PULSEJACK™ 10/100BASE-TX WITH INTEGRATED MAGNETICS

For Stacked 2xN RJ-45 Hub and Switch Applications

- Available in 2x4, 2x6 and 2x8 platforms
- Meets or exceeds IEEE 802.3 and ANSI X3.263 standards including 350 µH min OCL with 8 mA bias
- Patented InterLock Base construction for high reliability
- High performance for high EMI suppression
- Additional shielding available for superior EMI suppression
- Minimum 1500 Vrms isolation per IEEE 802.3 requirement

Electrical Specifications @ 25°C — Operating Temperature 0°C to +70°C

Part Number	Turns Ratios		# of Ports	Insertion Loss TX / RX	Return Loss				Crosstalk			Common Mode Rejection		Hipot (Vrms)
	TX	RX		1 -65 MHz	1 - 10 MHz	10 - 30 MHz	30 - 60 MHz	60 - 80 MHz	1 - 30 MHz	30 - 60 MHz	60 - 100 MHz	1 - 50 MHz	50 - 150 MHz	@ 60Hz for 1 MIN
J2039H3 (A,B,C)[1]	1CT:1CT	1CT:1CT	8,12,16	-1.0 dB	-20 dB	-16 dB	-12 dB	-10 dB	-40 dB	-35 dB	-30 dB	-30 dB	-20 dB	1500
J2042H3 (A,B,C)[1]	1CT:1CT	1CT:1CT	8,12,16	-1.0 dB	-20 dB	-16 dB	-12 dB	-10 dB	-40 dB	-35 dB	-30 dB	-30 dB	-20 dB	1500
J2045H3 (A,B,C)[1]	1CT:1CT	1CT:1CT	8,12,16	-1.0 dB	-20 dB	-16 dB	-12 dB	-10 dB	-40 dB	-35 dB	-30 dB	-30 dB	-20 dB	1500

Notes:
1. Part numbers code (A,B,C): A = 2x4, B = 2x6, C = 2x8
2. Both transmit and receive channels meet IEEE 802.3 specifications.
3. Different electrical specifications can be accommodated.

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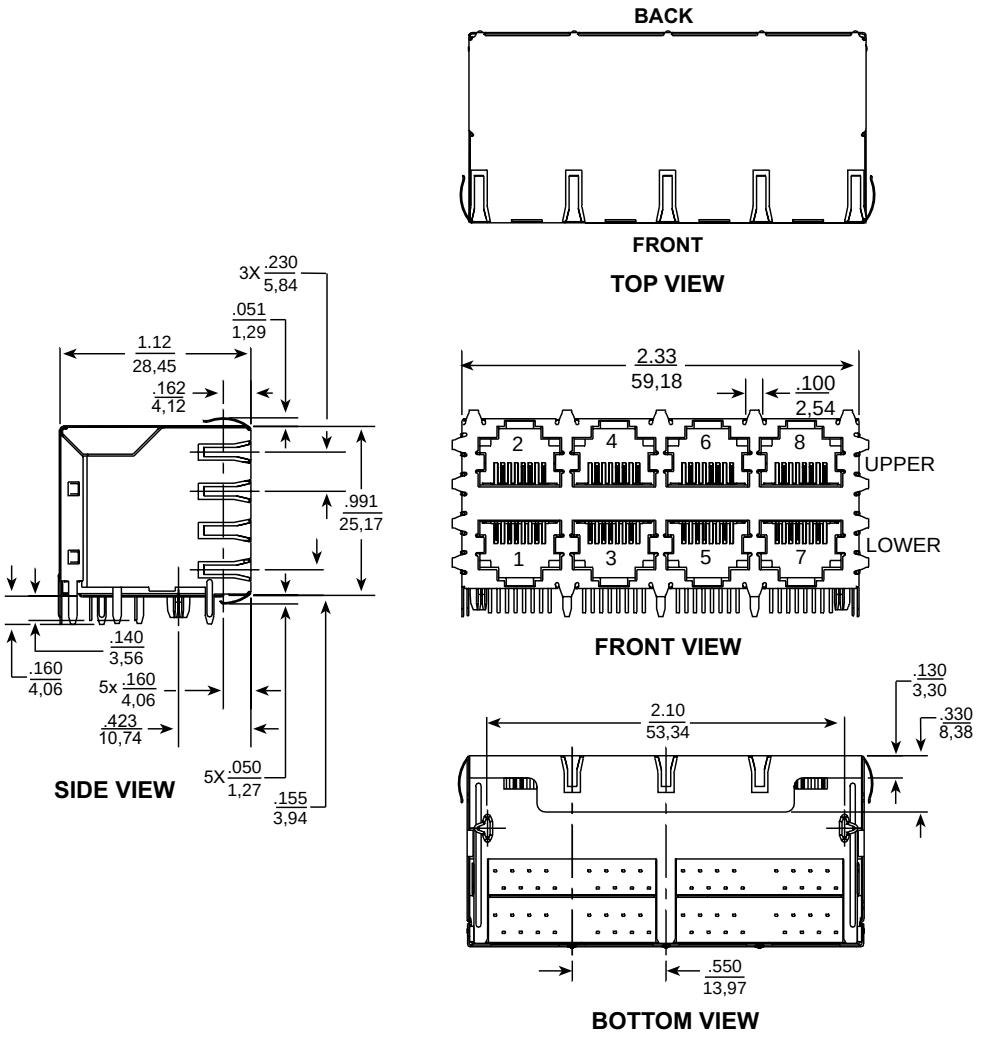
Mechanicals

