

# RJ45, 1x2 Multi Port, 10/100/1G/5G Base-T Magnetics Module

ARJM12 Series

Request Samples



Check Inventory



31.0 x 21.3 x 13.6 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/5G 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 (±3%)	1CT:1CT				100kHz, 0.1V
Inductance	350			μH	100kHz, 0.1V, 8mADC
	160				
Hipot	2250			VDC	1mA Max Complies with IEEE 802.3
Operating Temperature	-40		+85	°C	See options
Storage Temperature	-40		+85	°C	
<b>10/100/1G Base-T</b>					
Insertion Loss	-1.0			dB	0.3-100MHz
Return Loss			-18	dB	1-30MHz
			-16		30-60MHz
			-12		60-80MHz
			-10		80-100MHz
Crosstalk			-30	dB	1-100MHz
CMRR			-30	dB	1-100MHz
<b>5G Base-T</b>					
Insertion Loss	-0.5			dB	1-50MHz
	-1.0				50-125MHz
	-2.0				125-200MHz
	-2.5				200-250MHz
Return Loss			-20	dB	1-50MHz
			$-20+15\log(f/40)^\dagger$		50-250MHz
Crosstalk			-25	dB	1-125MHz
			-20		125-250MHz
CMRR			-23	dB	1-250MHz

<sup>†</sup> f refers to the frequency of the test

ARJM12 Series is RoHS/RoHS II Compliant

MSL level: 1

UL Certification Number: E503350



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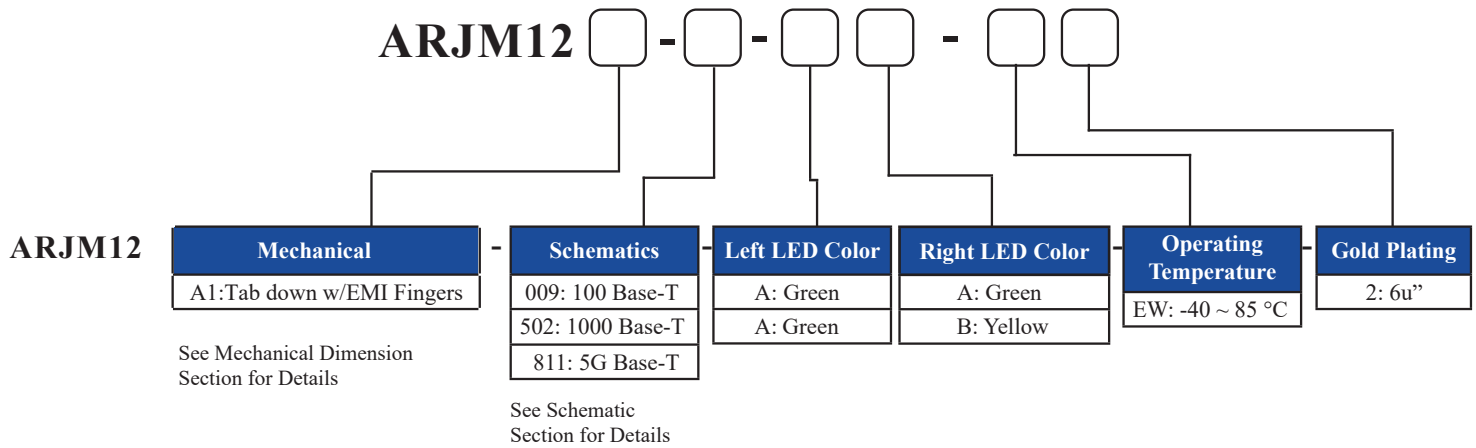


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MSL Level = 1

## Part Number Identification



## Available Part Numbers

Part Number	Speed	Tab Direction	LED (Left:Right)	Operating Temperature	Solder Method	Gold Plating
ARJM12A1-009-AB-EW2	10/100 Base-T	Down	G : Y	-40°C ~ 85°C	Wave	6µ"
ARJM12A1-502-AB-EW2	1000 Base-T	Down	G : Y	-40°C ~ 85°C	Wave	6µ"
ARJM12A1-811-AA-EW2	5G Base-T	Down	G : G	-40°C ~ 85°C	Wave	6µ"



