

ARJM11 Series

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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

Electrical Specifications

Parameters	Minimum	Typical	Maximum	Units	Notes
Turn Ratio (±3%)		1CT:1CT			100kHz, 0.1V
	350				100kHz, 0.1V, 8mADC
Inductance	200			μН	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 l	PoE, PoE+		
Insertion Loss			-1.1	dB	0.5-100MHz
	-18				0.5-30MHz
Return Loss	-15			dB	30-60MHz
	-12				60-80MHz
Crosstalk	-35			dB	0.5-40MHz
Crossiaik	-30			uБ	40-100MHz
CMRR	-30			dB	0.5-100MHz
DC Resistance			1.0	Ω	Secondary (cable) side
POE Balanced			350	4	@57VDC continuous
DC line current			500	mA	@57VDC for 200ms
POE+ Balanced			600	mA	@57VDC continuous
DC line current			720	IIIA	@57VDC for 200ms





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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		
T			-1.0	4D	1-50MHz
Insertion Loss			-1.5	dB	50-125MHz
D 4 I	-18			dB	1-40MHz
Return Loss	-18+15log(f/40)†			l ab	40-250MHz
Crosstalk	-35			dB	1-40MHz
Crossiaik	-35+15log(f/40)†			ав	40-125MHz
CMRR	-30			dB	1-200MHz
		5G Ba	ise-T		
	-0.5				1-50MHz
T	-1.0			σt.	50-125MHz
Insertion Loss	-2.0			dB -	125-200MHz
	-2.5				200-250MHz
D 4 I	-20			1D	1-50MHz
Return Loss	-20+15log(f/40)†			dB -	50-250MHz
C 4 11-	-25			1D	1-125MHz
Crosstalk	-20			dB -	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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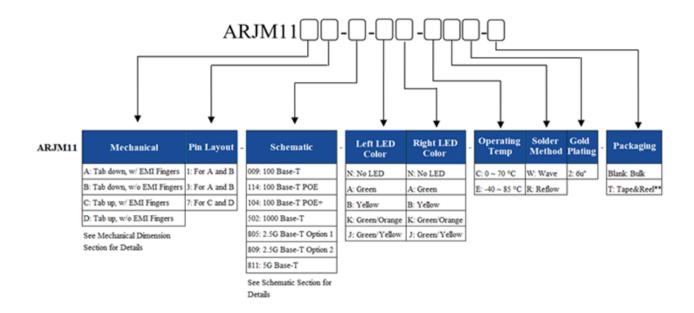


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21.30 x 15.90 x 13.60mm **RoHS/RoHS II Compliant** MSL Level = 1

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

100 Base-T Standard 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°C ~ 85°C	Reflow	B, C
ARJM11A1-009-AB-EW2	100 Base-T	Tab Down	G : Y	-40°C ~ 85°C	Wave	A
ARJM11A1-009-AB-EW4	100 Base-T	Tab Down	G : Y	-40°C ~ 85°C	Wave	A
ARJM11A1-009-NN-ER3	100 Base-T	Tab Down	No LED	-40°C ~ 85°C	Reflow	B, C
ARJM11A1-009-NN-EW2	100 Base-T	Tab Down	No LED	-40°C ~ 85°C	Wave	A
ARJM11A3-009-AB-ER2	100 Base-T	Tab Down	G : Y	-40°C ~ 85°C	Reflow	B, C
ARJM11B1-009-AB-EW2	100 Base-T	Tab Down	G : Y	-40°C ~ 85°C	Wave	A
ARJM11B1-009-NN-ER2	100 Base-T	Tab Down	No LED	-40°C ~ 85°C	Reflow	B, C
ARJM11B1-009-NN-EW2	100 Base-T	Tab Down	No LED	-40°C ~ 85°C	Wave	A
ARJM11C7-009-AB-EW2	100 Base-T	Tab Up	G : Y	-40°C ~ 85°C	Wave	A
ARJM11C7-009-KB-EW2	100 Base-T	Tab Up	G/O:Y	-40°C ~ 85°C	Wave	A
ARJM11C7-009-NN-EW2	100 Base-T	Tab Up	No LED	-40°C ~ 85°C	Wave	A
ARJM11D7-009-AB-EW2	100 Base-T	Tab Up	G : Y	-40°C ~ 85°C	Wave	A
ARJM11D7-009-NN-EW2	100 Base-T	Tab Up	No LED	-40°C ~ 85°C	Wave	A

