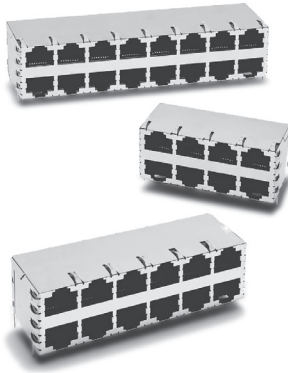# PulseJack®
2xN RJ45 Connector

Description:

100 Base-TX (Fast Ethernet) RJ45 2xN Integrated Connector Module (ICM) with or without LEDs -
Designed to support Switch and Gateway applications.

Features and Benefits:

- *RoHS peak wave solder temperature rating 260°C*
- *Suitable for CAT 5 & 6 Fast Ethernet Cable or better UTP*
- *Internal magnetics are 100% electrically tested for HI-POT and functionality*
- *Internal magnetics options available*
- *350μH minimum OCL with 8mA bias current*
- *High performance for maximum EMI suppression*

Electrical Specifications @ 25°C - Operating Temperature 0°C to +70°C												
RoHS Compliant Part Number (Number of Ports)	No. of Ports	LEDs	Insertion Loss (dB TYP)	Return Loss (dB TYP) 100Ω (±15Ω)				Crosstalk (dB TYP)			Common Mode Rejection (dB TYP)	
		L/R	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
J20-0013NL	4	G/Y, G/Y	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20
J20-0114NL	8	G/Y, G/Y	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20
J20-0115NL	12	G/Y, G/Y	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20
J20-0116NL	16	G/Y, G/Y	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20
JX20-0114NL*	8	G/Y, G/Y	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20
JX20-0115NL*	12	G/Y, G/Y	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20
JX20-0116NL*	16	G/Y, G/Y	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20

Notes:
1. (*) Operating Temperature: -40˚C to +85˚C
2. Bi-color LEDs: G = green; Y = yellow for each port

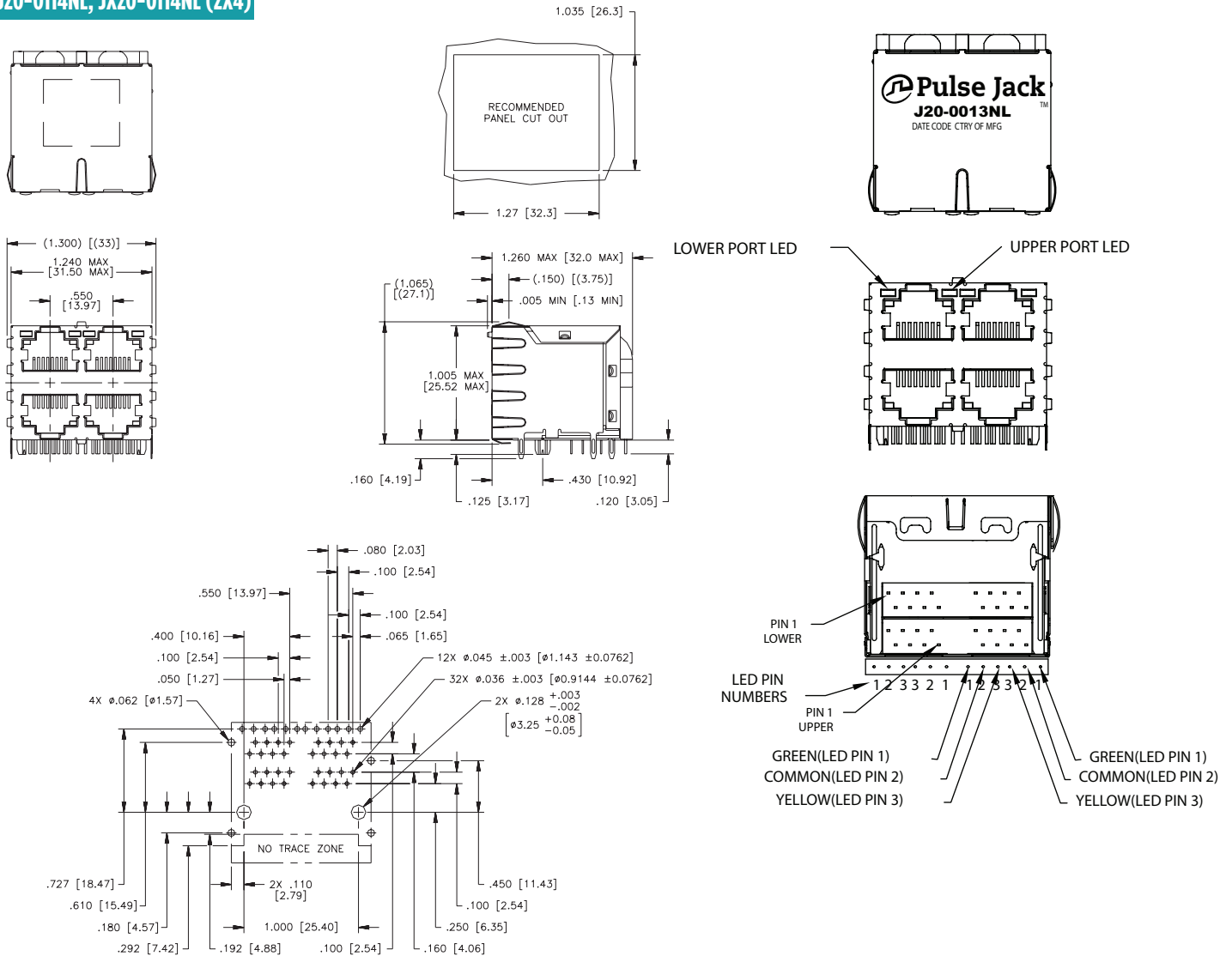| RJ45 Durability Test Rating			
Part Number	Mating Force (MAX)	Unmating Force (MAX)	Durability
J2 and JX2 Series	5 lbs./2.268 kgs.	5 lbs./2.268 kgs.	750 Insertions

