

ARJM11 Series

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Check Inventory

21.30 x 15.90 x 13.60mm 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

- Single port 10/100/1G/5G Base-T LAN
- Network Interface Cards
- Switches/Routers
- Network attached storage
- Servers, NIC's
- Media converters

Parameters	Minimum	Typical	Maximum	Units	Notes
Turn Ratio (±3%)		1CT:1CT			100kHz, 0.1V
	350				100kHz, 0.1V, 8mADC
Inductance	200			μΗ	For 2.5G Base-T only
-	160				For 5G Base-T only
Operating Temperature	-40		+85	°C	See options
Storage Temperature	-40		+85	°C	
HiPOT		2250		VDC	VDC for 60 sec.
		100 Ba	se-T		
Insertion Loss			-1.0	dB	0.3-100MHz
	-18				1-30MHz
Return Loss	-13			dB	30-60MHz
	-10				60-100MHz
Crosstalk	-30			dB	1-1000MHz
CMRR	-30			dB	1-100MHz
		100 Base-T 1	PoE, PoE+		
Insertion Loss			-1.1	dB	0.5-100MHz
	-18				0.5-30MHz
Return Loss	-15			dB	30-60MHz
	-12				60-80MHz
C (1)	-35			ID	0.5-40MHz
Crosstalk	-30			dB	40-100MHz
CMRR	-30			dB	0.5-100MHz
DC Resistance			1.0	Ω	Secondary (cable) side
POE Balanced			350		@57VDC continuous
DC line current			500	mA	@57VDC for 200ms
POE+ Balanced			600		@57VDC continuous
DC line current			720	mA	@57VDC for 200ms

Electrical Specifications



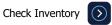
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Parameters	Minimum	Typical	Maximum	Units	Notes
	•	1000 B	ase-T		
Insertion Loss	-		-1.1	dB	0.3-100MHz
	-16				1-30MHz
Return Loss	-13			dB	30-60MHz
	-10				60-100MHz
Crosstalk	-30			dB	1-100MHz
CMRR	-30			dB	1-100MHz
		2.5G B	ase-T		
Insertion Loss			-1.0	dB	1-50MHz
Insertion Loss			-1.5	aв	50-125MHz
Return Loss	-18			dB	1-40MHz
Return Loss	-18+15log(f/40)†			uБ	40-250MHz
Crosstalk	-35			dB	1-40MHz
Clossiaik	-35+15log(f/40)†			uБ	40-125MHz
CMRR	-30			dB	1-200MHz
		5G Ba	se-T		
	-0.5				1-50MHz
Insertion Loss	-1.0			dB	50-125MHz
Insertion Loss	-2.0			uБ	125-200MHz
	-2.5				200-250MHz
Return Loss	-20			dB	1-50MHz
Return Loss	-20+15log(f/40)†			uБ	50-250MHz
Crosstalk	-25			dB	1-125MHz
CIOSSIAIK	-20			uD	125-250MHz
CMRR	-23			dB	1-250MHz

†f represents the test frequency specified in MHz

ARJM11 Series is RoHS/RoHS II Compliant

MSL level: 1

UL Certification Number: E503350



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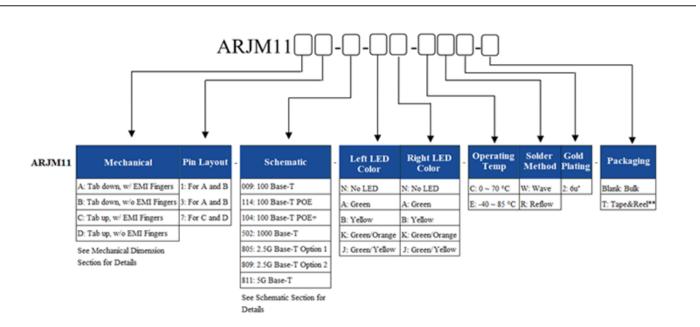
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21.30 x 15.90 x 13.60mmRoHS/RoHS II Compliant

MSL Level = 1

Part Number Identification



Not all combinations are supported. Please see the tables on the next pages for available part numbers.

**Part numbers containing 'R' in the suffix refers to the reflow soldering method. These devices are available in bulk/tray and T&R packaging. See available parts list below and the Packaging section for more detail.



