

ECN/PCN No.: M1229

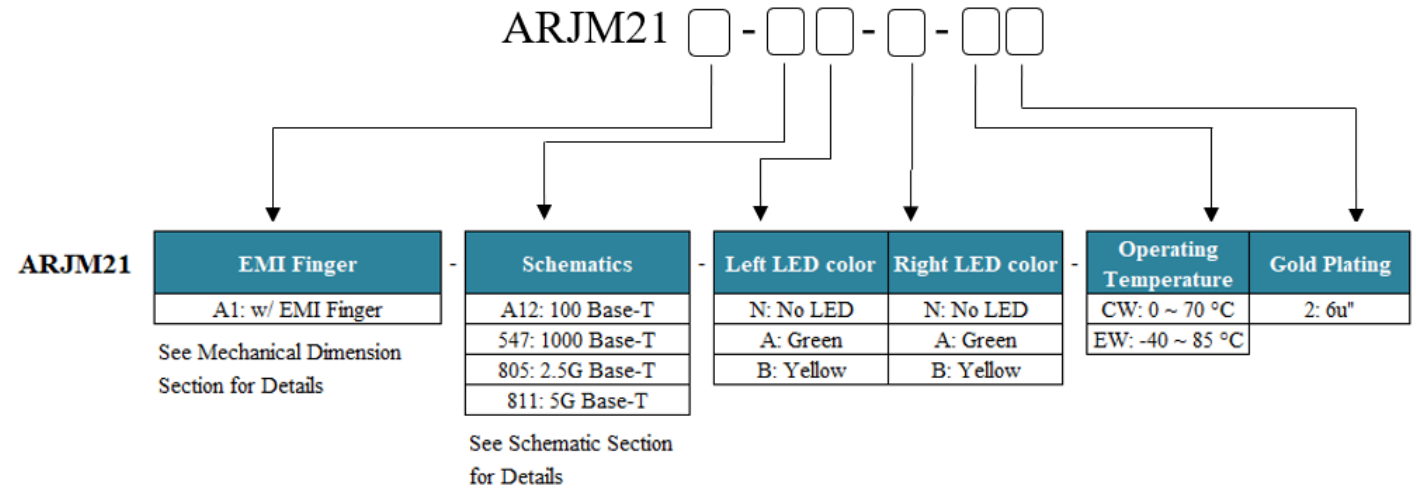
For Manufacturer			
<b>Product Description:</b>  <div style="text-align: center; color: blue;"> <b>RJ45, 2x1 Multi Port, 100/1000/2.5G/5G Base-T Magnetics Module</b> </div>	<b>Abracon Part Number / Part Series:</b>  <div style="text-align: center; color: blue;"> <b>ARJM21 series</b> </div>	<input type="checkbox"/> Documentation only <input checked="" type="checkbox"/> ECN <input type="checkbox"/> EOL	<input type="checkbox"/> Series <input checked="" type="checkbox"/> Part Number(s)
<b>Affected Revision:</b> Initial revision	<b>New Revision:</b> A	<b>Application:</b>	<input type="checkbox"/> Safety <input checked="" type="checkbox"/> Non-Safety