2 X 4



Dimensions: Inches / mm

Unless otherwise specified all tolerances are .xx ± .010 / 0,25 .xxx ± .005 / 0,128

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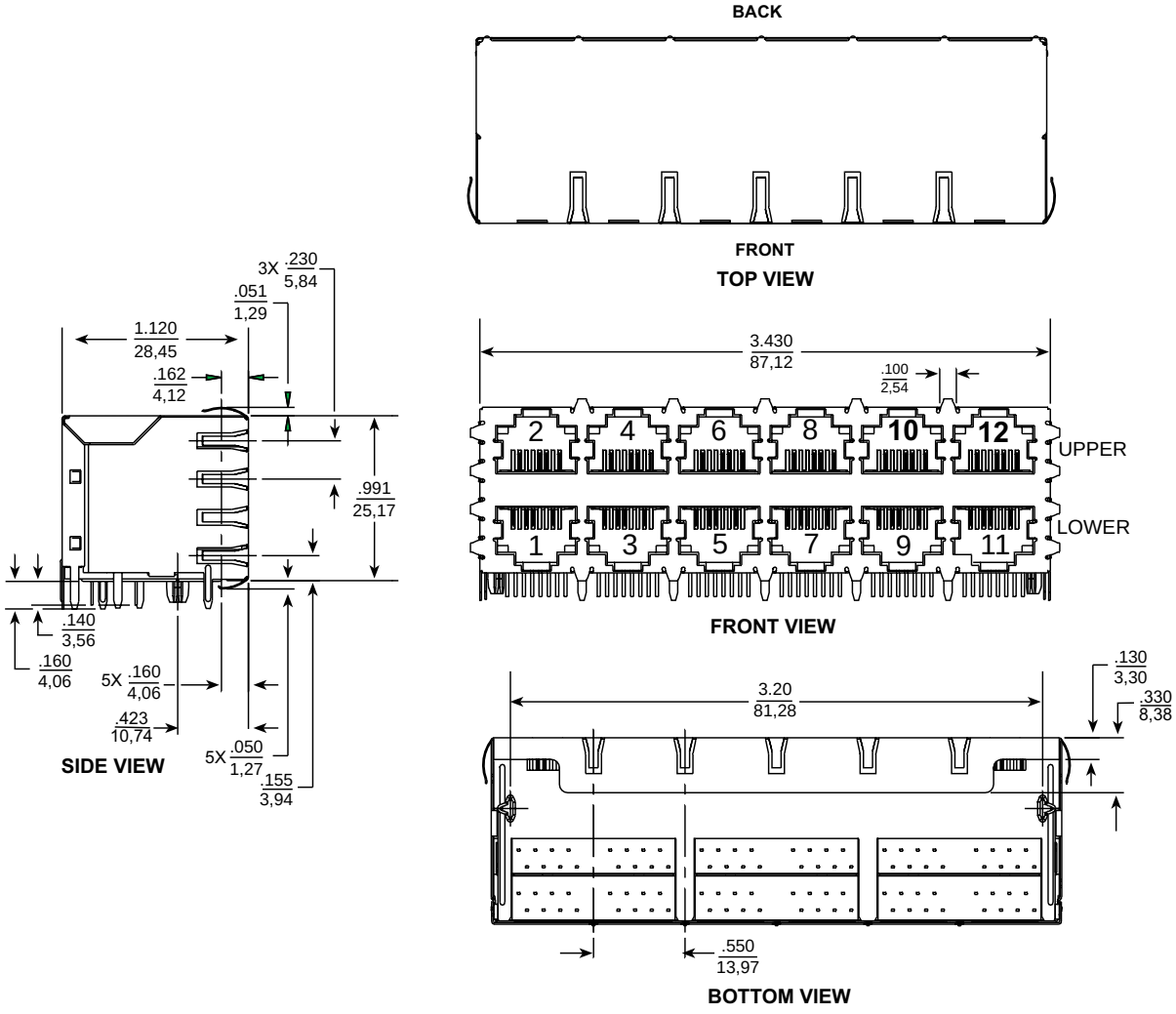
Mechanicals

