

ECN/PCN No.: M1230

For Manufacturer			
Product Description: RJ45, 2x2 Multi Port, 100/1000/2.5G/5G Base-T Magnetics Module	Abracon Part Number / Part Series: ARJM22 series	<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)
Affected Revision: <div style="text-align: center;">A</div>	New Revision: <div style="text-align: center;">B</div>	Application:	<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			μ H	100kHz, 0.1V, 8mADC
	200				For 2.5G Base-T only
	160				For 5G Base-T only
Leakage Inductance			0.5	μ H	100kHz, 0.1V
			0.3		For 2.5G Base-T and 5G Base-T
DC Resistance			1.5	Ω	
Hipot	2250			VDC	1mA Max Complies with IEEE 802.3
Operating Temperature	-40		+85	$^{\circ}$ C	See options
Storage Temperature	-40		+85	$^{\circ}$ C	
100 Base-T					
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
1000 Base-T					
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
2.5G Base-T					
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
5G Base-T					
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

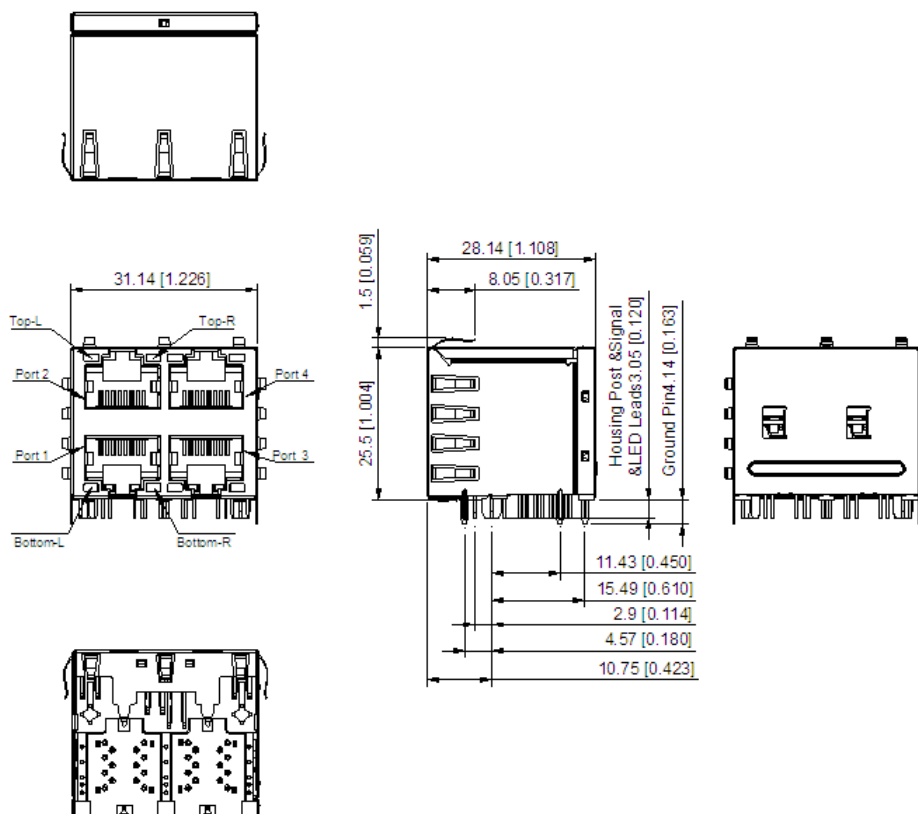
Part Number Identification

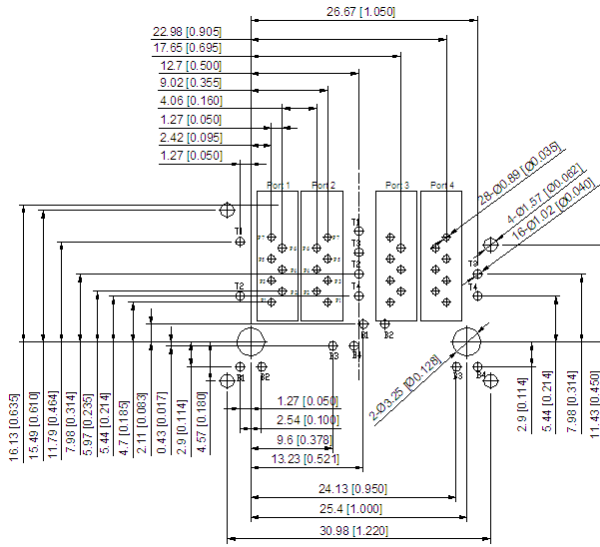
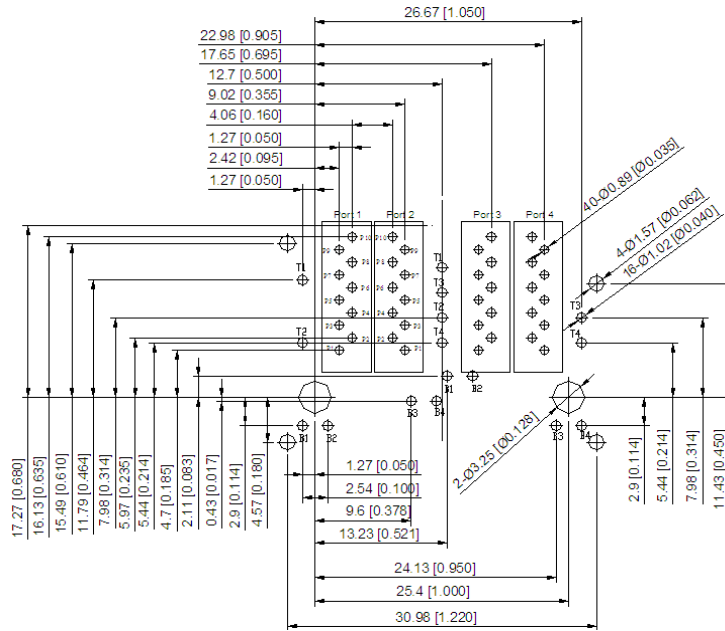
ARJM22 - -

ARJM22	EMI Finger	Schematics	Left LED color	Right LED color	Operating Temperature	Gold Plating
A1: w/ EMI Finger						
See Mechanical Dimension Section for Details		A12: 100 Base-T 547: 1000 Base-T 805: 2.5G Base-T 811: 5G Base-T	N: No LED A: Green B: Yellow	N: No LED A: Green B: Yellow	CW: 0 ~ 70 °C EW: -40 ~ 85 °C	2: 6u"
		See Schematic Section for Details				