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°C ~ 85°C	Wave	B, C
ARJM11C7-104-BA-EW2	100 Base-T POE+	Tab Up	Y : G	-40°C ~ 85°C	Wave	B, C
ARJM11C7-114-BA-EW2	100 Base-T POE	Tab Up	Y : G	-40°C ~ 85°C	Wave	B, C
ARJM11C7-114-NN-CW2	100 Base-T POE	Tab Up	No LED	$0^{\circ}\text{C} \sim 70^{\circ}\text{C}$	Wave	B, C
ARJM11D7-104-AB-EW2	100 Base-T POE+	Tab Up	G : Y	-40°C ~ 85°C	Wave	B, C
ARJM11D7-114-AB-ER2	100 Base-T POE	Tab Up	G : Y	-40°C ~ 85°C	Reflow	B, C
ARJM11D7-114-AB-EW2	100 Base-T POE	Tab Up	G : Y	-40°C ~ 85°C	Wave	B, C
ARJM11D7-114-NN-EW4	100 Base-T POE	Tab Up	No LED	-40°C ~ 85°C	Wave	B, C





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

1000 Base-T Standard Part Numbers

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	$0^{\circ}\text{C} \sim 70^{\circ}\text{C}$	Wave	A
ARJM11A1-502-AB-ER2	1000 Base-T	Tab Down	G : Y	-40°C ~ 85°C	Reflow	B, C
ARJM11A1-502-AB-EW2	1000 Base-T	Tab Down	G : Y	-40°C ~ 85°C	Wave	A
ARJM11A1-502-JJ-EW2	1000 Base-T	Tab Down	G/Y:G/Y	-40°C ~ 85°C	Wave	A
ARJM11A1-502-NN-EW2	1000 Base-T	Tab Down	No LED	-40°C ~ 85°C	Wave	A
ARJM11B1-502-AB-EW2	1000 Base-T	Tab Down	G : Y	-40°C ~ 85°C	Wave	A
ARJM11B1-502-NN-EW2	1000 Base-T	Tab Down	No LED	-40°C ~ 85°C	Wave	A
ARJM11C7-502-AB-ER2	1000 Base-T	Tab Up	G : Y	-40°C ~ 85°C	Reflow	B, C
ARJM11C7-502-AB-EW2	1000 Base-T	Tab Up	G : Y	-40°C ~ 85°C	Wave	A
ARJM11C7-502-KB-EW2	1000 Base-T	Tab Up	G/O:Y	-40°C ~ 85°C	Wave	A
ARJM11C7-502-NN-EW2	1000 Base-T	Tab Up	No LED	-40°C ~ 85°C	Wave	A
ARJM11D7-502-AB-EW2	1000 Base-T	Tab Up	G : Y	-40°C ~ 85°C	Wave	A
ARJM11D7-502-NN-EW2	1000 Base-T	Tab Up	No LED	-40°C ~ 85°C	Wave	A

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°C ~ 85°C	Wave	A
ARJM11B1-805-AB-EW2	2.5G Base-T	Tab Down	G : Y	-40 °C ~ 85 °C	Wave	A
ARJM11B1-805-KB-CW2	2.5G Base-T	Tab Down	G/O : Y	$0^{\circ}\text{C} \sim 70^{\circ}\text{C}$	Wave	A
ARJM11B1-805-KB-EW2	2.5G Base-T	Tab Down	G/O:Y	-40°C ~ 85°C	Wave	A
ARJM11C7-809-AB-EW2	2.5G Base-T	Tab Up	G : Y	-40°C ~ 85°C	Wave	A
ARJM11D7-809-AB-EW2	2.5G Base-T	Tab Up	G : Y	-40°C ~ 85°C	Wave	A