2 X 6



Dimensions: Inches / mm

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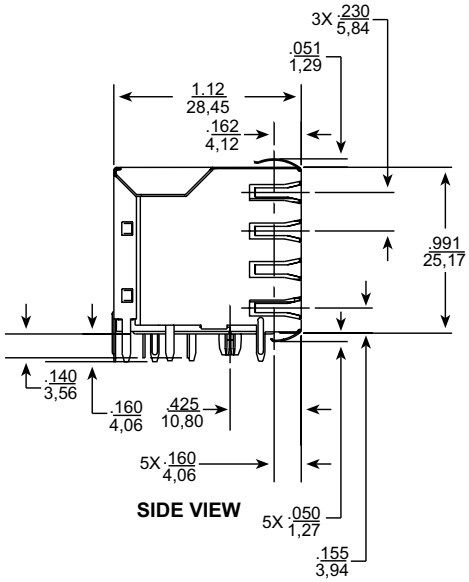
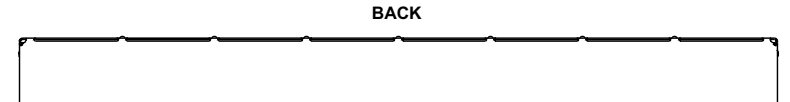
Mechanicals

2 X 8



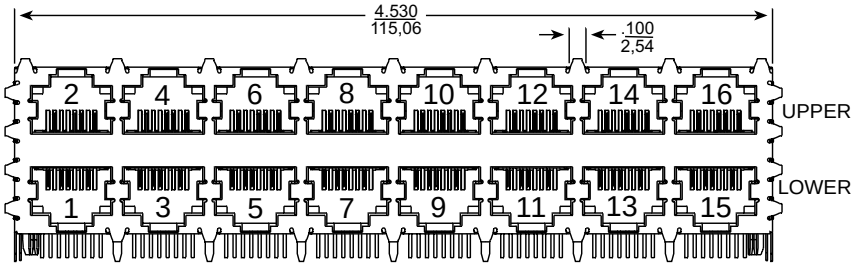
SIDE VIEW



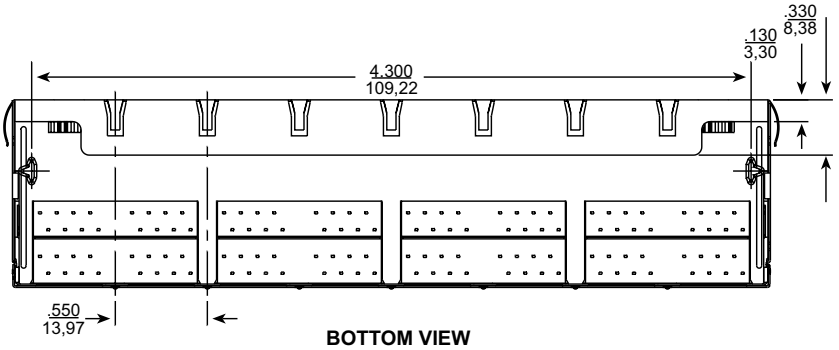
BACK

FRONT

TOP VIEW



FRONT VIEW



BOTTOM VIEW

Dimensions: Inches / mm

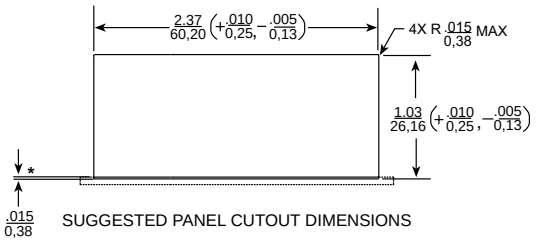
Unless otherwise specified all tolerances are .xx ± .010 / 0,25 .xxx ± .005 / 0,128