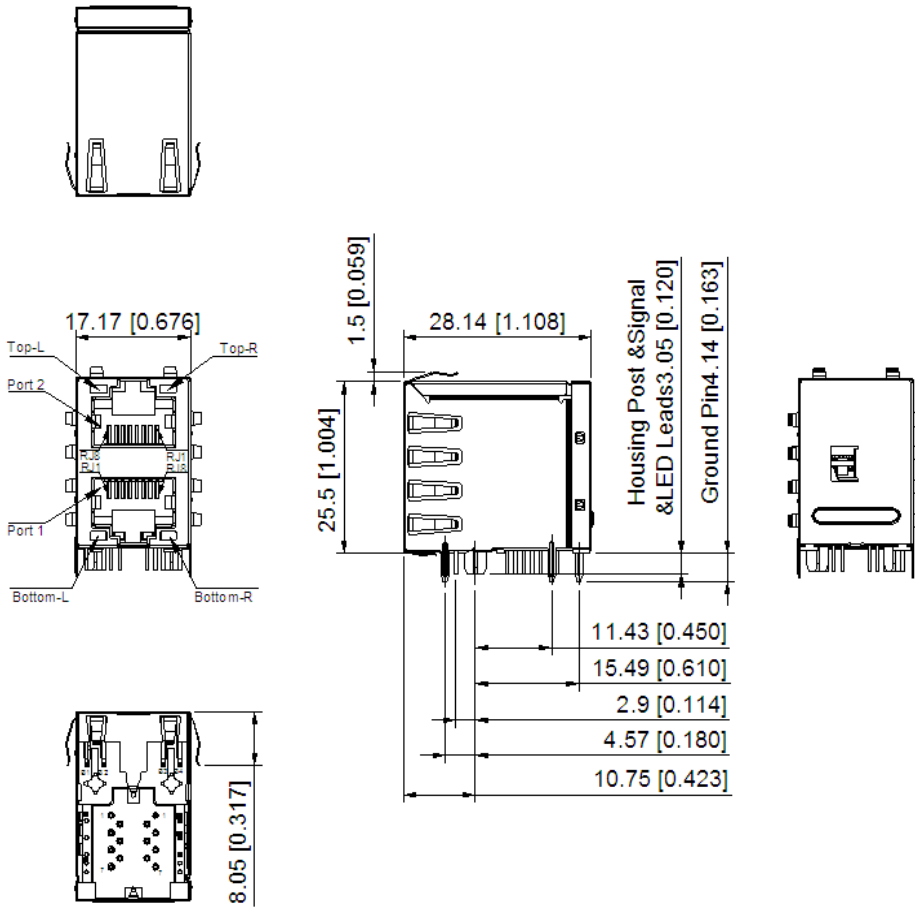
**Prior to Change:**

### Electrical Specifications

Parameters	Minimum	Typical	Maximum	Units	Notes
Turn Ratio ( $\pm 3\%$ )	1CT:1CT				100kHz, 0.1V
Inductance	350			$\mu$ H	100kHz, 0.1V, 8mADC
	200				For 2.5G Base-T only
	160				For 5G Base-T only
Leakage Inductance			0.5	$\mu$ H	100kHz, 0.1V
			0.3		For 2.5G Base-T and 5G Base-T
DC Resistance			1.5	$\Omega$	
Hipot	2250			VDC	1mA Max Complies with IEEE 802.3
Operating Temperature	-40		+85	$^{\circ}$ C	See options
Storage Temperature	-40		+85	$^{\circ}$ C	
<b>100 Base-T</b>					
Insertion Loss	-1.1			dB	0.5-100MHz
Return Loss			-18	dB	0.5-30MHz
			$-18+20\log(f/30)^*$		30.1-60MHz
			-12		60.1-80MHz
Crosstalk			-35	dB	0.5-40MHz
			$-33+20\log(f/50)^*$		40.1-100MHz
CMRR			-30	dB	0.5-100MHz
<b>1000 Base-T</b>					
Insertion Loss	-1.1			dB	0.5-100MHz
Return Loss			-18	dB	0.5-40MHz
			$-12+20\log(f/80)^*$		40.1-100MHz
Crosstalk			-35	dB	0.5-40MHz
			$-33+20\log(f/50)^*$		40.1-100MHz
CMRR			-30	dB	0.5-100MHz
<b>2.5G Base-T</b>					
Insertion Loss	-0.5			dB	1-50MHz
	-1.0				50-125MHz
Return Loss			-20	dB	1-40MHz
			$-20+15\log(f/40)^*$		40-200MHz
Crosstalk			-30	dB	25-125MHz
<b>5G Base-T</b>					
Insertion Loss	-0.5			dB	1-50MHz
	-1.0				50-125MHz
	-2.0				125-250MHz
Return Loss			-20	dB	1-40MHz

