PULSEJACK™
2XN Gigstack Designed to support Vitesse/Cicada Transceivers

Pulse
A TECHNITROL COMPANY

Description:

10/100/1000 Base-TX RJ45 2XN Integrated Magnetics Connector without LEDs, designed to support such applications as: LAN-on-Motherboard (LOM), Hub and Switches.

Features and Benefits:

- SimpliPHY'd™ magnetics, designed for CICADA's Gigabit PHY
- RJ45 2XN Tab-UP 10-pin RJ45 with internal magnetics
- Options: 2X4 and 2X6 10/100/1000 Base-TX
- Suitable for CAT 5 or 6 Fast Ethernet cable or better UTP
- Internal magnetics are 100% electrically tested for HI-POT and functionality

Electrical Performance Summary:

- Internal magnetics options available
- Meets or exceeds IEEE 802.3ab standard for 1000Base-T
- 350 µH minimum OCL with 8 mA bias current
- High performance for maximum EMI suppression
- Minimum 1500 Vrms isolation per IEEE 802.3 requirement

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

New [3] Part Number (Number of Ports)	Insertion Loss TX/RX (dB TYP)	Return Loss (dB TYP) 100 Ω (±15 Ω)			Crosstalk (dB TYP)			Common Mode Rejection (dB TYP)		Hipot (MIN)
	1-125	1-40 MHz	60 MHz	100 MHz	1-10 MHz	30-60 MHz	60-100 MHz	1-50 MHz	50-130 MHz	@60 Hz 1 MIN
JC0-0341 (2X4)	-1.0	-18	-14	-10	-40	-35	-30	-30	-20	1500 Vrms
JC0-0142 (2X6)	-1.0	-18	-14	-10	-40	-35	-30	-30	-20	1500 Vrms

NOTES:

1. Both transmit and receive channels meet IEEE 802.3 specifications.
2. Different electrical and mechanical specifications can be accommodated. Contact Pulse Applications Engineering.

RJ45 Durability Testing Rating

Part Number	Mating Force (MAX)	Unmating Force (MAX)	Durability	Plug to Jack Retention (MIN)
JC Series	5 lbs./2.268 kgs.	5 lbs./2.268 kgs.	750 Insertions	20 lbs./9.072 kgs.