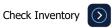
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21.30 x 15.90 x 13.60mm RoHS/RoHS II Compliant MSL Level = 1

Available Part Numbers

Part Number	Speed	Tab Direction	LED (Left:Right)	Operating Temp	Solder Method	Pkg Format
ARJM11A1-009-AB-ER2	100 Base-T	Tab Down	G: Y	$-40^{\circ}C \sim 85^{\circ}C$	Reflow	B, C
ARJM11A1-009-AB-EW2	100 Base-T	Tab Down	G : Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11A1-009-AB-EW4	100 Base-T	Tab Down	G: Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11A1-009-NN-ER3	100 Base-T	Tab Down	No LED	$-40^{\circ}C \sim 85^{\circ}C$	Reflow	B, C
ARJM11A1-009-NN-EW2	100 Base-T	Tab Down	No LED	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11A3-009-AB-ER2	100 Base-T	Tab Down	G: Y	$-40^{\circ}C \sim 85^{\circ}C$	Reflow	B, C
ARJM11B1-009-AB-EW2	100 Base-T	Tab Down	G: Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11B1-009-NN-ER2	100 Base-T	Tab Down	No LED	$-40^{\circ}C \sim 85^{\circ}C$	Reflow	B, C
ARJM11B1-009-NN-EW2	100 Base-T	Tab Down	No LED	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11C7-009-AB-EW2	100 Base-T	Tab Up	G: Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11C7-009-KB-EW2	100 Base-T	Tab Up	G/O:Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11C7-009-NN-EW2	100 Base-T	Tab Up	No LED	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11D7-009-AB-EW2	100 Base-T	Tab Up	G : Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11D7-009-NN-EW2	100 Base-T	Tab Up	No LED	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А

100 Base-T Standard Part Numbers

100 Base-T POE and POE+ Standard Part Numbers

Part Number	Speed	Tab Direction	LED (Left:Right)	Operating Temp	Solder Method	Pkg Format
ARJM11C7-104-AB-EW2	100 Base-T POE+	Tab Up	G : Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	B, C
ARJM11C7-104-BA-EW2	100 Base-T POE+	Tab Up	Y : G	$-40^{\circ}C \sim 85^{\circ}C$	Wave	B, C
ARJM11C7-114-BA-EW2	100 Base-T POE	Tab Up	Y : G	$-40^{\circ}C \sim 85^{\circ}C$	Wave	B, C
ARJM11C7-114-NN-CW2	100 Base-T POE	Tab Up	No LED	$0^{\circ}C \sim 70^{\circ}C$	Wave	B, C
ARJM11D7-104-AB-EW2	100 Base-T POE+	Tab Up	G : Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	B, C
ARJM11D7-114-AB-ER2	100 Base-T POE	Tab Up	G:Y	$-40^{\circ}C \sim 85^{\circ}C$	Reflow	B, C
ARJM11D7-114-AB-EW2	100 Base-T POE	Tab Up	G : Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	B, C
ARJM11D7-114-NN-EW4	100 Base-T POE	Tab Up	No LED	$-40^{\circ}C \sim 85^{\circ}C$	Wave	B, C



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Part Number	Speed	Tab Direction	LED (Left:Right)	Operating Temp	Solder Method	Pkg Method
ARJM11A1-502-AB-CW2	1000 Base-T	Tab Down	G : Y	$0^{\circ}C \sim 70^{\circ}C$	Wave	А
ARJM11A1-502-AB-ER2	1000 Base-T	Tab Down	G : Y	$-40^{\circ}C \sim 85^{\circ}C$	Reflow	B, C
ARJM11A1-502-AB-EW2	1000 Base-T	Tab Down	G : Y	$-40^{\circ}C\sim85^{\circ}C$	Wave	А
ARJM11A1-502-JJ-EW2	1000 Base-T	Tab Down	G/Y:G/Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11A1-502-NN-EW2	1000 Base-T	Tab Down	No LED	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11B1-502-AB-EW2	1000 Base-T	Tab Down	G : Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11B1-502-NN-EW2	1000 Base-T	Tab Down	No LED	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11C7-502-AB-ER2	1000 Base-T	Tab Up	G : Y	$-40^{\circ}C \sim 85^{\circ}C$	Reflow	B, C
ARJM11C7-502-AB-EW2	1000 Base-T	Tab Up	G : Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11C7-502-KB-EW2	1000 Base-T	Tab Up	G/O : Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11C7-502-NN-EW2	1000 Base-T	Tab Up	No LED	$-40^{\circ}C\sim85^{\circ}C$	Wave	А
ARJM11D7-502-AB-EW2	1000 Base-T	Tab Up	G : Y	$-40^{\circ}C\sim85^{\circ}C$	Wave	А
ARJM11D7-502-NN-EW2	1000 Base-T	Tab Up	No LED	$-40^{\circ}C\sim85^{\circ}C$	Wave	А