PULSEJACK™ 10/100BASE-TX WITH INTEGRATED MAGNETICS

For Stacked 2xN RJ-45 Hub and Switch Applications

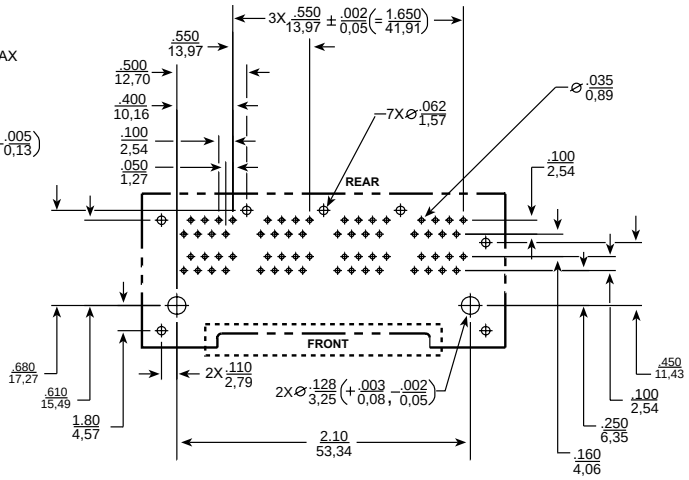
Panel Cutouts and PC Board Layouts

2 X 4



SUGGESTED PANEL CUTOUT DIMENSIONS

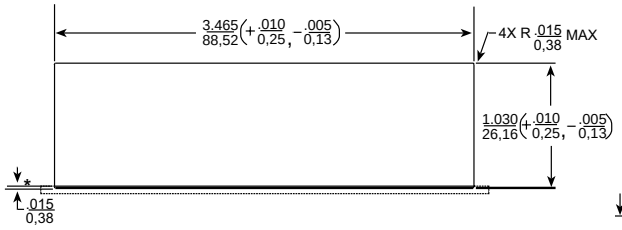
*This cutout below top of the PCB



SUGGESTED PC BOARD LAYOUT VIEWED FROM COMPONENT SIDE

NOTE: Required PCB cutout to allow clearance for EMI tabs on connector.