RJ45 Material Specification

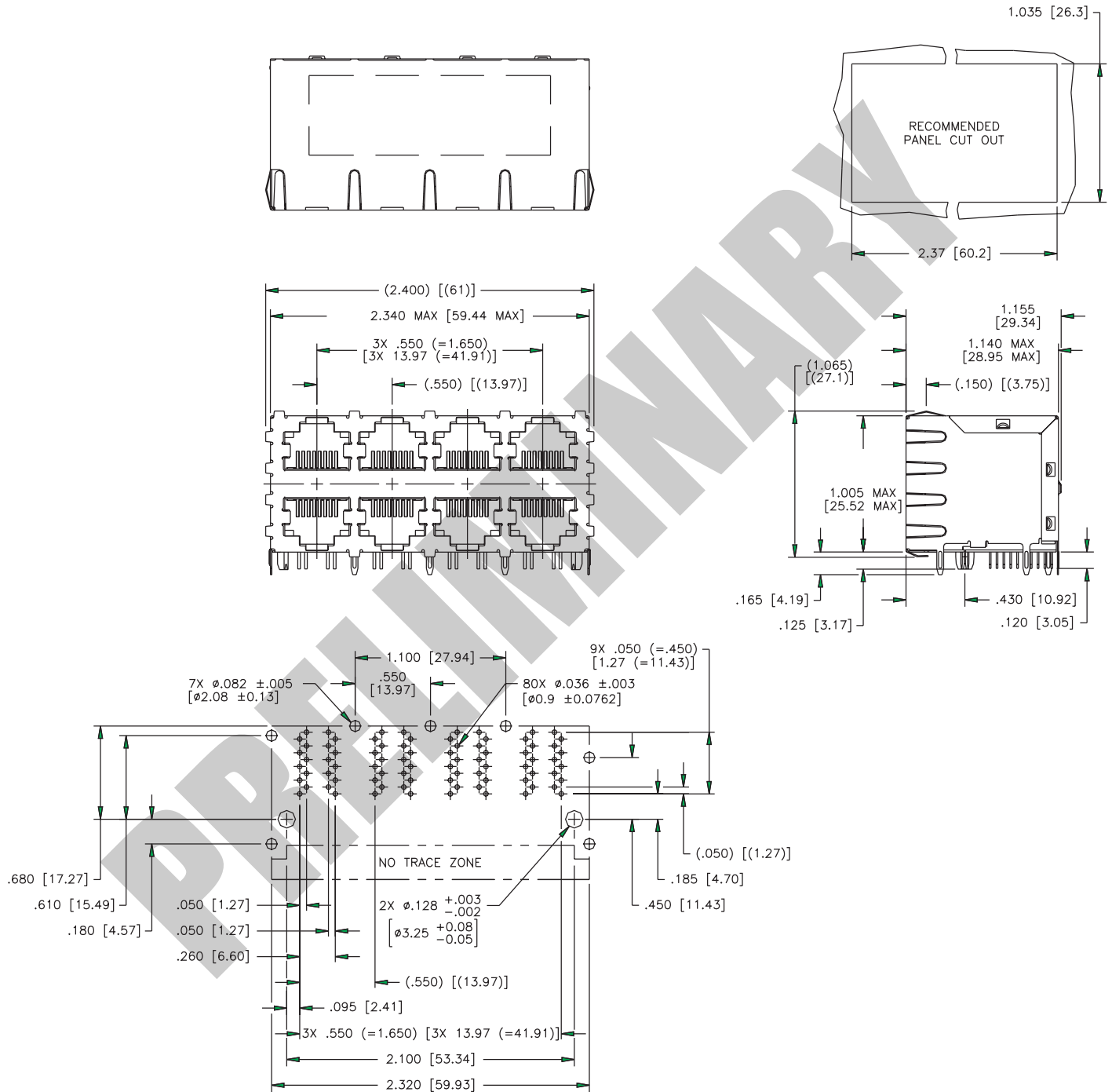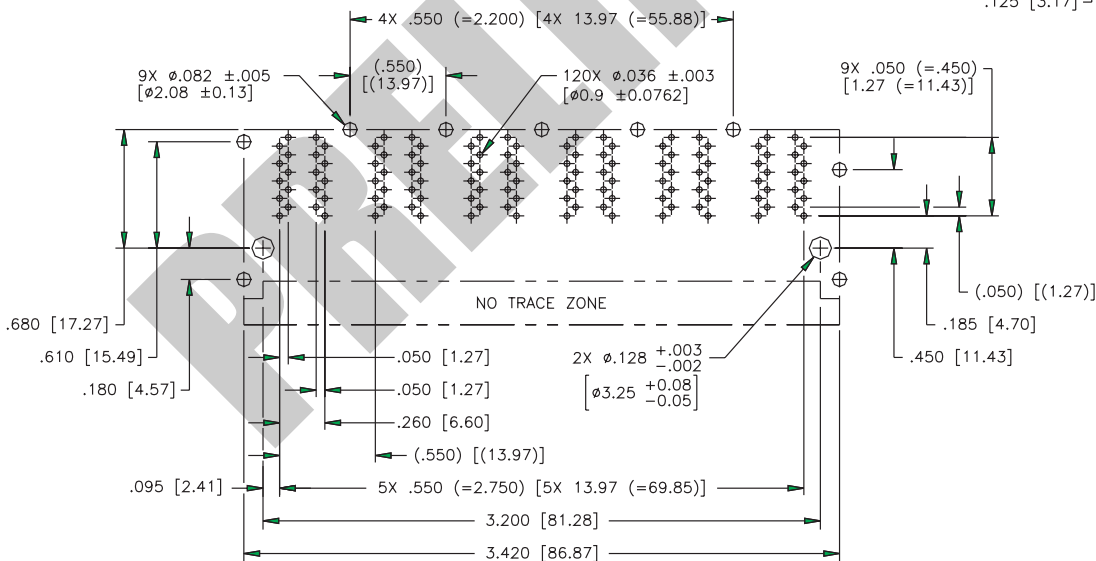| Part Number	Shield		Contact			Housing	
	Material	Finish	Material	Plating Area	Solder Area	Material	Specification
JC Series	Brass	20-40µ inches thick nickel over brass	Phosphor Bronze	15µ inches gold over 30-80µ inches nickel	75-300µ inches tin-lead over 50-100µ inches nickel	Thermoplastic	UL 94 V-0