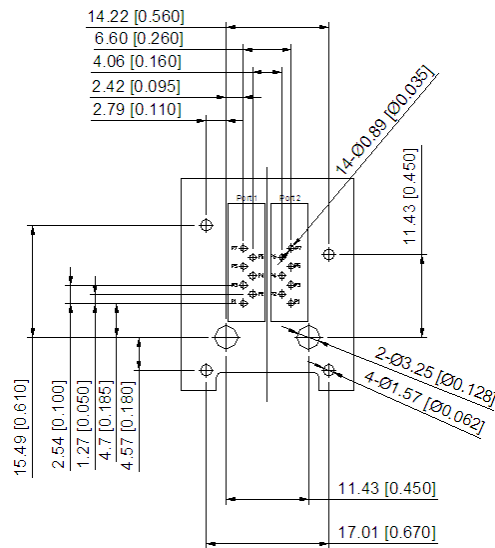
			$-20+15\log(f/40)^*$		40-250MHz
Crosstalk			-30	dB	1-125MHz
			-25		125-250MHz

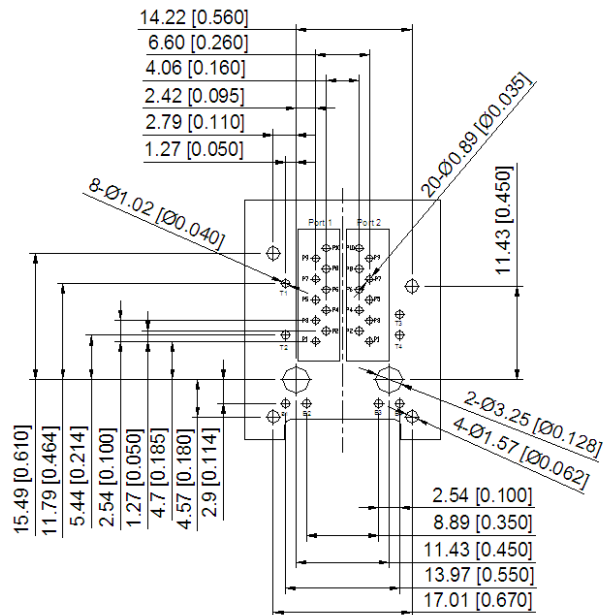
**Part Number Identification**

**Mechanical Dimensions**
**A1: 2 x 1, w/ EMI Fingers**



**Recommended layout**

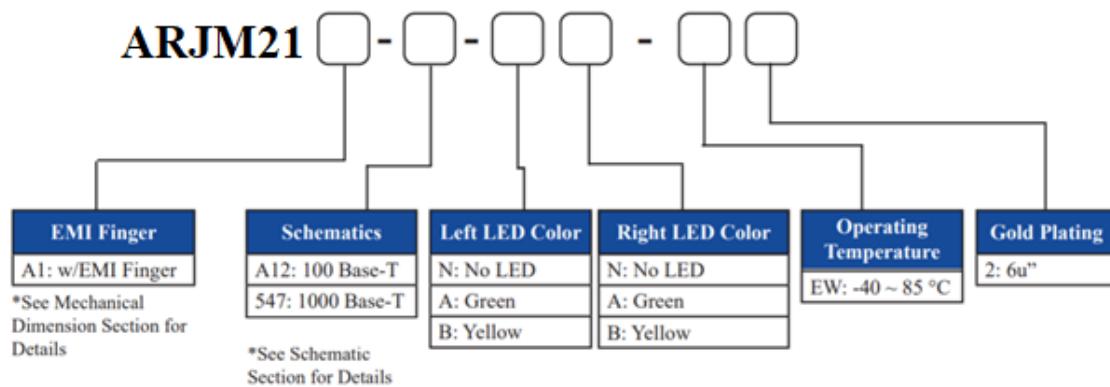
**100-Base-T w/o LEDs**



**1000Base-T with LEDs**

**After Change:**
**Electrical Specifications**

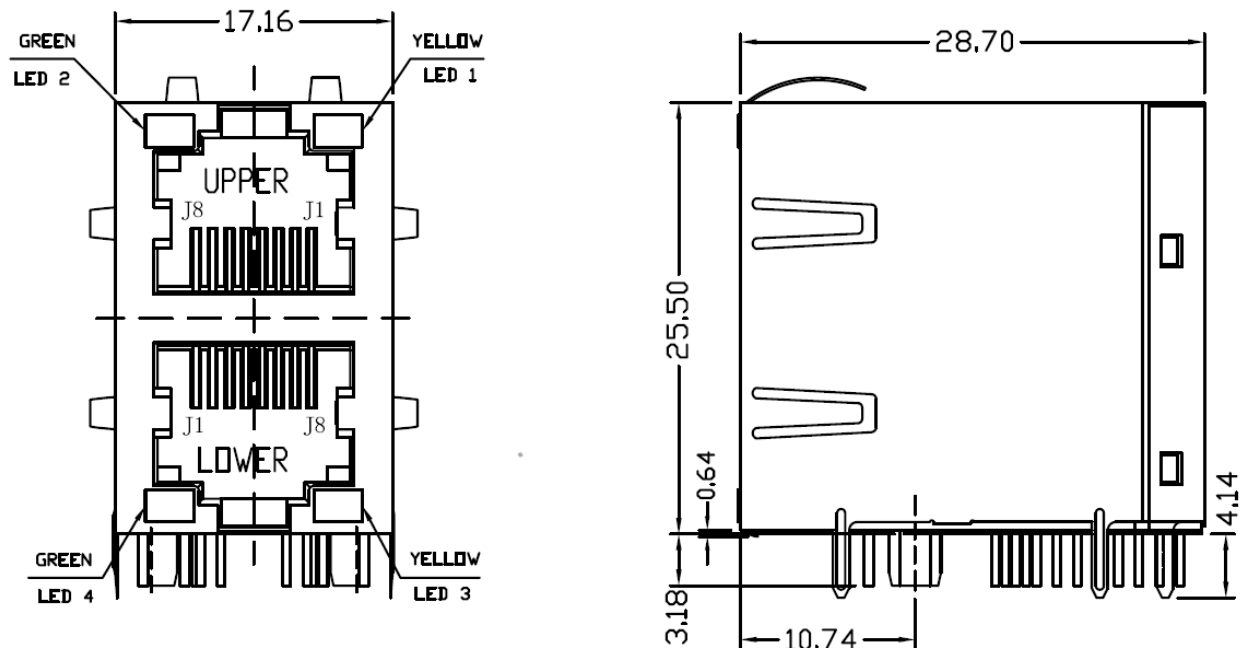
Parameters	Minimum	Typical	Maximum	Units	Notes
Turn Ratio ( $\pm 3\%$ )	1CT:1CT				100kHz, 0.1V
Inductance	350			$\mu\text{H}$	100kHz, 0.1V, 8mADC
DC Resistance			1.2	$\Omega$	
Hipot	1500			Vrms	1mA Max Complies with IEEE 802.3
Operating Temperature	-40		+85	$^{\circ}\text{C}$	See options
Storage Temperature	-40		+85	$^{\circ}\text{C}$	
<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