2 X 6



SUGGESTED PANEL CUTOUT DIMENSIONS

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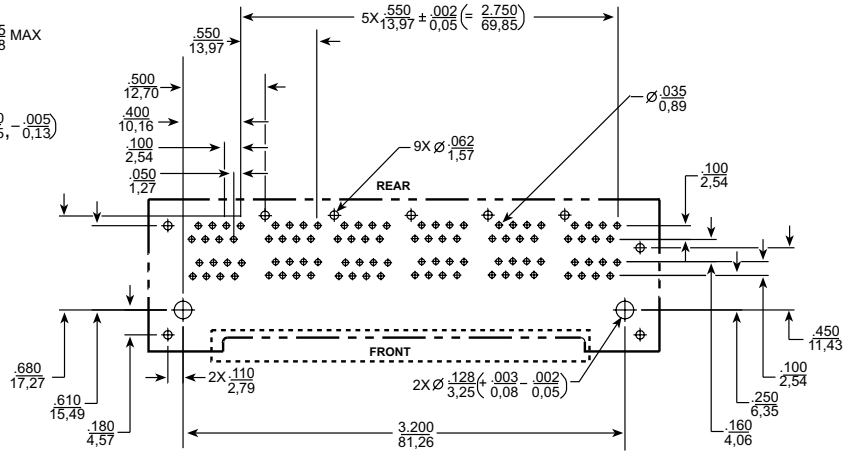

SUGGESTED PC BOARD LAYOUT VIEWED FROM COMPONENT SIDE

NOTE: Required PCB cutout to allow clearance for EMI tabs on connector.

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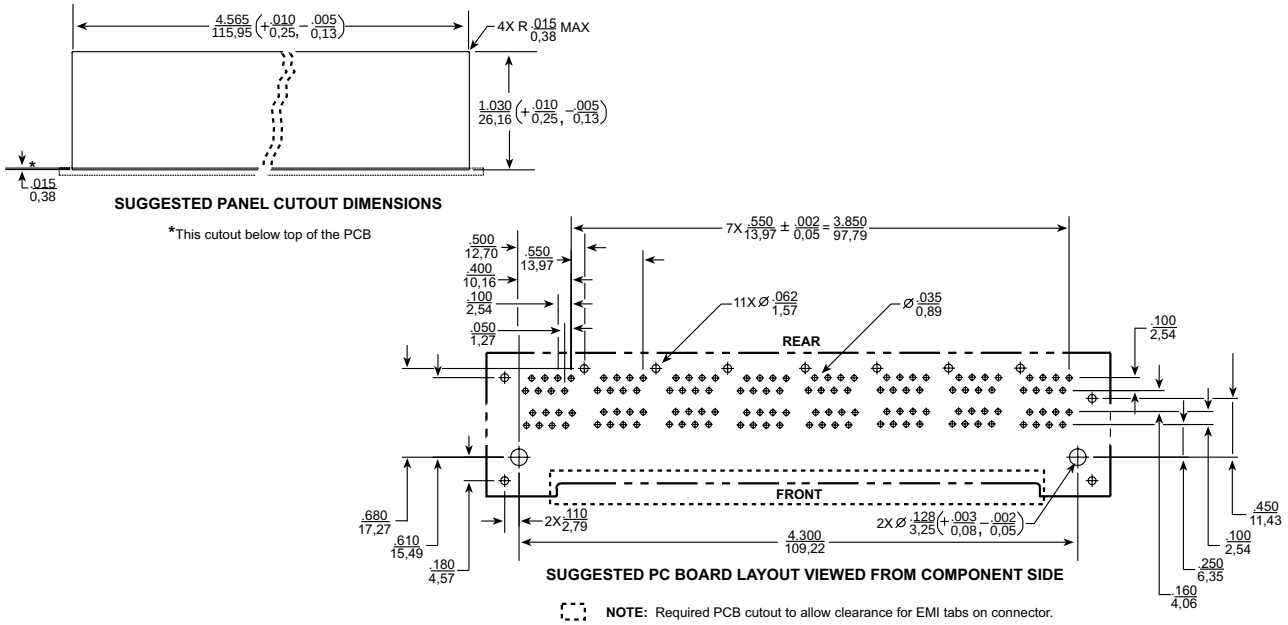
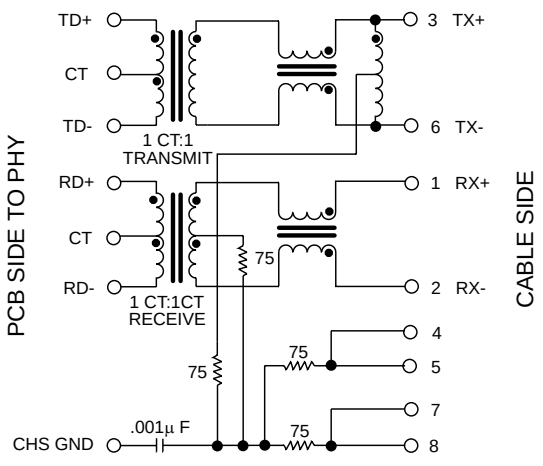
Panel Cutout and PC Board Layout