Notes:

1. All connector part numbers starting with the series prefix JC comply to the above limits.
2. Connector dimensions comply with FCC dimension requirements.

Mechanicals

JC0-0341

1.035 [26.3]

RECOMMENDED PANEL CUT OUT

2.37 [60.2]

(2.400) [(61)]
2.340 MAX [59.44 MAX]
3X .550 (=1.650) [3X 13.97 (=41.91)]
(.550) [(13.97)]

1.155 [29.34]
1.140 MAX [28.95 MAX]
(.150) [(3.75)]
(1.065) [(27.1)]
1.005 MAX [25.52 MAX]
.165 [4.19]
.125 [3.17]
.430 [10.92]
.120 [3.05]

1.100 [27.94]
.550 [13.97]
7X Ø.082 ±.005 [Ø2.08 ±0.13]
9X .050 (=.450) [1.27 (=11.43)]
80X Ø.036 ±.003 [Ø0.9 ±0.0762]

NO TRACE ZONE

.680 [17.27]
.610 [15.49]
.180 [4.57]
.050 [1.27]
.050 [1.27]
.260 [6.60]

(.050) [(1.27)]
.185 [4.70]
.450 [11.43]

2X Ø.128 +.003 −.002 [Ø3.25 +0.08 −0.05]

(.550) [(13.97)]
.095 [2.41]
3X .550 (=1.650) [3X 13.97 (=41.91)]
2.100 [53.34]
2.320 [59.93]