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## Materials

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**1. Housing:**

Material:  
PBT, UL94V-0  
Standard Color: Black

**2. Contact Pin:**

Material: Phosphor Bronze  
Plating (1): Nickel  
Plating (2): 100%Sn

**3. Insert:**

Material:  
PBT, UL94V-0

Contact Material: Phosphor Bronze  
Plating (1): Nickel  
Plating (2): Gold, 6u"

**4. LED:**

Material: Diffused Epoxy Lens, 0.5x0.5mm  
Carbon Steel wireframe leads

**5. Metal Shell:**

Material: Brass  
Plating (1): Nickel

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



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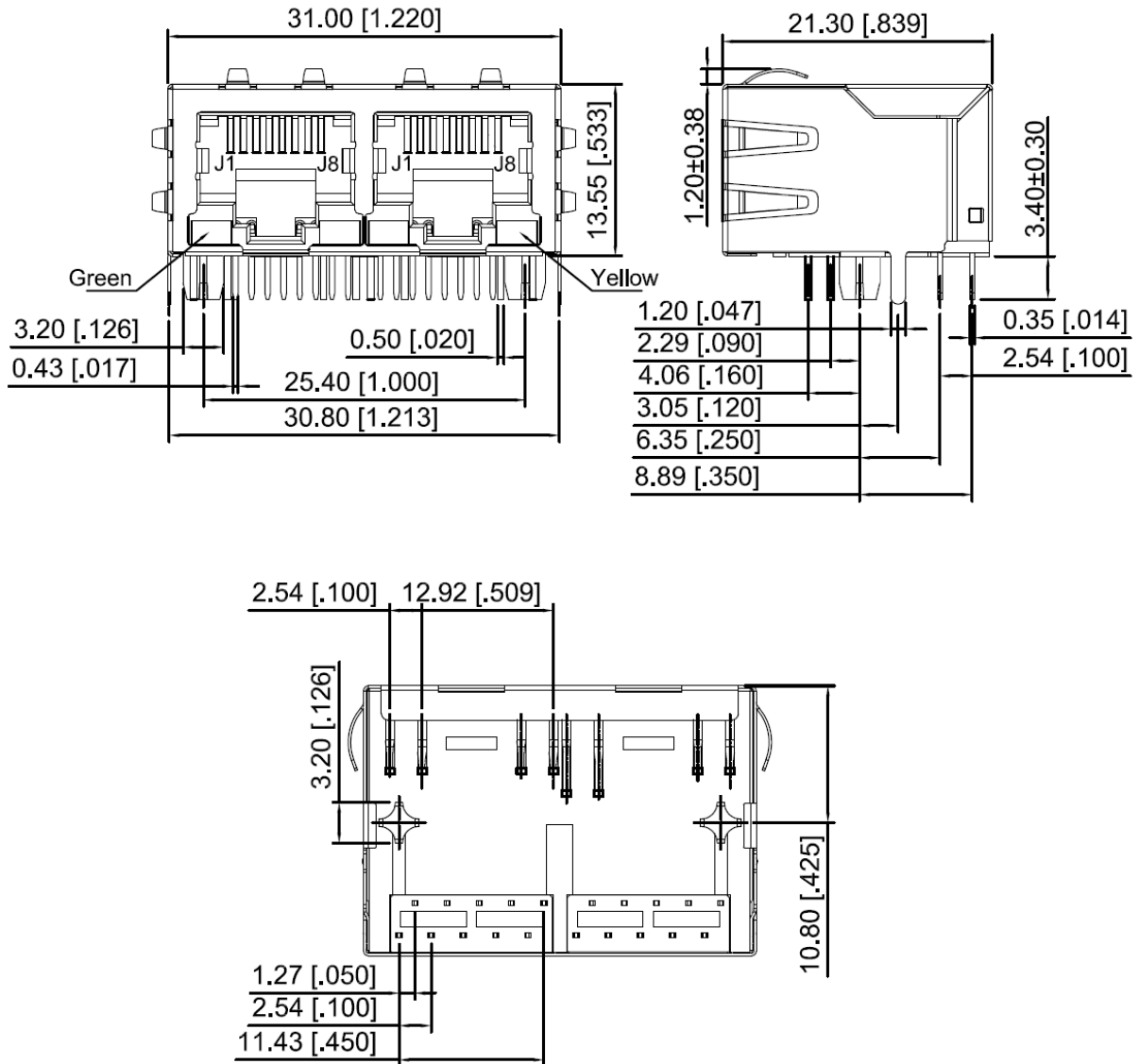
Check Inventory