PulseJack®
2xN RJ45 Connector

RJ45 Material Specification						
Part Number	Shield		Contact			Housing 2	
	Material	Finish	Material	Plating Area	Solder Area	Material	Specification
J2 and JX2 Series	Brass	10-20µ inches Nickel over 10-20µ inches Brass	Phosphor Bronze	Nickel underplating and selective gold plating 30µ inches	Tin matte finish	Thermoplastic	UL 94 V-0

Notes:

1. All connector part numbers starting with the series prefix J2 and JX2 comply to the above limits. **2.** Connector dimensions comply with FCC dimension requirement.

J2 Series Mechanicals
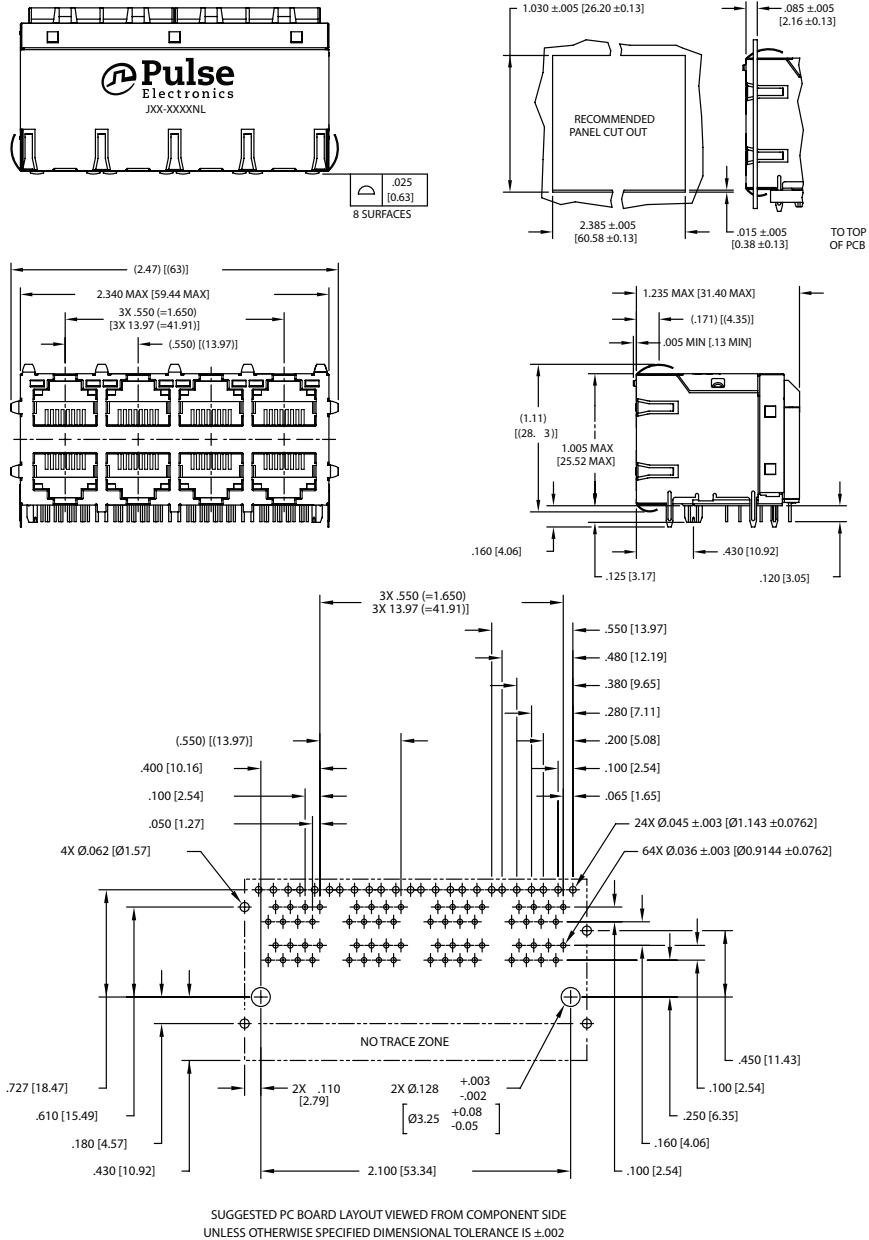
J20-0114NL, JX20-0114NL (2X4)