2 X 8

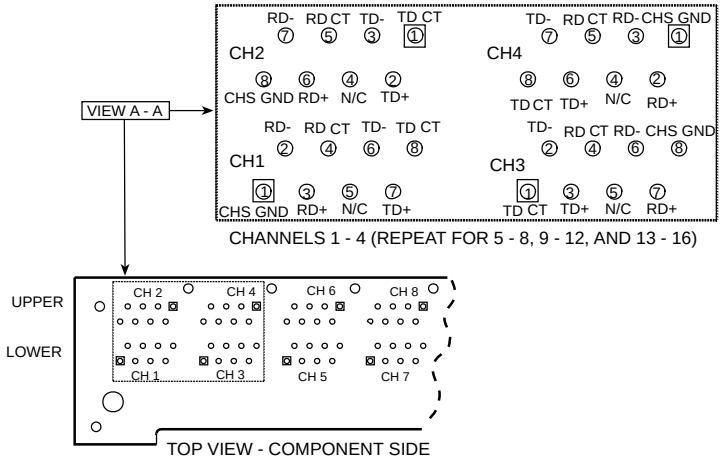


Schematics

J2039



NOTE: Connect CHS GND to PCB ground.



NOTE: This applies to 2x4, 2x6, and 2x8 configurations.

PULSEJACK™ 10/100BASE-TX WITH INTEGRATED MAGNETICS

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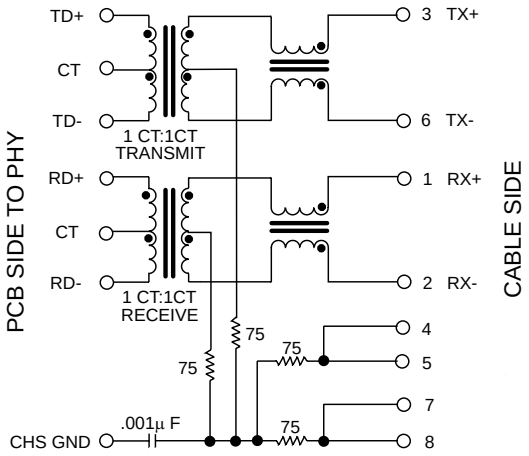
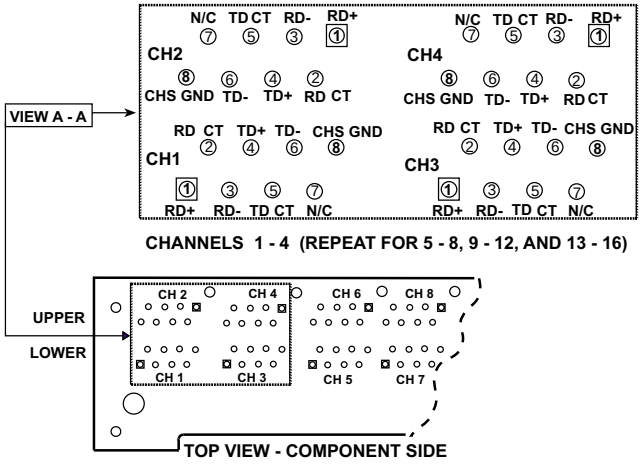
Schematics