SUGGESTED PC BOARD LAYOUT VIEWED FROM COMPONENT SIDE
UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE IS ±.002

Mechanicals

JC0-0142

1.035 [26.3]
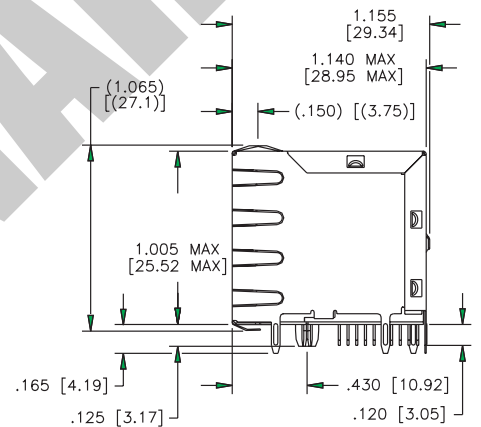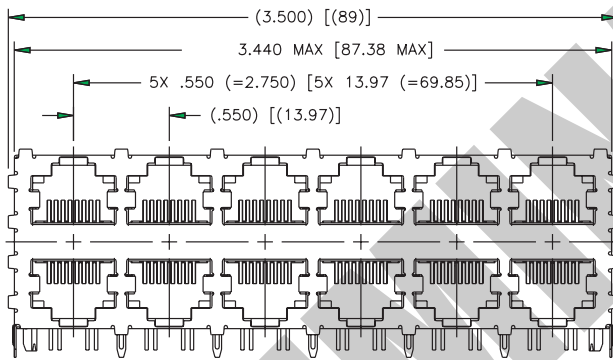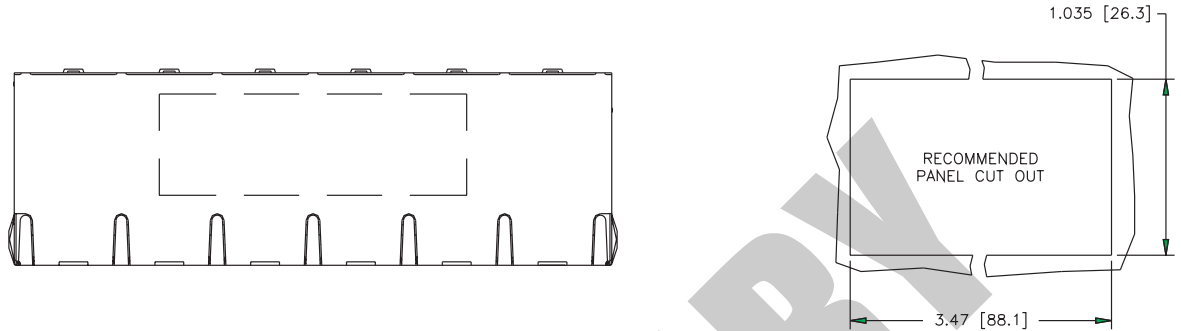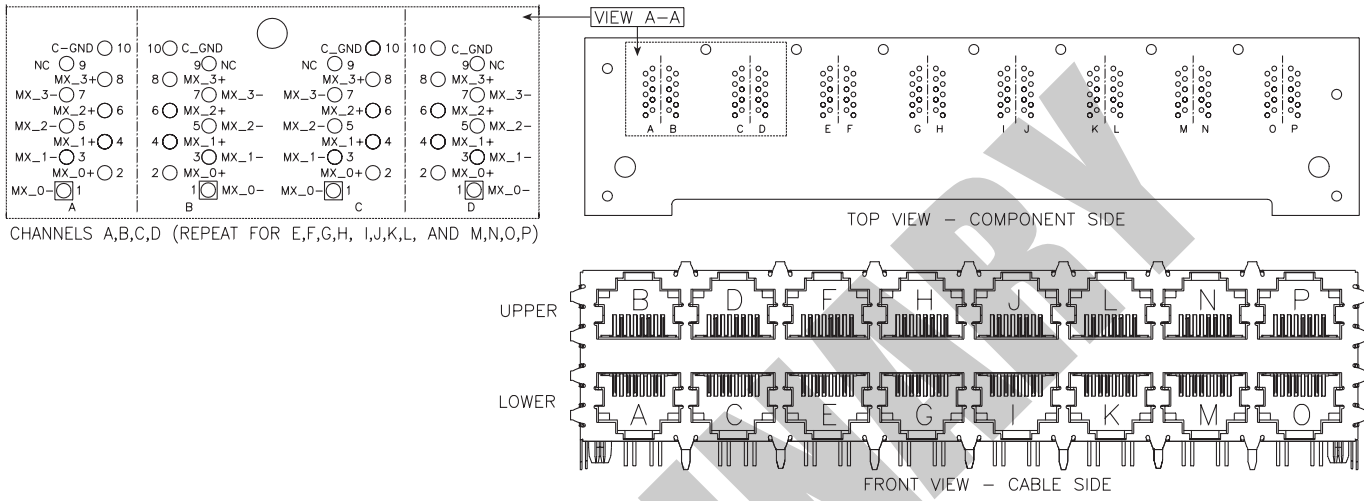
RECOMMENDED PANEL CUT OUT

3.47 [88.1]

(3.500) [(89)]

3.440 MAX [87.38 MAX]

5X .550 (=2.750) [5X 13.97 (=69.85)]

(.550) [(13.97)]

1.155 [29.34]

1.140 MAX [28.95 MAX]

(1.065) [(27.1)]

(.150) [(3.75)]

1.005 MAX [25.52 MAX]

.165 [4.19]

.125 [3.17]

.430 [10.92]

.120 [3.05]

4X .550 (=2.200) [4X 13.97 (=55.88)]

9X ⌀.082 ±.005 [⌀2.08 ±0.13]

(.550) [(13.97)]

120X ⌀.036 ±.003 [⌀0.9 ±0.0762]