1000 Base-T Standard Part Numbers

2.5 Base-T Standard Part Numbers

Part Number	Speed	Tab Direction	LED (Left:Right)	Operating Temp	Solder Method	Pkg Format
ARJM11A1-805-AB-EW2	2.5G Base-T	Tab Down	G : Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11B1-805-AB-EW2	2.5G Base-T	Tab Down	G : Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11B1-805-KB-CW2	2.5G Base-T	Tab Down	G/O : Y	$0^{\circ}C \sim 70^{\circ}C$	Wave	А
ARJM11B1-805-KB-EW2	2.5G Base-T	Tab Down	G/O : Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11C7-809-AB-EW2	2.5G Base-T	Tab Up	G : Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11D7-809-AB-EW2	2.5G Base-T	Tab Up	G : Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А

<u>5G Base-T Standard Part Numbers</u>

Part Number	Speed	Tab Direction	LED (Left:Right)	Operating Temp	Solder Method	Pkg Format
ARJM11A1-811-AB-EW2	5G Base-T	Tab Down	G : Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11B1-811-AB-EW2	5G Base-T	Tab Down	G : Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11C7-811-AB-EW2	5G Base-T	Tab Up	G : Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А
ARJM11D7-811-AB-EW2	5G Base-T	Tab Up	G : Y	$-40^{\circ}C \sim 85^{\circ}C$	Wave	А



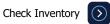
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Materials

- Housing: Material: PBT, UL94V-0 Standard Color: Black
- 3. Insert: Material: PBT, UL94V-0

Contact Material: Phosphor Bronze Plating (1): Nickel Plating (2): Gold, 6u" 2. Contact Pin: Material: Phosphor Bronze Plating (1): Nickel Plating (2): 100%Sn

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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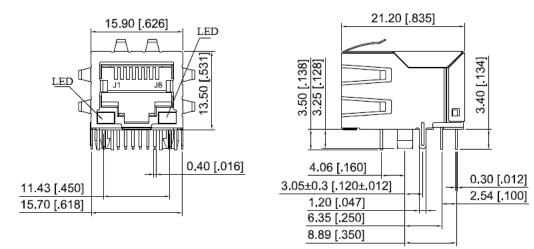


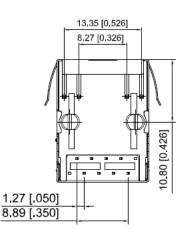
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RoHS/RoHS II Compliant MSL Level = 1

Mechanical Specifications

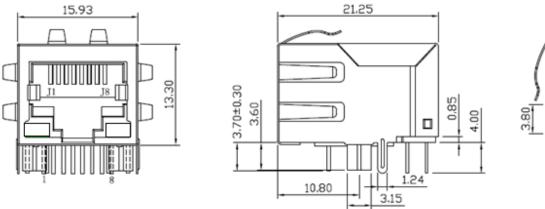
A: Tab Down, w/ EMI Fingers (Wave)

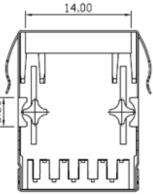




Dimensions: mm[inch] (Unless otherwise specified, all tolerances are $\pm 0.25[0.010]$)

A: Tab Down, w/ EMI Fingers (Reflow)





Dimensions are in mm. Tolerances are ± 0.25 mm unless noted otherwise.



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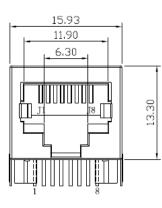
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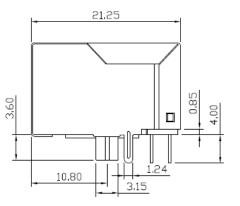


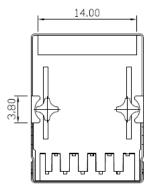
ARJM11 Series 21.30 x 15.90 x 13.60mm (\mathbf{S}) Request Samples Check Inventory (>)**RoHS/RoHS II Compliant** MSL Level = 1 B: Tab Down, w/o EMI Fingers (Wave) 15.90 [.626] 21.20 [.835] LED 13.35 [0.526] 8.27 [0.326] 13.50 [.531] 3.40 [.134 LED 3.25 0.80 [0.426] 0.40 [.016] 4.06 [.160] 0.30 [.012] 3.05±0.3 [.120±.012] 11.43 [.450] 2.54 [.100] 1.20 [.047] 15.70 [.618] 1.27 [.050] 6.35 [.250] 8.89 [.350] 8.89 [.350]

Dimensions: mm[inch] (Unless otherwise specified, all tolerances are $\pm 0.25[0.010]$)

B: Tab Down, w/o EMI Fingers (Reflow)







Dimensions are in mm. Tolerances are ± 0.25 mm unless noted otherwise.