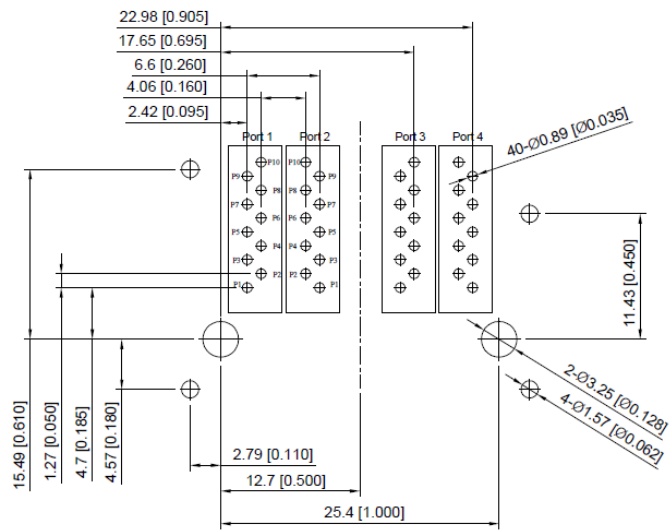
Mechanical Dimensions

A1: 2 x 2, w/ EMI Fingers



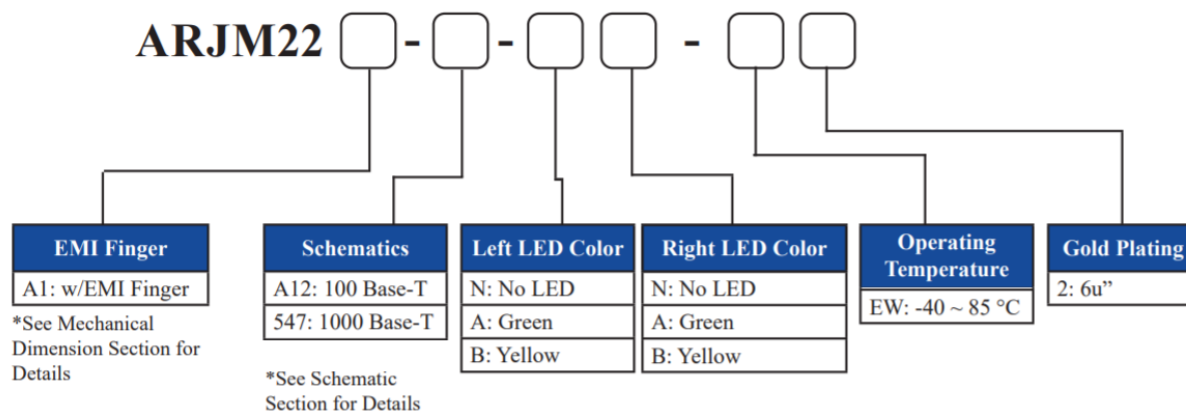
Recommended layout
100-Base-T with LEDs

1000Base-T with LEDs


1000Base-T w/o LEDs



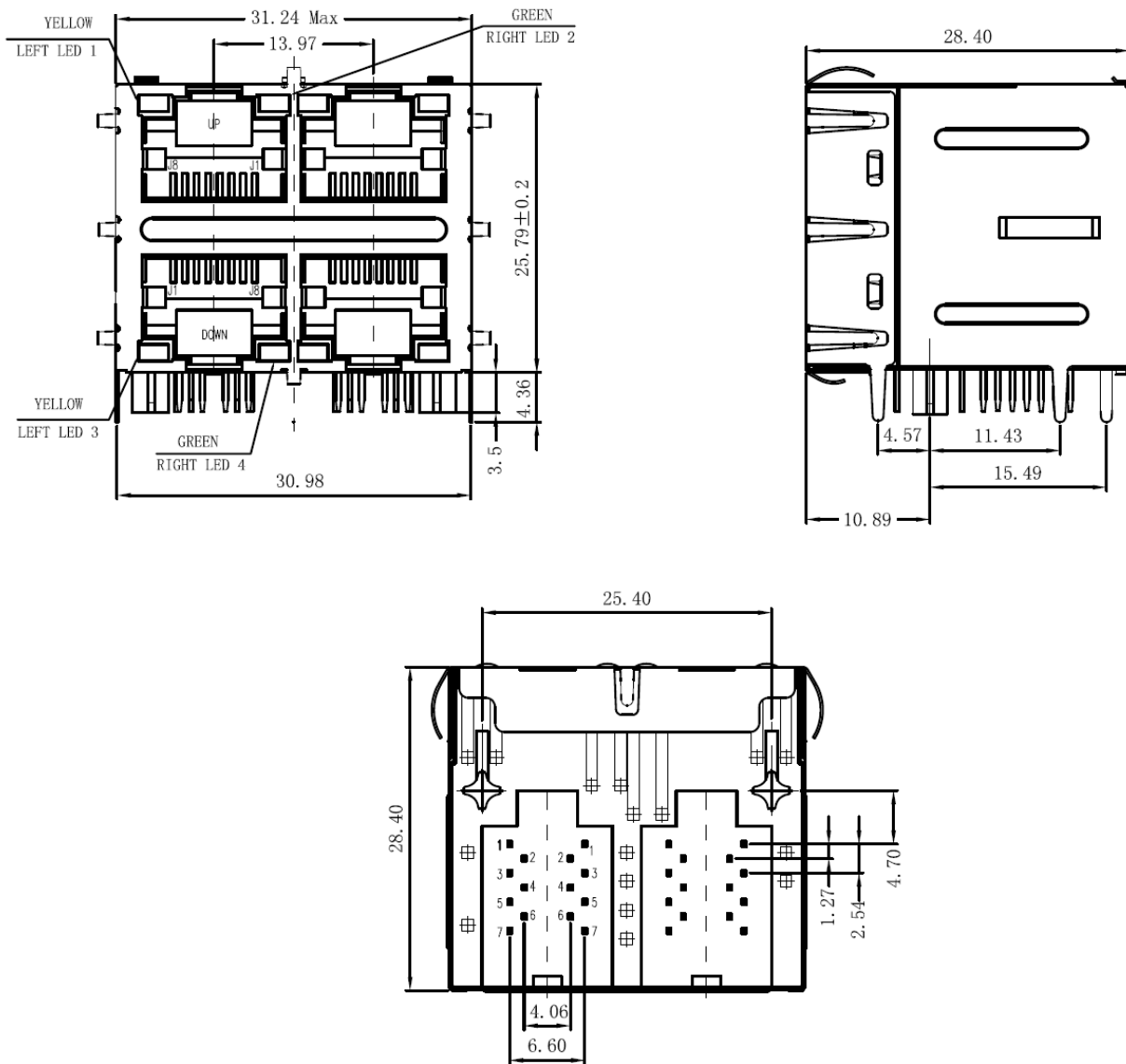
After Change:
Electrical Specifications

Parameters	Minimum	Typical	Maximum	Units	Notes
Turn Ratio ($\pm 3\%$)	1CT:1CT				100kHz, 0.1V
Inductance	350			μH	100kHz, 0.1V, 8mADC
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	1-65MHz
Return Loss			-20	dB	1-10MHz
			-16		10-30MHz
			-12		30-60MHz
			-10		60-100MHz
Crosstalk			-40	dB	1-30MHz
			-35		30-60MHz
			-30		60-100MHz
CMRR			-30	dB	1-50MHz
			-20		50-100MHz
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