PulseJack®
2xN RJ45 Connector

J2 Series Mechanicals

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

PulseJack®
2xN RJ45 Connector

J2 Series Mechanicals

Pulse Jack™
JXX-XXXXNL
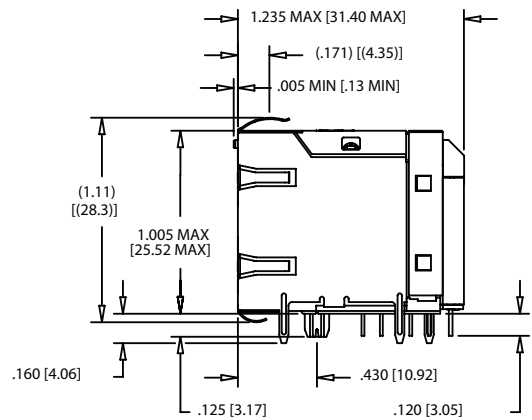DATE CODE CTRY OF MFG

△ .025 [0.63]
12 SURFACES

(3.57) [(91)]

3.440 MAX [87.38 MAX]

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

(.550) [(13.97)]

1.030 ±.005 [26.20 ±0.13]

.085 ±.005 [2.16 ±0.13]

RECOMMENDED PANEL CUT OUT

3.485 ±.005 [88.52 ±0.13]

.015 ±.005 [0.38 ±0.13]

TO TOP OF PCB

1.235 MAX [31.40 MAX]

(.171) [(4.35)]

.005 MIN [.13 MIN]

(1.11) [(28.3)]

1.005 MAX [25.52 MAX]

.160 [4.06]

.125 [3.17]

.430 [10.92]

.120 [3.05]

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

(.550) [(13.97)]

.400 [10.16]

.100 [2.54]

.050 [1.27]

4X Ø.062 [Ø1.57]

36X Ø.045 ±.003 [Ø1.143 ±0.0762]

96X Ø.036 ±.003 [Ø0.9144 ±0.0762]

.550 [13.97]

.480 [12.19]

.380 [9.65]

.280 [7.11]

.200 [5.08]

.100 [2.54]

.065 [1.65]

NO TRACE ZONE

2X .110 [2.79]

2X Ø.128 +.003 -.002

[Ø3.25 +0.08 -0.05]

3.200 [81.28]

.430 [10.92]

.180 [4.57]

.610 [15.49]

.727 [18.47]

.100 [2.54]

.160 [4.06]

.250 [6.35]

.100 [2.54]

.450 [11.43]