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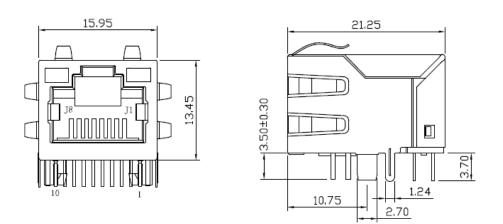
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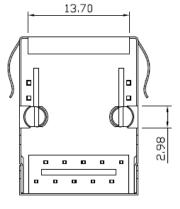


ARJM11 Series 21.30 x 15.90 x 13.60mm (\mathbf{S}) Request Samples Check Inventory (>)**RoHS/RoHS II Compliant** MSL Level = 1 C: Tab Up, w/ EMI Fingers (Wave) 21.50 [.846] 15.70 [.618] 13,57 [.534] Yellow Green 3.00 [.118] 10.85 [.427 3.20 [.126] 3.80 [.543] 3.32 [.131] 3.60 [.142] П Ш Ο 2.03 [.080] 0.35 [.014] 0.43 [.017] 11.43 [.450] 2.54 [.100] 2.54 [.100] 1.27 [.050] 15,50 [.610] 3.05 [.120 8.89 [.350] 1.20 [.047] 6.35 [.250] 8.89 [.350]

Dimensions: mm[inch] (Unless otherwise specified, all tolerances are $\pm 0.25[0.010]$)

C: Tab Up, w/ EMI Fingers (Reflow)





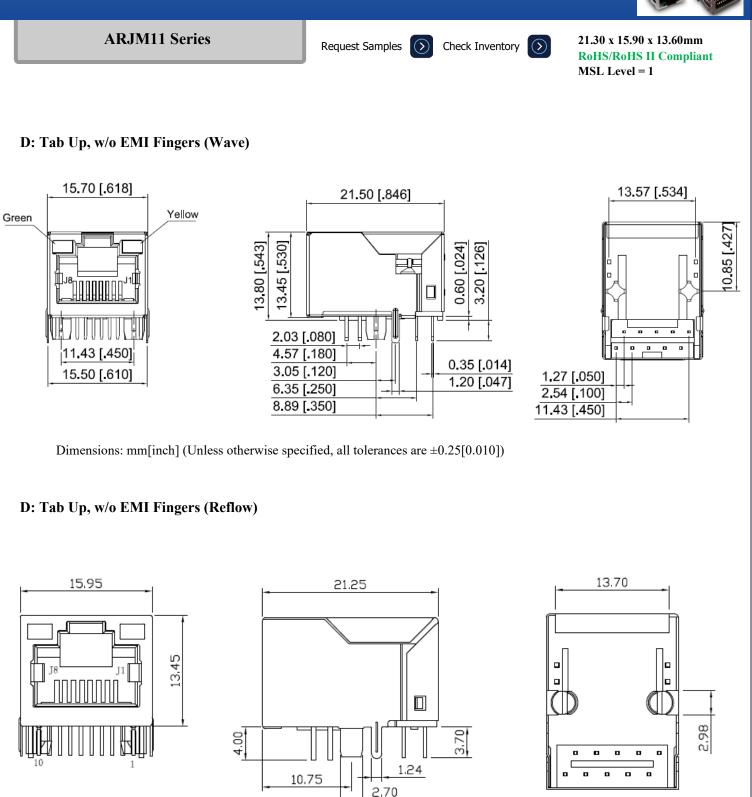
Dimensions are in mm. Tolerances are ± 0.25 mm unless noted otherwise.



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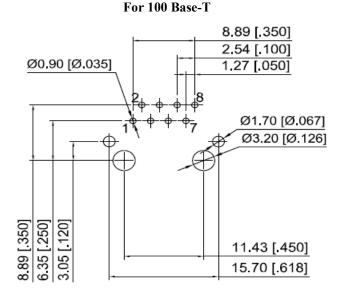


21.30 x 15.90 x 13.60mm RoHS/RoHS II Compliant MSL Level = 1

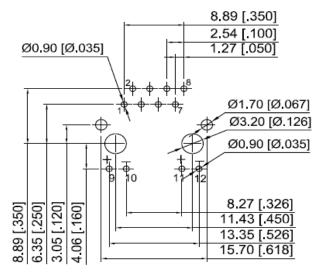
Recommended Layout

Pin Layout = 1 (Horizontal LEDs/ No LEDs)

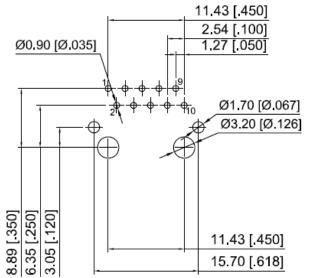
8 Pins, no LED



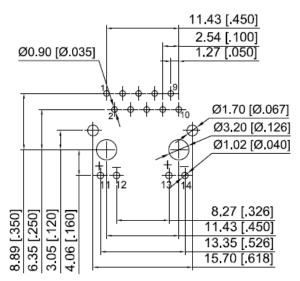
8 Pins, w/ LED For 100 Base-T



10 Pins, no LED For 100 PoE/1000/2.5G/5G Base-T



10 Pins, w/ LED For 100 PoE/1000/2.5G/5G Base-T



Dimensions: mm[inch] Layout tolerances are $\pm 0.05[0.002]$ mm unless noted otherwise.