31.0 x 21.3 x 13.6 mm  
 RoHS/RoHS II Compliant  
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## Mechanical Specifications

A1: 1 x 2, w/ EMI Fingers



Dimensions are in mm[inches]. Unless otherwise noted, tolerance is ±0.25mm[0.010]



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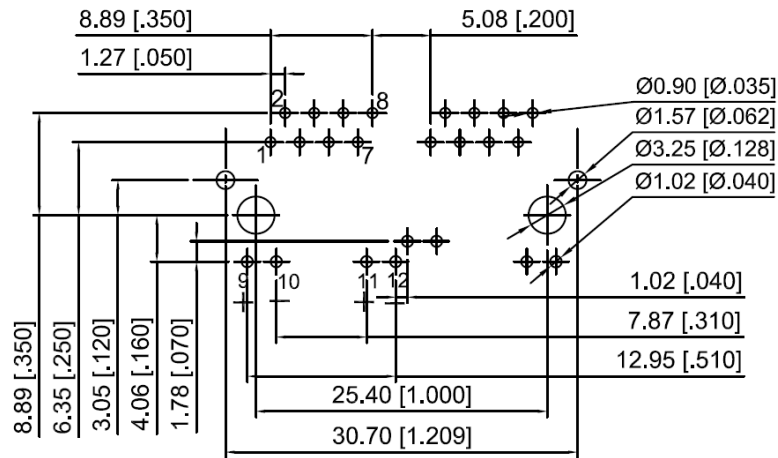
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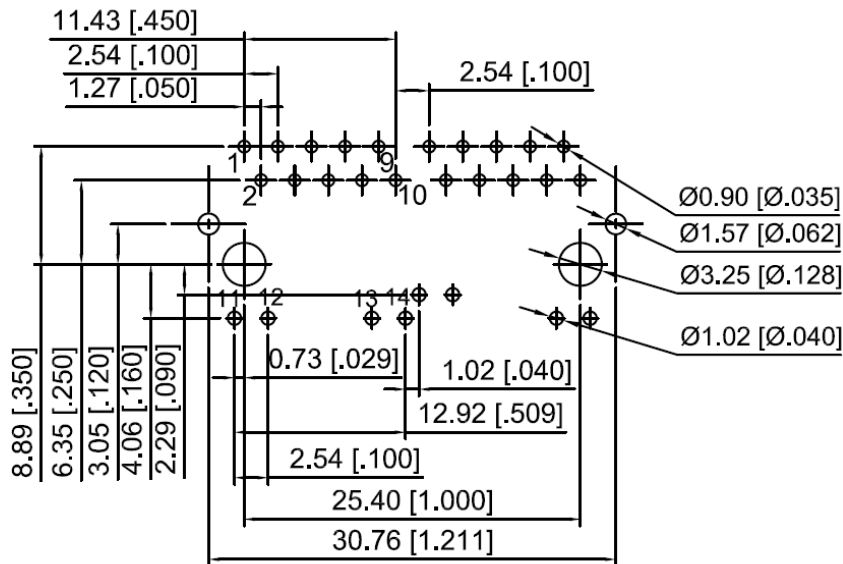
31.0 x 21.3 x 13.6 mm  
RoHS/RoHS II Compliant  
MSL Level = 1

## Recommended Layout

10/100 Base-T



1000 Base-T  
5G Base-T



Dimensions are in mm[inches]. Unless otherwise noted, tolerance is  $\pm 0.25\text{mm}$ [0.010]