**Part Number Identification**


**Mechanical Specifications**

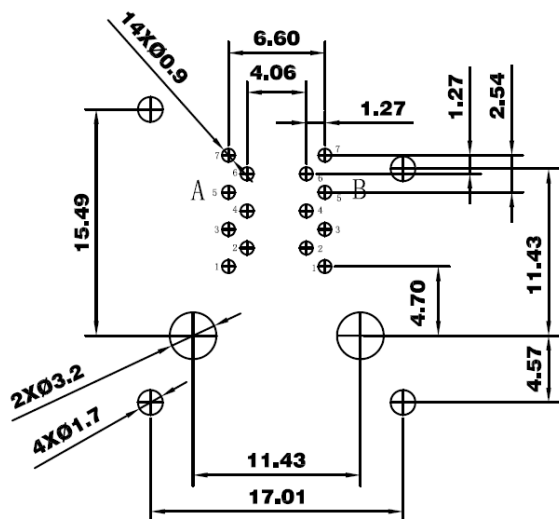
A1: 2 x 1, w/ EMI Fingers

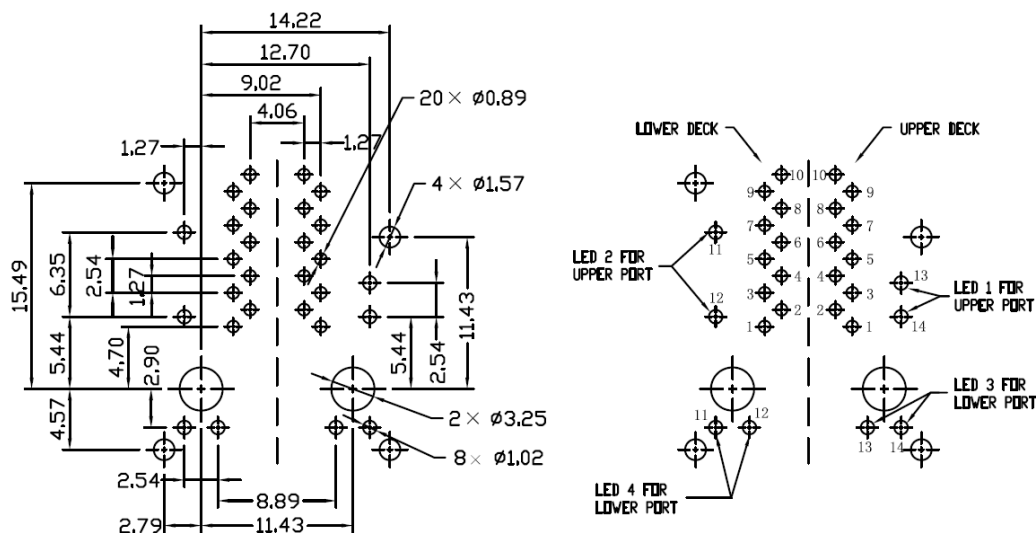


Dimensions are in mm. Unless otherwise noted, tolerance is  $\pm 0.25$ mm.

**Recommended Layout**

10/100 Base-T



**1000 Base-T**


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

**Cause/Reason for Change:**

Moving to new production line.

**Change Plan**
**Effective Date:**

3/19/2021

**Additional Remarks:**
**Change Declaration:**

Changes described in this document do not adversely affect the products form, fit or function.

**There is a partial EOL is associated with this ECN. (Refer to Partial ECN-EOL #M1229 ARJM21 Series: <https://abracon.com/downloads/ECN-PCN/Partial-ECN-EOL-M1229-ARJM21-Series.pdf>.)**

**Issued Date:**

3/19/2021

**Issued By:**

*Gerald Capwell*

**Issued Department:**

Engineering

**Approval:**

*Syed Raza*  
Engineering VP

**Approval:**

*Reuben Quintanilla*  
Quality Director

**Approval:**

*Ying Huang*  
Purchasing Director

**For Abracon EOL only**
**Last Time Buy (if applicable):**
**Alternate Part Number / Part Series:**
**Additional Approval:**
**Additional Approval:**
**Additional Approval:**
**Customer Approval (If Applicable)**
**Qualification Status:**

Approved  Not accepted

*Note: It is considered approved if there is no feedback from the customer 1 month after ECN/PCN is released.*

<b>Customer Part Number:</b>		<b>Customer Project:</b>	
<b>Company Name:</b>	<b>Company Representative:</b>	<b>Representative Signature:</b>	
<b>Customer Remarks:</b>			