5G Base-T Standard Part Numbers

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°C ~ 85°C	Wave	A
ARJM11B1-811-AB-EW2	5G Base-T	Tab Down	G : Y	-40°C ~ 85°C	Wave	A
ARJM11C7-811-AB-EW2	5G Base-T	Tab Up	G : Y	-40°C ~ 85°C	Wave	A
ARJM11D7-811-AB-EW2	5G Base-T	Tab Up	G : Y	-40°C ~ 85°C	Wave	A



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

Materials

1. 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"

5. Metal Shell:

Material: Brass Plating (1): Nickel 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

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





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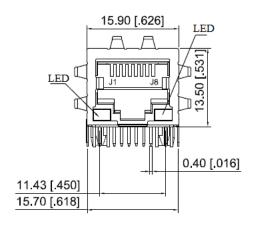
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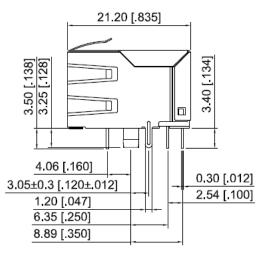


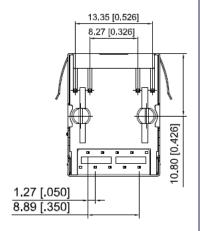
21.30 x 15.90 x 13.60mm RoHS/RoHS II Compliant MSL Level = 1

Mechanical Specifications

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

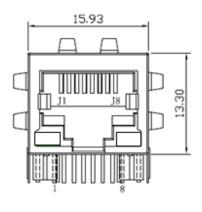


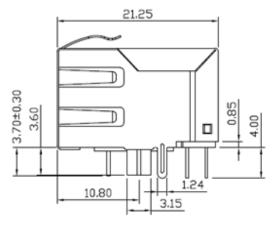


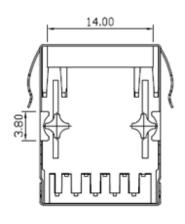


Dimensions: mm[inch] (Unless otherwise specified, all tolerances are $\pm 0.25[0.010]$)

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







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





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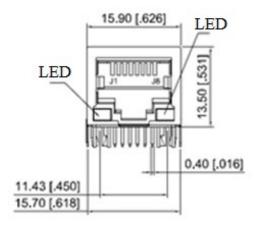


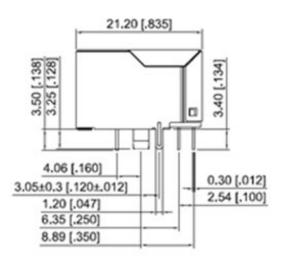
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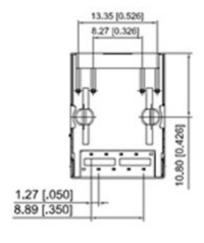


21.30 x 15.90 x 13.60mm RoHS/RoHS II Compliant MSL Level = 1

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

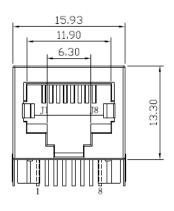


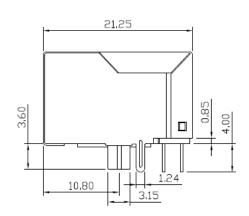


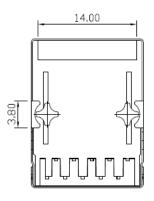


Dimensions: mm[inch] (Unless otherwise specified, all tolerances are $\pm 0.25[0.010]$)

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







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



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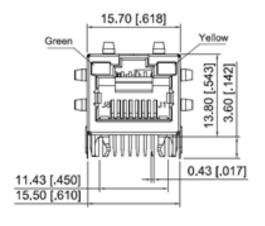