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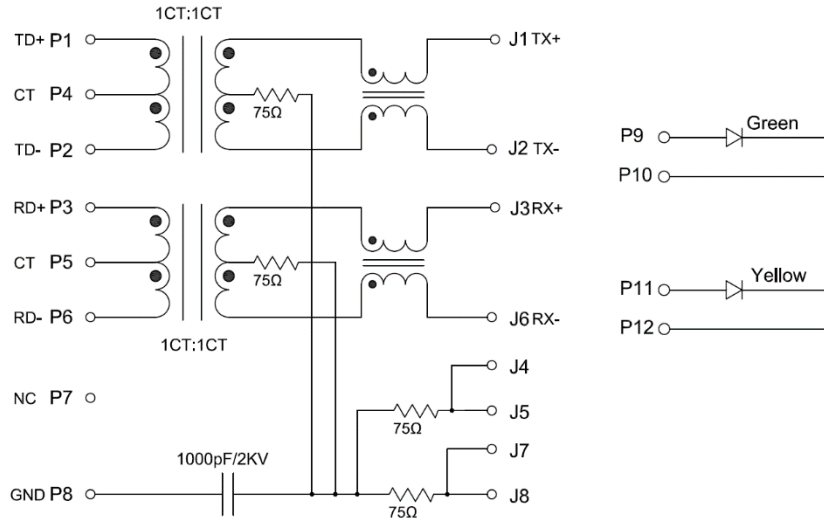
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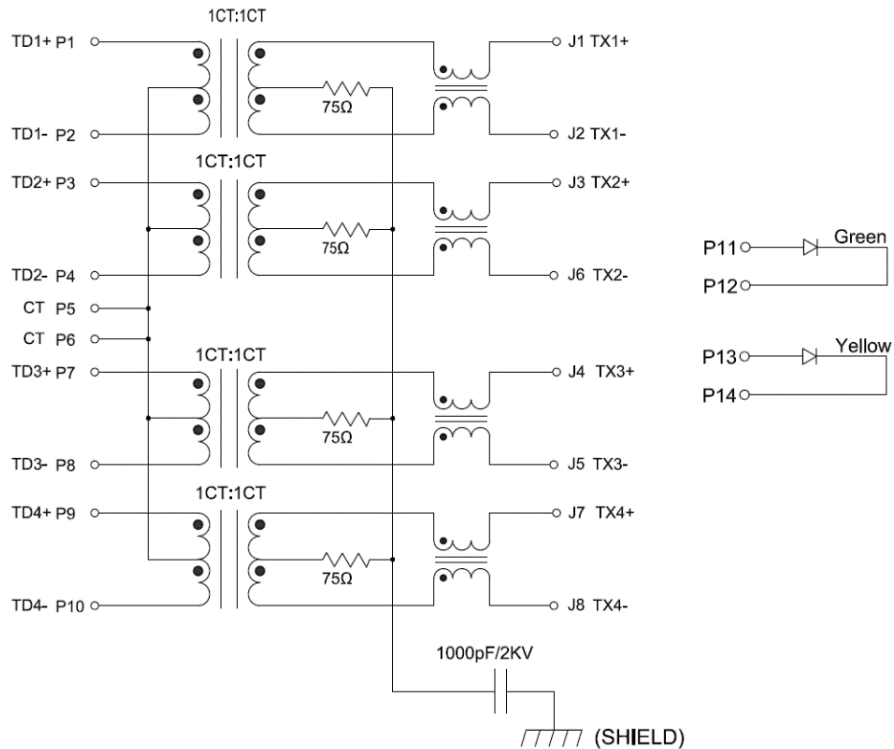
31.0 x 21.3 x 13.6 mm  
**RoHS/RoHS II Compliant**  
 MSL Level = 1

## Schematic

009 (10/100 Base-T)



502 (1000 Base-T)



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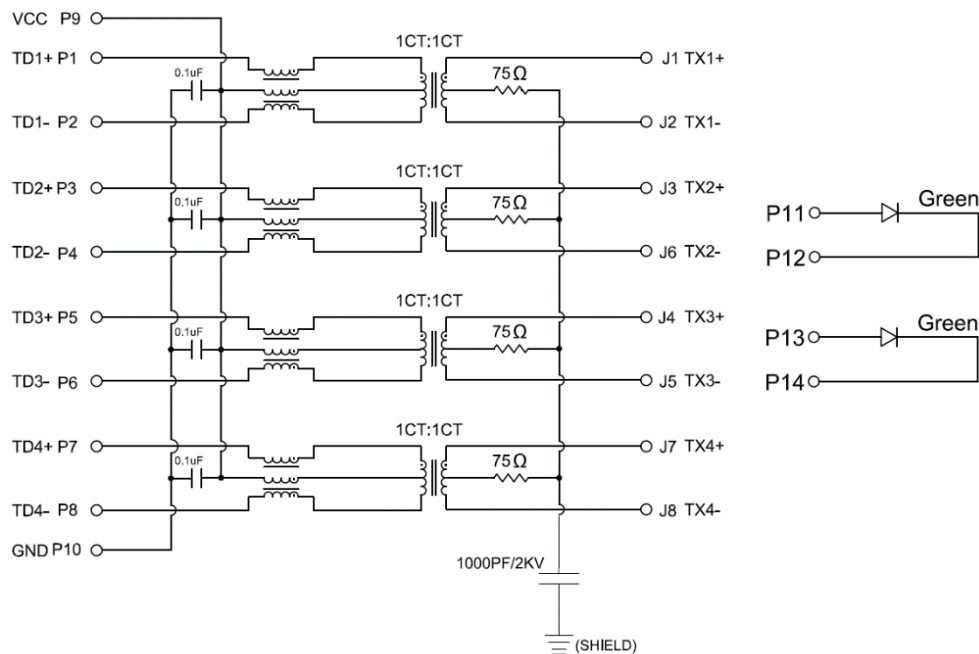