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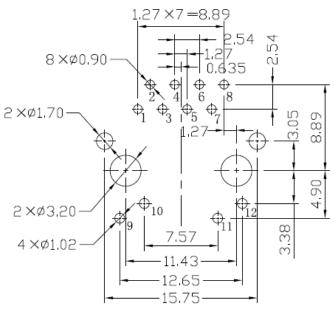
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21.30 x 15.90 x 13.60mm RoHS/RoHS II Compliant MSL Level = 1

Pin Layout = 3 (diagonal LEDs)

8 Pins, w/ LEDs For 100 Base-T



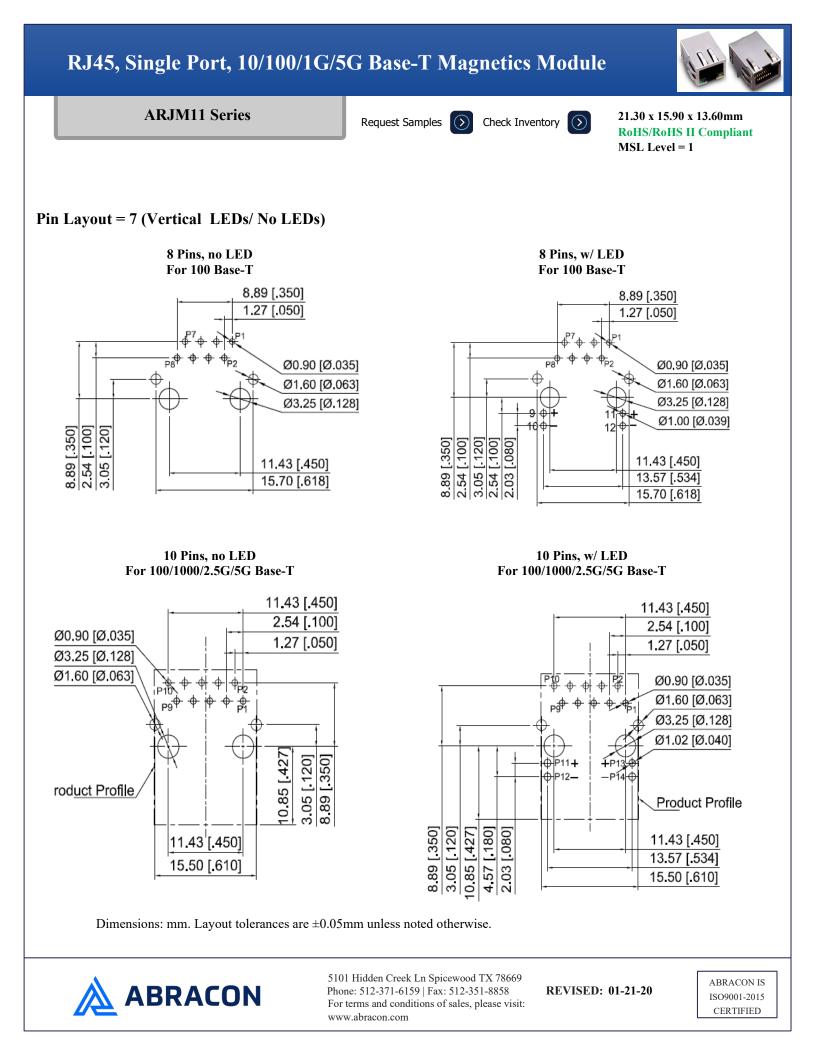
Suggested PCB Layout (Top View)

Dimensions: mm. Layout tolerances are ± 0.05 mm unless noted otherwise.



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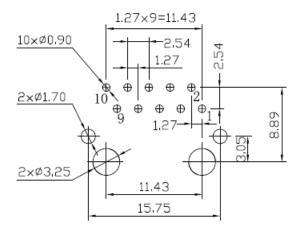
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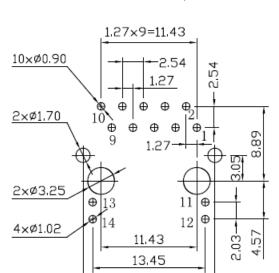
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21.30 x 15.90 x 13.60mm RoHS/RoHS II Compliant MSL Level = 1