9X .050 (=.450) [1.27 (=11.43)]

NO TRACE ZONE

(.050) [(1.27)]

.185 [4.70]

.680 [17.27]

.610 [15.49]

.180 [4.57]

.050 [1.27]

.050 [1.27]

.260 [6.60]

2X ⌀.128 +.003 −.002

[⌀3.25 +0.08 −0.05]

.450 [11.43]

(.550) [(13.97)]

.095 [2.41]

5X .550 (=2.750) [5X 13.97 (=69.85)]

3.200 [81.28]

3.420 [86.87]

SUGGESTED PC BOARD LAYOUT VIEWED FROM COMPONENT SIDE
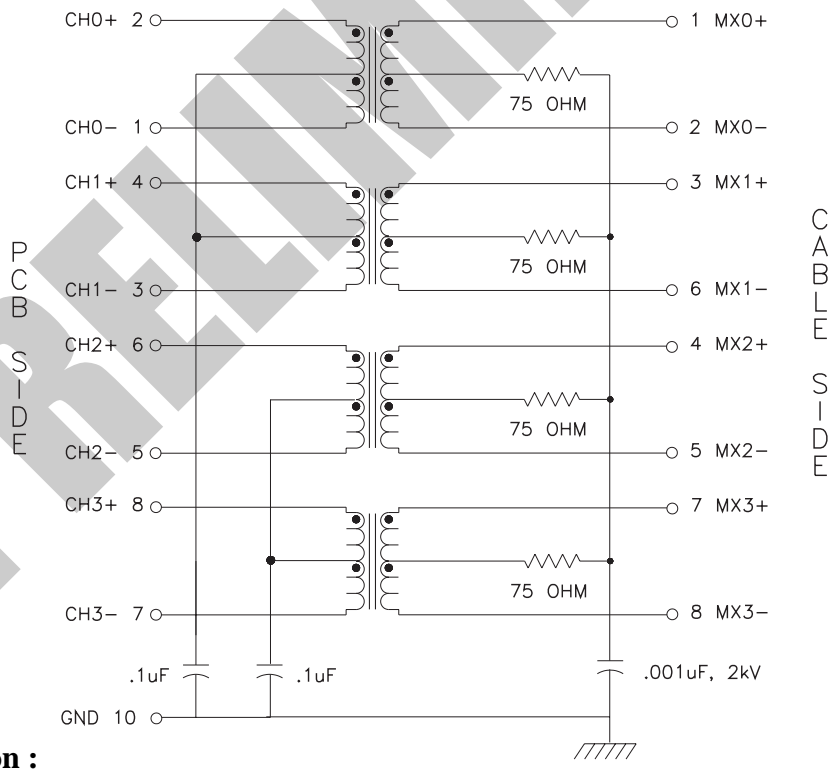UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE IS ±.002

PULSEJACK™
2XN Gigstack Designed to support Vitesse/Cicada Transceivers

Pulse — A TECHNITROL COMPANY

www.pulseeng.com

Mechanicals

JC0-0341/JC0-0142

VIEW A-A

CHANNELS A,B,C,D (REPEAT FOR E,F,G,H, I,J,K,L, AND M,N,O,P)

TOP VIEW – COMPONENT SIDE

UPPER — B D F H J L N P
LOWER — A C E G I K M O

FRONT VIEW – CABLE SIDE

Schematic


```
PCB SIDE                                          CABLE SIDE

CH0+  2 ---------||---------o  1  MX0+
                            75 OHM
CH0-  1 ---------||---------o  2  MX0-

CH1+  4 ---------||---------o  3  MX1+
                            75 OHM
CH1-  3 ---------||---------o  6  MX1-

CH2+  6 ---------||---------o  4  MX2+
                            75 OHM
CH2-  5 ---------||---------o  5  MX2-

CH3+  8 ---------||---------o  7  MX3+
                            75 OHM
CH3-  7 ---------||---------o  8  MX3-

      .1uF    .1uF        .001uF, 2kV
GND 10
```

For More Information :

PRELIMINARY J417.P (8/04)