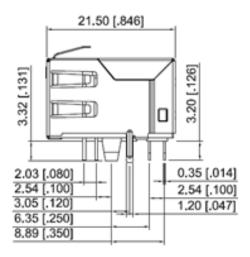
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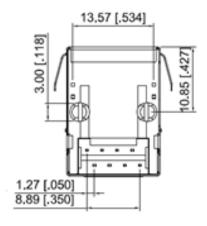


21.30 x 15.90 x 13.60mm RoHS/RoHS II Compliant MSL Level = 1

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

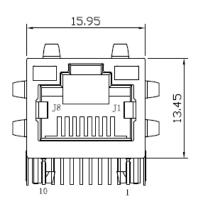


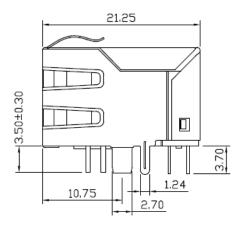


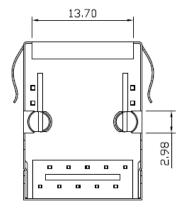


Dimensions: mm[inch] (Unless otherwise specified, all tolerances are $\pm 0.25[0.010]$)

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







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





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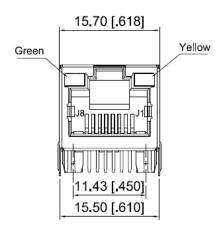


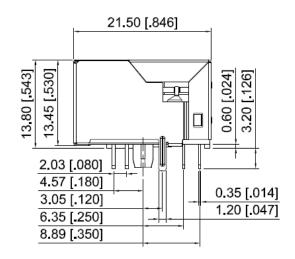
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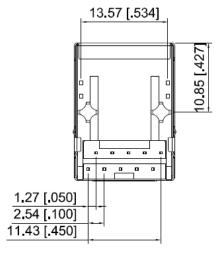


21.30 x 15.90 x 13.60mm RoHS/RoHS II Compliant MSL Level = 1

D: Tab Up, w/o EMI Fingers (Wave)

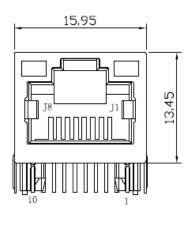


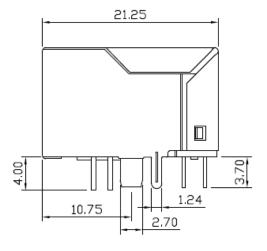


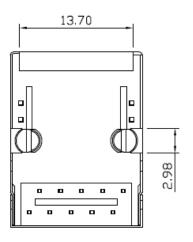


Dimensions: mm[inch] (Unless otherwise specified, all tolerances are $\pm 0.25[0.010]$)

D: Tab Up, w/o EMI Fingers (Reflow)







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



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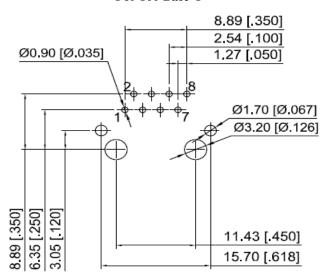


21.30 x 15.90 x 13.60mm RoHS/RoHS II Compliant MSL Level = 1

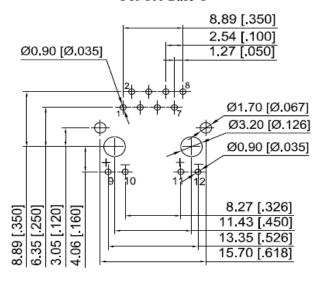
Recommended Layout

Pin Layout = 1 (Horizontal LEDs/ No LEDs)