10 Pins, no LED For 100 Base-T w/ POE, POE+





15.75

10 Pins, w/ LED

For 100 Base-T w/ POE, POE+

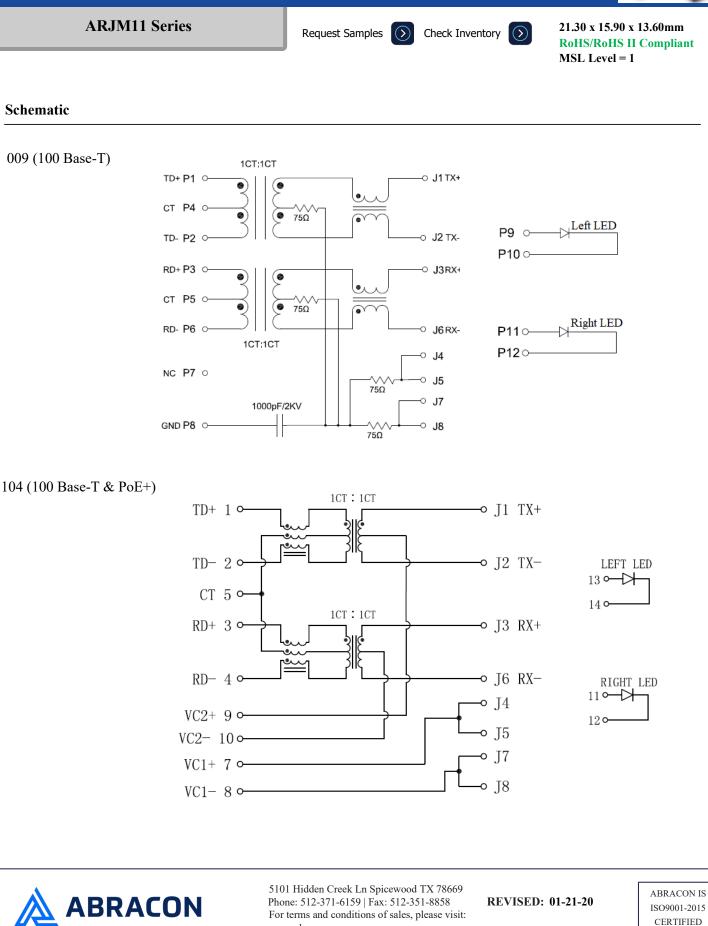
Dimensions are in mm. Layout tolerances are ± 0.05 mm unless noted otherwise.



