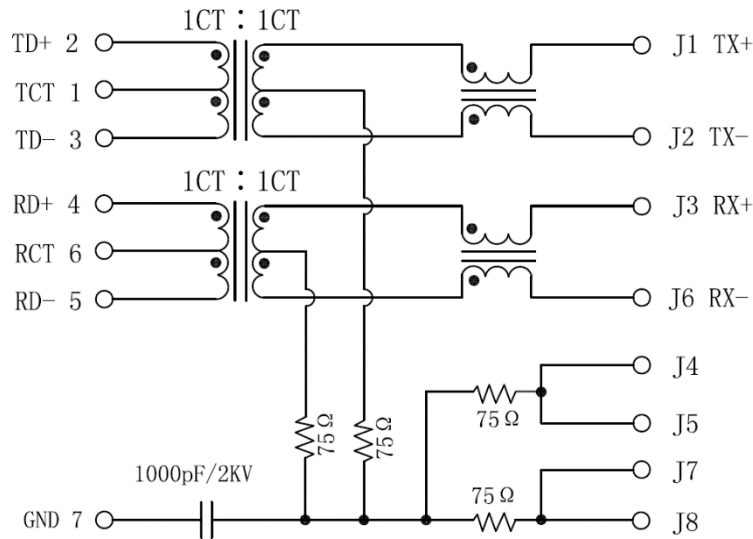
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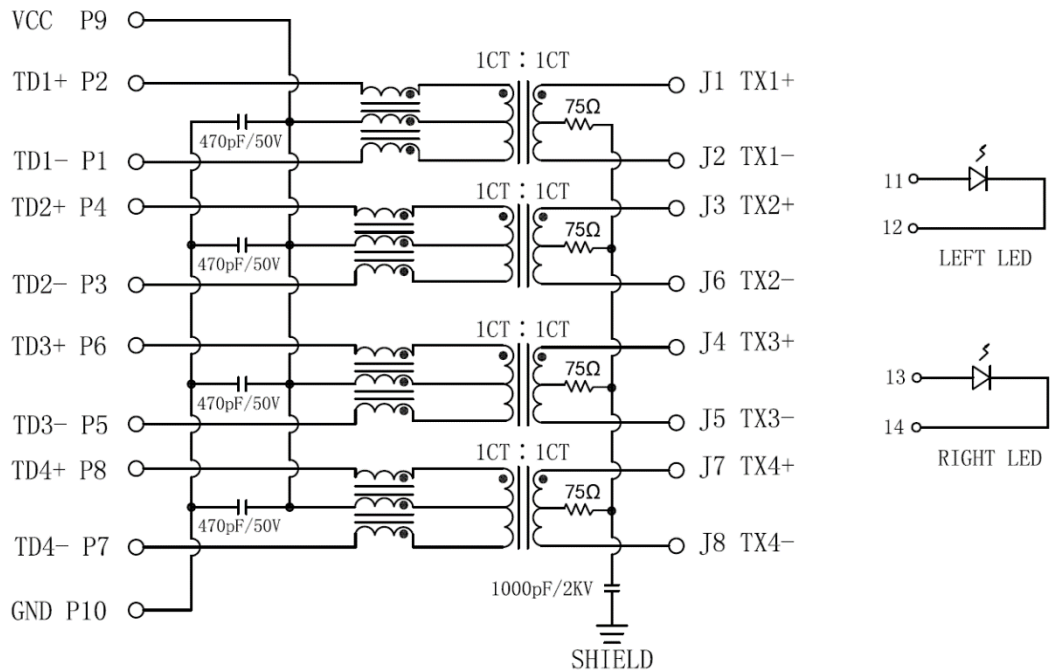
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## Schematic

A12 (10/100 Base-T)



547 (1000 Base-T)



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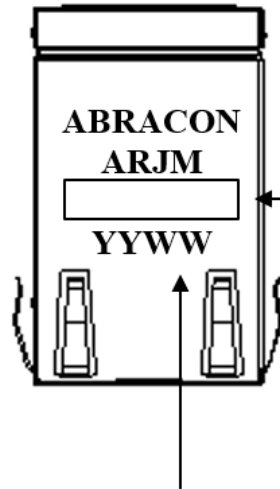
## LED SPECIFICATION. @20mA Forward Current

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 5<sup>th</sup> week of the year.

Marking Method = Laser Marking



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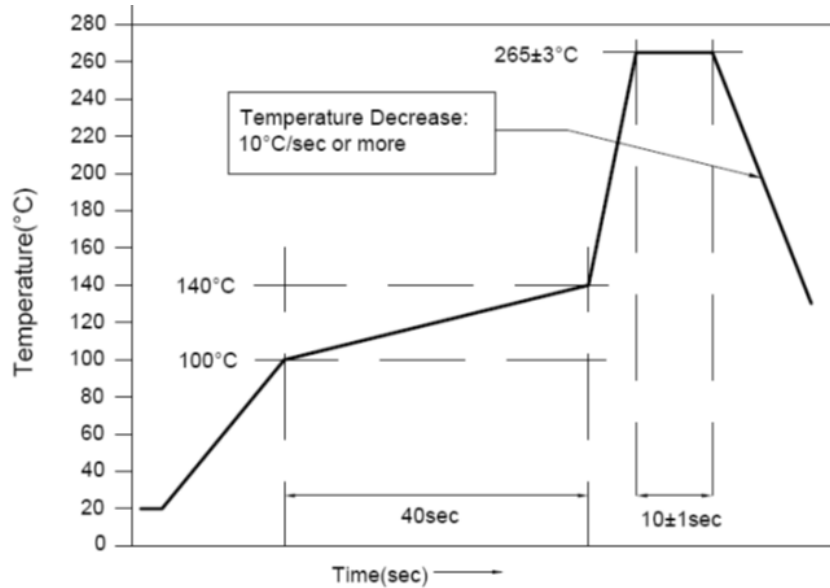


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## Wave Profile



## 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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