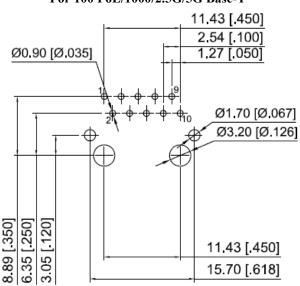
8 Pins, no LED For 100 Base-T



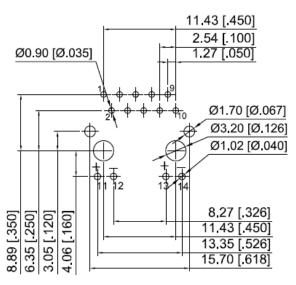
8 Pins, w/ LED For 100 Base-T



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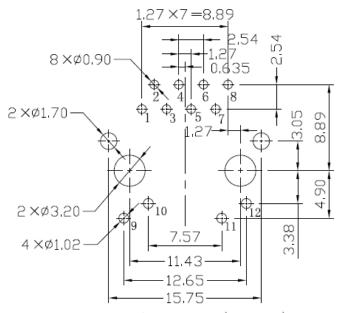
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21.30 x 15.90 x 13.60mm **RoHS/RoHS II Compliant** MSL Level = 1

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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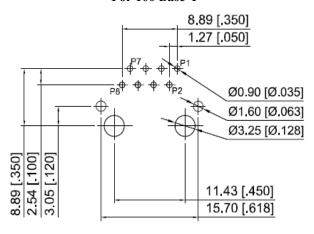
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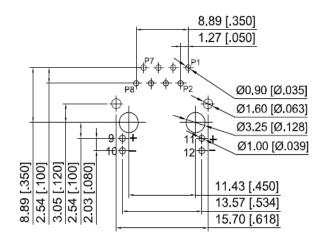
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Pin Layout = 7 (Vertical LEDs/ No LEDs)

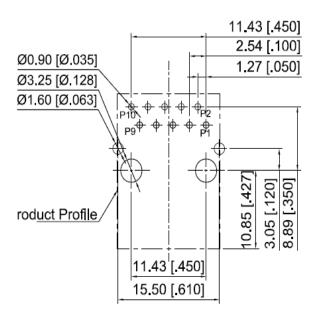
8 Pins, no LED For 100 Base-T



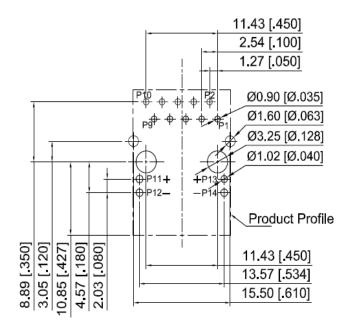
8 Pins, w/ LED For 100 Base-T



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



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



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





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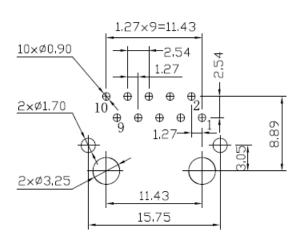


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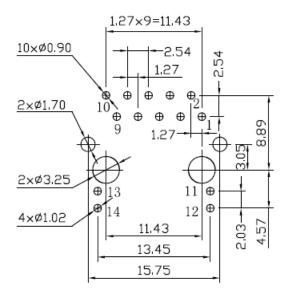


21.30 x 15.90 x 13.60mm **RoHS/RoHS II Compliant** MSL Level = 1

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



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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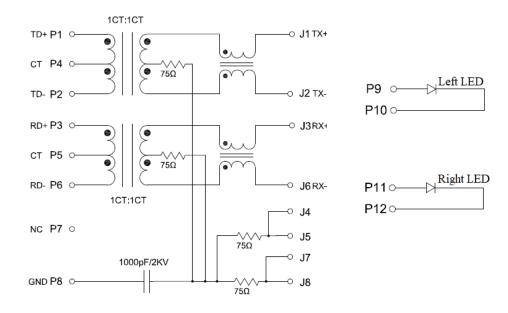
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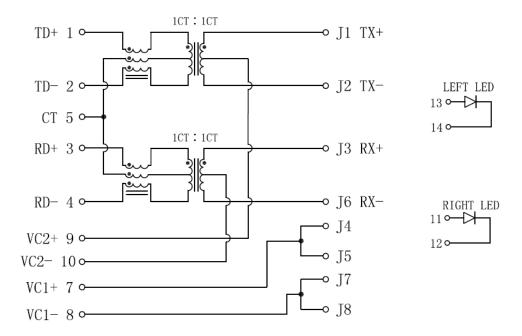
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Schematic