31.0 x 21.3 x 13.6 mm

RoHS/RoHS II Compliant

MSL Level = 1

811 (5G Base-T)



## LED SPECIFICATION. @20mA Forward Current

AA option (Left: Green – Right: Yellow)

AB option (Left: Green – Right: Yellow)

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



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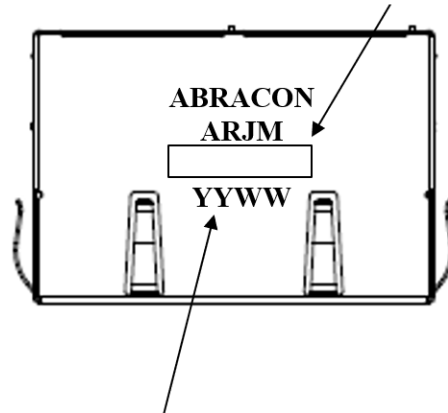
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RoHS/RoHS II Compliant  
MSL Level = 1

## Part Marking

Part number

XXXX-XXX-XX-XXX

e.g. 12A1-009-AB-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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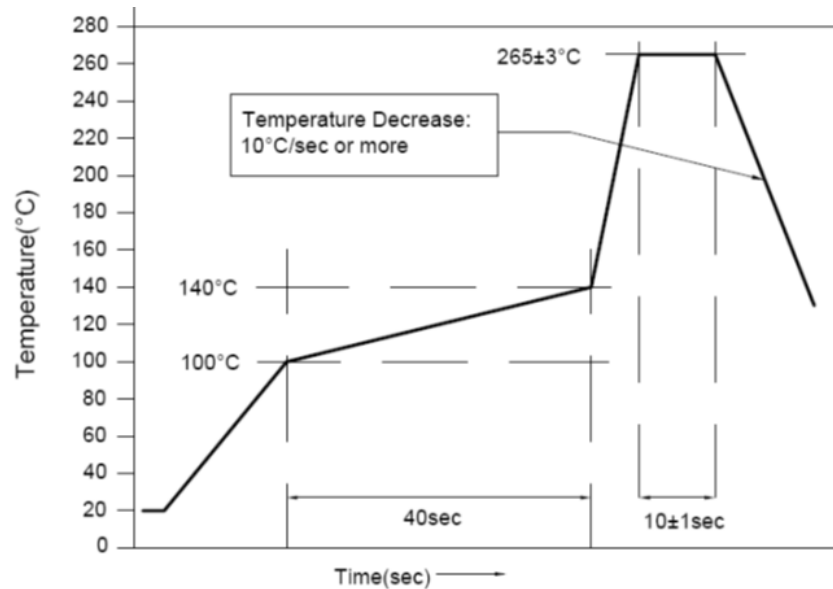


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31.0 x 21.3 x 13.6 mm  
RoHS/RoHS II Compliant  
MSL Level = 1

## Wave Profile



## Packaging

Series	Approx. Weight / Pc	Approx. Weight / Carton	Qty / Carton (pcs)	Tray / Carton	Pcs/ Tray	Carton Dimensions (LxWxH)
ARJM12A1-009	11g	14.5Kg	1040	26	40	340 x 215 x 275 mm
ARJM12A1-502 ARJM12A1-811	11g	19.0Kg	1500	30	50	340 x 215 x 275 mm

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