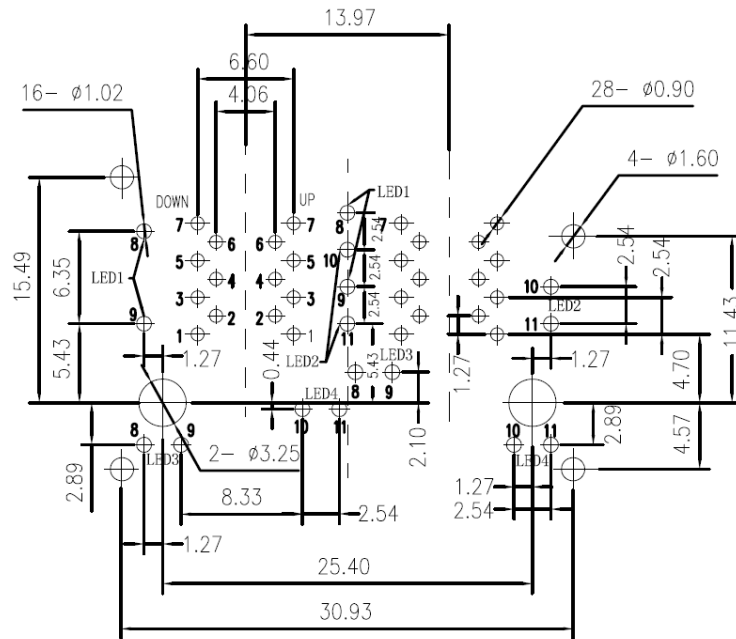
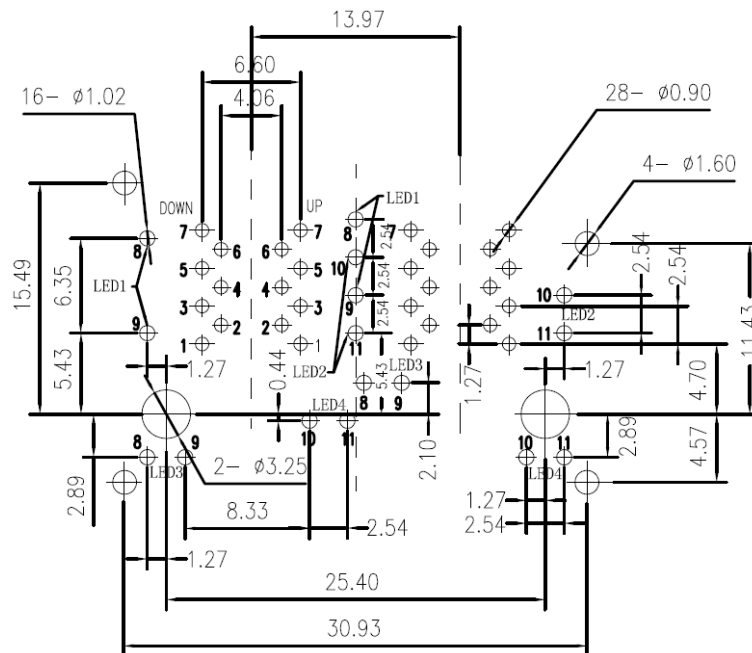
Part Number Identification


Mechanical Specifications

A1: 2 x 2, w/ EMI Fingers



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

Recommended Layout
10/100 Base-T

1000 Base-T


Dimensions are in mm. Unless otherwise noted, tolerance is ± 0.25 mm. Devices without LEDs (N option) do not require through holes at locations labeled LED1, LED2, LED3 and LED4.

Cause/Reason for Change: Moving to new production line. There is a partial EOL is associated with this ECN. (Refer to Partial ECN-EOL #M1230 ARJM22 Series: https://abracon.com/downloads/ECN-PCN/Partial-ECN-EOL-M1230-ARJM22-Series.pdf.)		
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.		
Issued Date: 3/19/2021	Issued By: <i>Gerald Capwell</i>	Issued Department: Engineering
Approval: <i>Syed Raza</i> Engineering VP	Approval: <i>Reuben Quintanilla</i> Quality Director	Approval: <i>Ying Huang</i> 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: <div style="text-align: center;"> <input type="checkbox"/> Approved <input type="checkbox"/> Not accepted </div> <i>Note: It is considered approved if there is no feedback from the customer 1 month after ECN/PCN is released.</i>		
Customer Part Number:		Customer Project:
Company Name:	Company Representative:	Representative Signature:
Customer Remarks:		