009 (100 Base-T)



104 (100 Base-T & PoE+)







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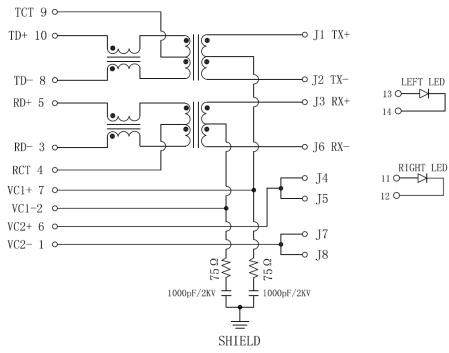


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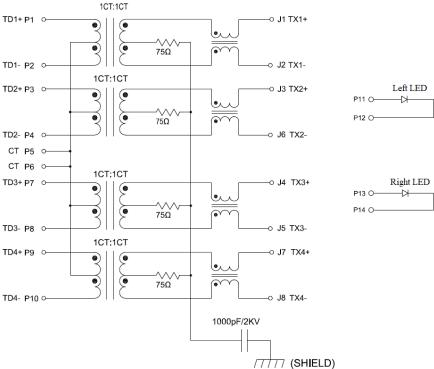


21.30 x 15.90 x 13.60mm **RoHS/RoHS II Compliant** MSL Level = 1

114 (100 Base-T & PoE)



502 (1000 Base-T)





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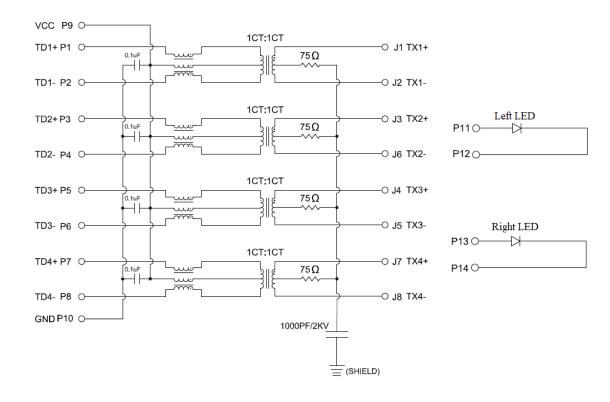


Check Inventory

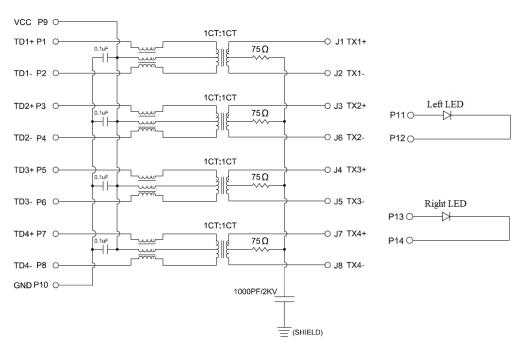


21.30 x 15.90 x 13.60mm RoHS/RoHS II Compliant MSL Level = 1

805 (2.5G Base-T)



809 (2.5G Base-T) 811 (5G Base-T)





5101 Hidden Creek Ln Spicewood TX 78669 Phone: 512-371-6159 | Fax: 512-351-8858 For terms and conditions of sales, please visit: www.abracon.com

REVISED: 01-21-20

ABRACON IS ISO9001-2015 CERTIFIED



ARJM11 Series

Request Samples (>)



Check Inventory (>)



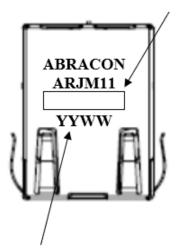
21.30 x 15.90 x 13.60mm **RoHS/RoHS II Compliant** MSL Level = 1

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 Typ	2.1V Typ

Device Marking

Part number excluding packaging characters "-T" XX-XXX-XX-XXX e.g. A1-009-AB-EW2



YY: Year: E.g. 21 for 2021

WW: Week: E.g. 05 for the 5th week of the year.