J2042

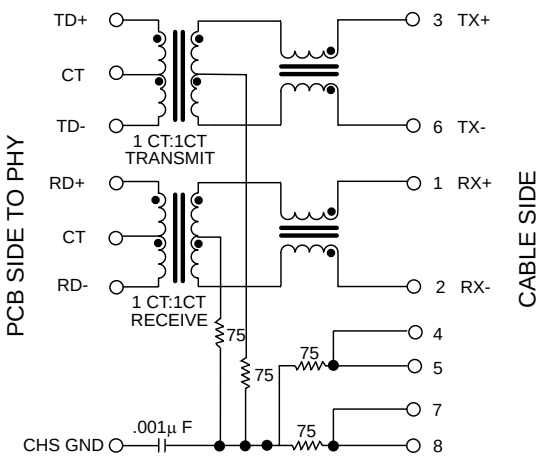


NOTE: Connect CHS GND to PCB ground.

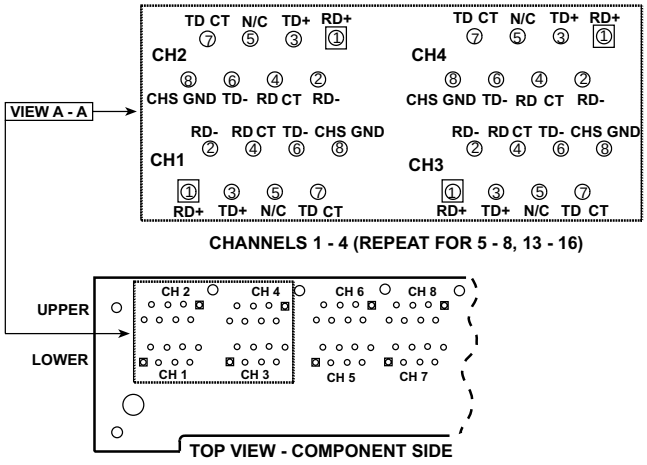


NOTE: This applies to 2x4, 2x6, and 2x8 configurations.

J2045



NOTE: Connect CHS GND to PCB ground.



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Application Notes

Advantages of the PulseJack 2xN Modules

Increased Reliability

Pulse developed a patented method for ensuring the quality, consistency, and connection integrity of encapsulated coils and other three-dimensional electronic components. The InterLock Base consists of an internal plastic carrier that holds the coil firmly in place and provides precisely engineered “lead-channels” to lock together the lead wires and the leadframe pins. All of the InterLock Base interconnections are then simultaneously dip soldered, providing for both efficiency and uniformity for best common mode rejection and crosstalk.

Higher Manufacturing Yields

Because of this Pulse patented higher reliability method, there is less of a chance of opens and shorts, thus providing higher yields.

Consistent Electrical and Magnetic Performance

- With the coils appearing in the same position on all parts, there are more consistent readings for all the functional tests involved. This is most evident on the crosstalk, common mode rejection and return loss.
- With the selection of common mode material and winding techniques, common mode noise rejection maintains integrity to higher frequencies.
- Multiple tabs around the shield to ground, the shield to chassis, and shunt noise to ground.

Materials

Housing	Thermoplastic UL94V-0
Contacts	Nickel underplating; selective gold plating 50 µ inch MIN
PCB Pins	Nickel plating; selective tin plating
Shield	Phosphorous bronze with nickel plating

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