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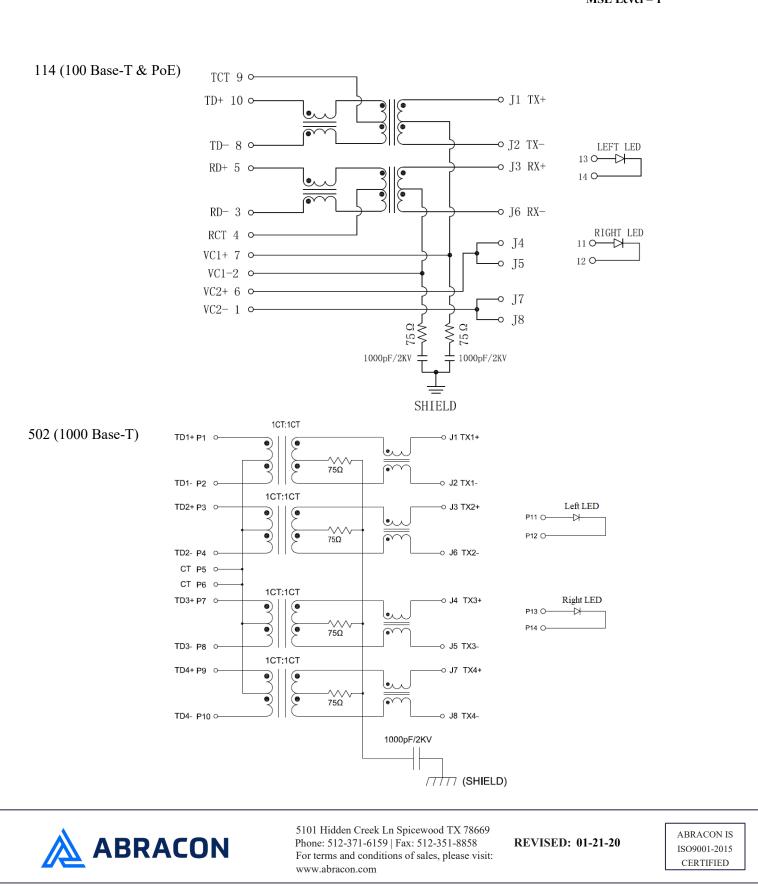
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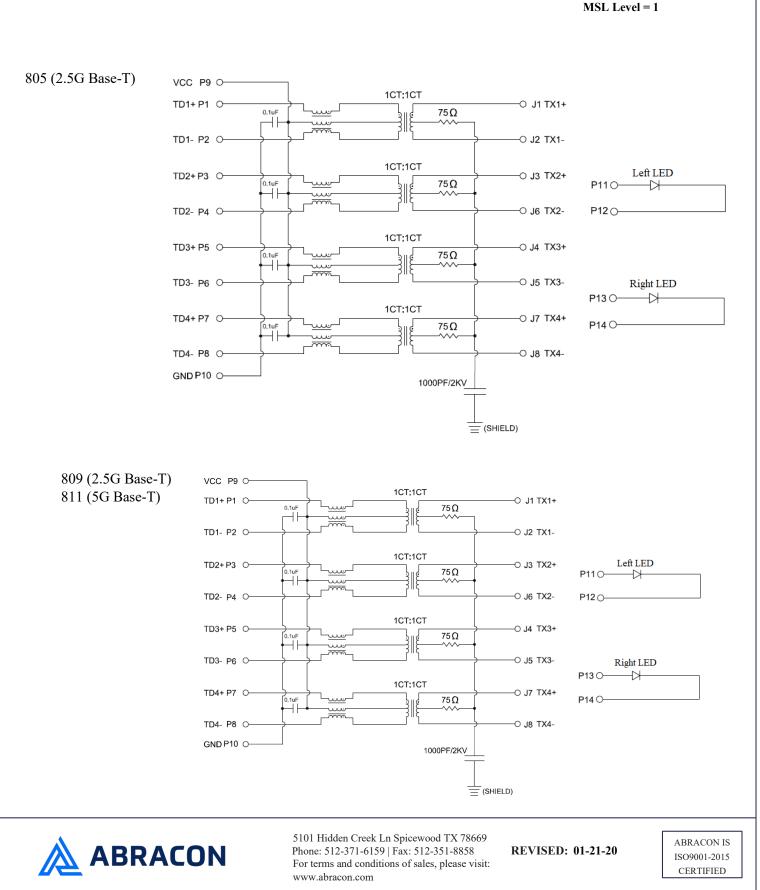
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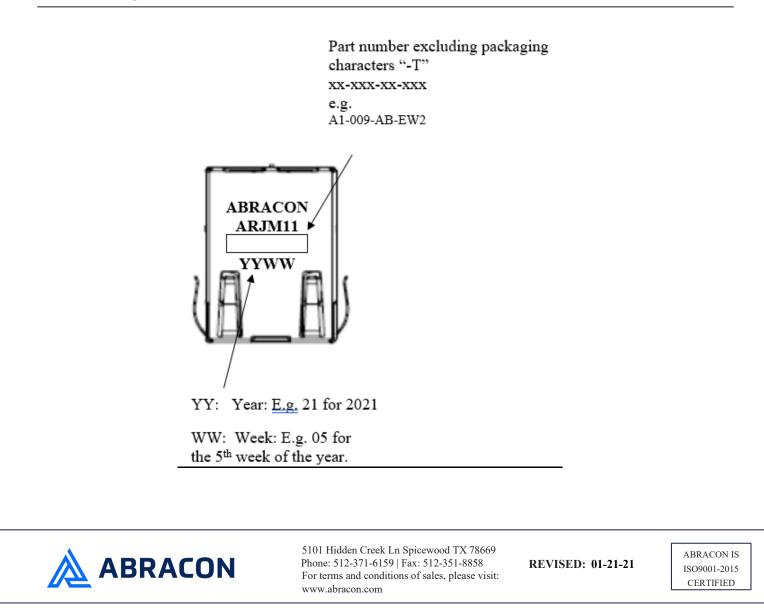
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LED SPECIFICATIONS FOR ALL SCHEMATICS 20mA Forward Current

Color	Green	Yellow	Orange
Wavelength	565nm Typ	585nm Typ	605nm Typ
Forward Voltage	2.2V Typ	2.1V Тур	2.1V Тур