ARJM11 Series

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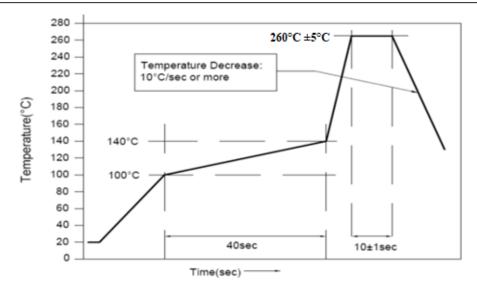
Check Inventory



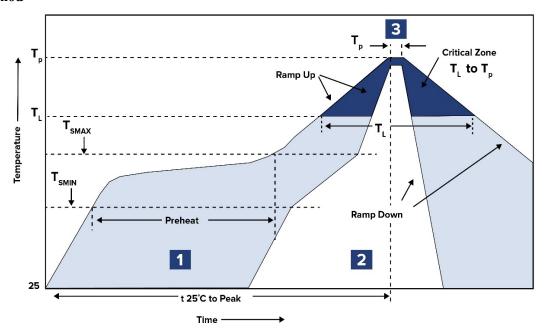
21.30 x 15.90 x 13.60mm RoHS/RoHS II Compliant MSL Level = 1

Soldering Profile

Wave Method



Reflow Method



Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX} = 150^{\circ}C \sim 180^{\circ}C$	$120 \sim 180 \text{ sec.}$
2	Reflow	$T_L=217^{\circ}C$	$60 \sim 150 \text{ sec.}$
3	Peak heat	$T_P = 260^{\circ}C \pm 5^{\circ}C$	10 sec. MAX





ARJM11 Series

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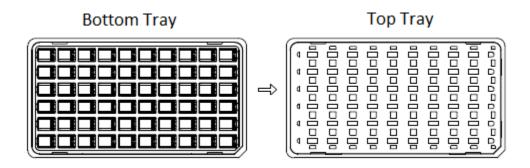
21.30 x 15.90 x 13.60mm **RoHS/RoHS II Compliant** MSL Level = 1

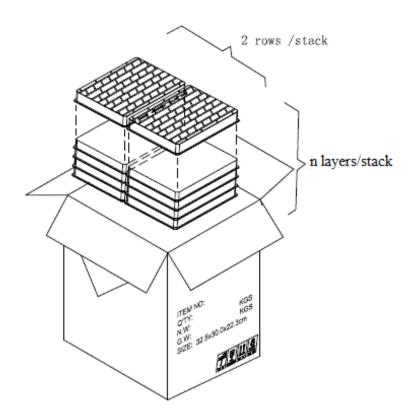
Packaging

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









ARJM11 Series

Request Samples



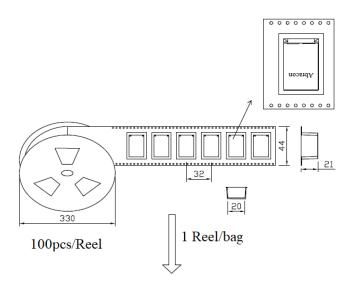
Check Inventory

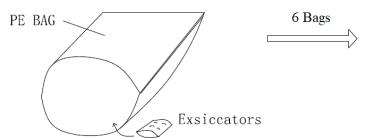


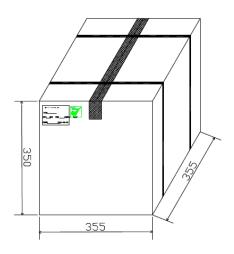
21.30 x 15.90 x 13.60mm RoHS/RoHS II Compliant MSL Level = 1

Tape & Reel (100pcs/reel)

Format C – 6 Reels/carton, Weight: 5.7g/pc, Carton Gross Weight: 7.0Kg







Dimensions: mm

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