Device Marking





ISO9001-2015

CERTIFIED

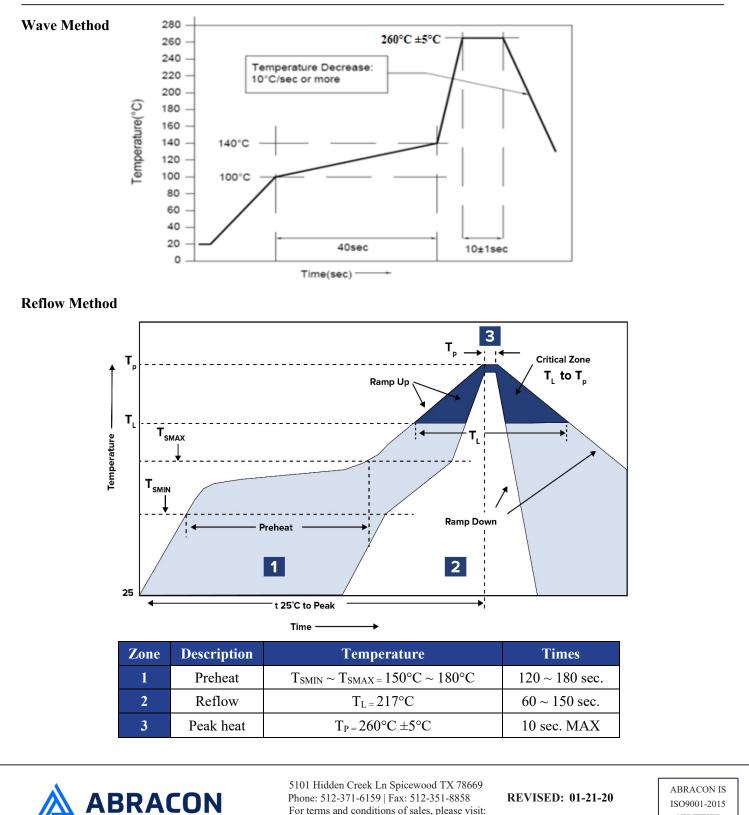
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Soldering Profile



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2)

21.30 x 15.90 x 13.60mm RoHS/RoHS II Compliant MSL Level = 1

Packaging

Bulk/Tray (50pcs/tray)

Format A – 40 trays/carton, Weight: 5.7g/pc, Carton Gross Weight: 15.2Kg

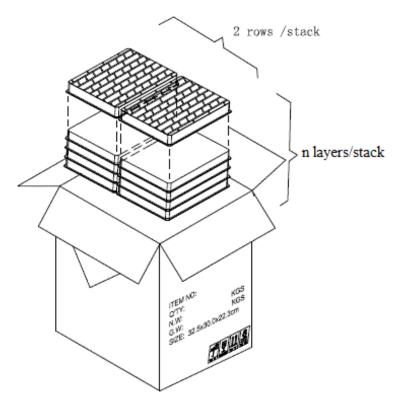
Format B – 24 trays/carton, Weight: 5.7g/pc, Carton Gross Weight: 9.0Kg

Bottom Tray

	Тс	p.	Tra	y
2		-	-	

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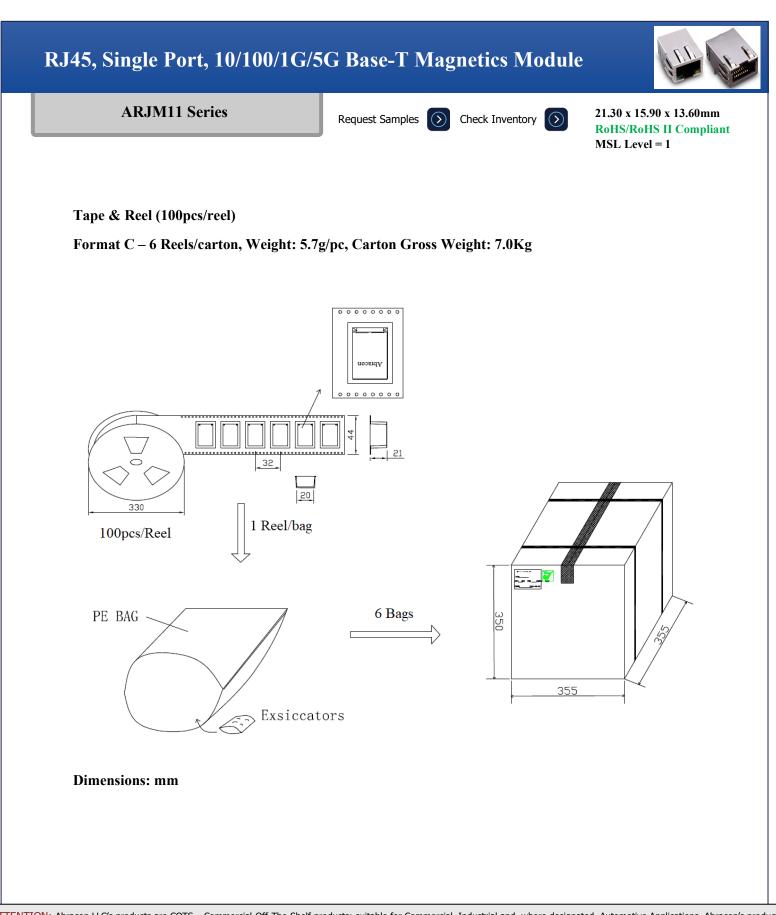


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REVISED: 01-21-21



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