SUGGESTED PC BOARD LAYOUT VIEWED FROM COMPONENT SIDE
UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE IS ±.002
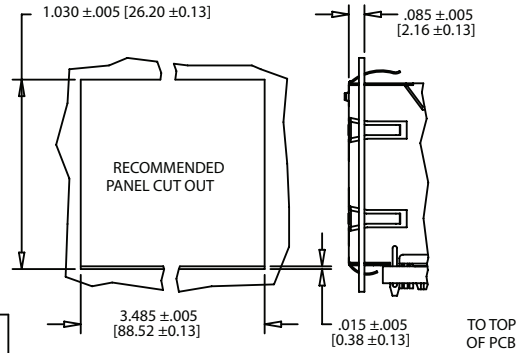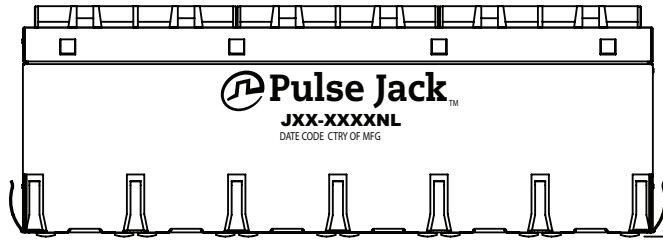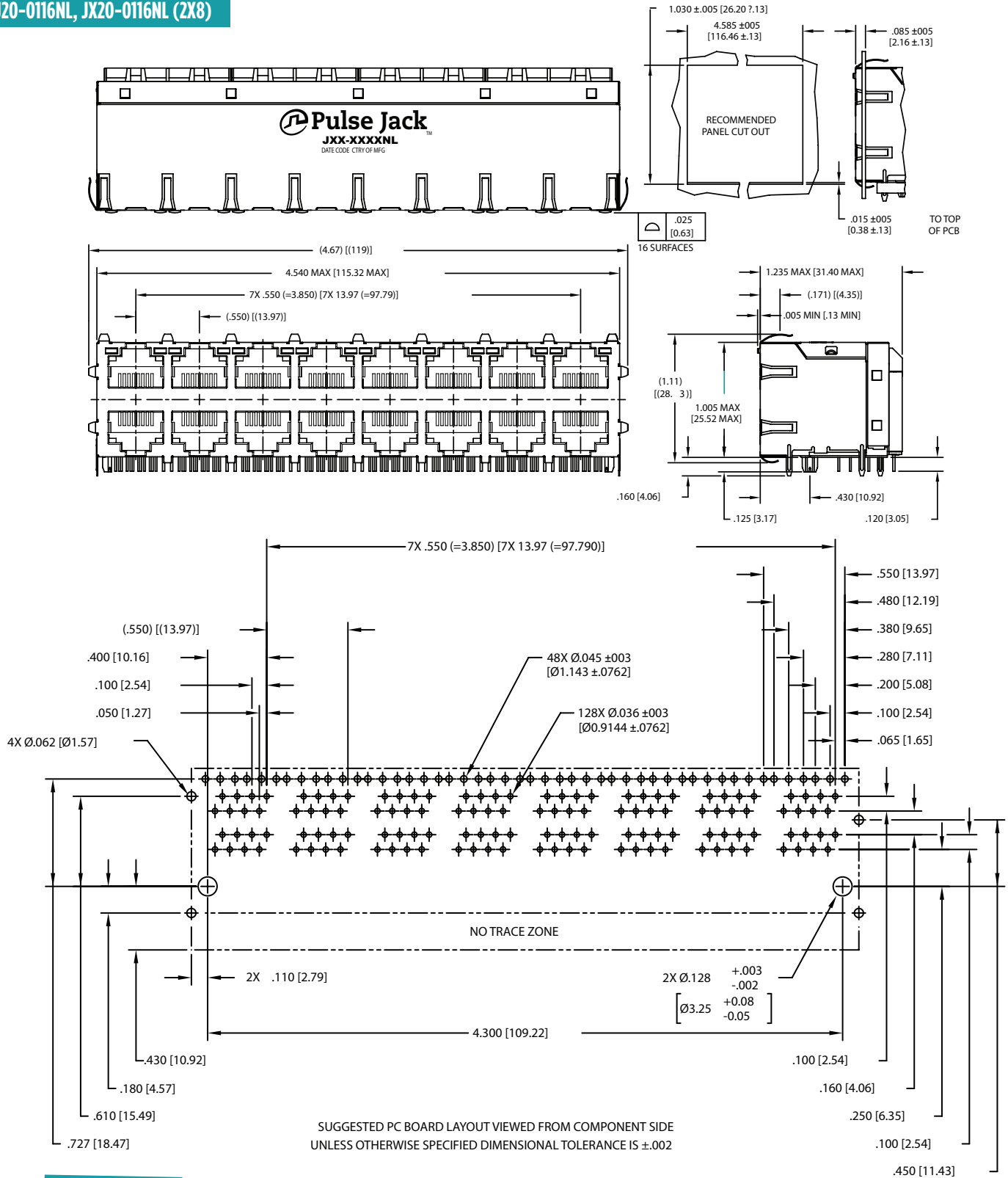
PulseJack®
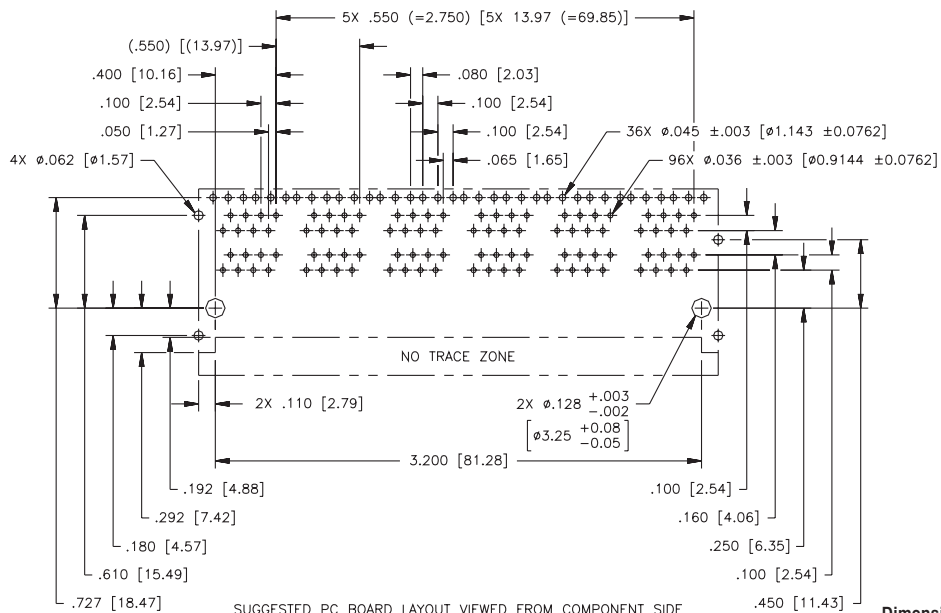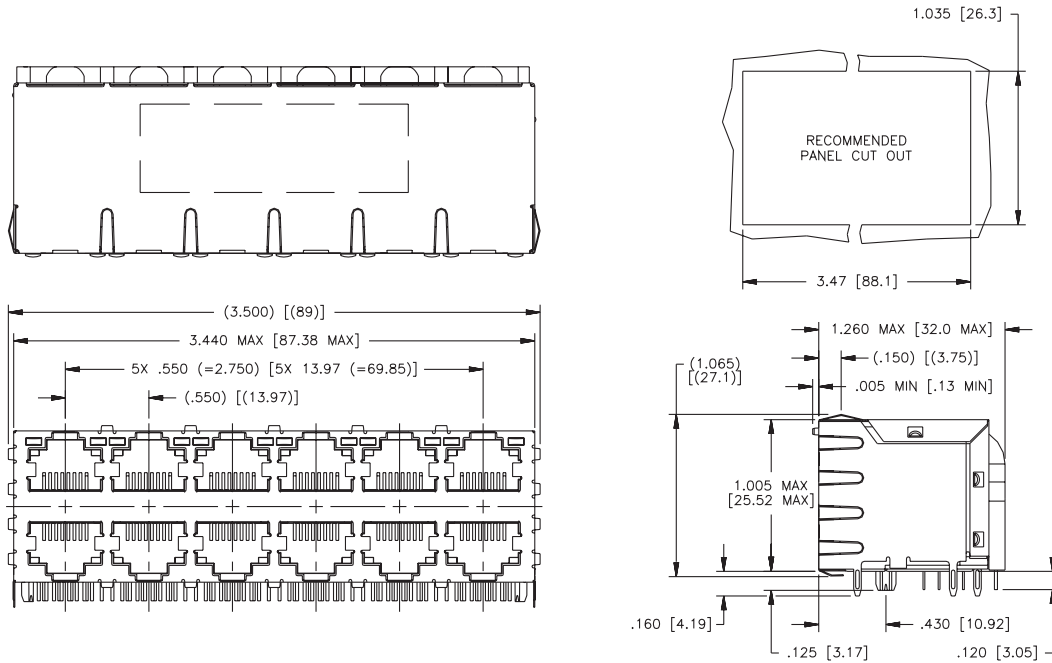## 2xN RJ45 Connector

J2 Series Mechanicals

Pulse Jack™
JXX-XXXXNL
DATE CODE CTRY OF MFG

1.030 ±.005 [26.20 ?.13]
4.585 ±005 [116.46 ±.13]
.085 ±005 [2.16 ±.13]

RECOMMENDED PANEL CUT OUT

.015 ±005 [0.38 ±.13]

TO TOP OF PCB

.025 [0.63]
16 SURFACES

(4.67) [(119)]
4.540 MAX [115.32 MAX]
7X .550 (=3.850) [7X 13.97 (=97.79)]
(.550) [(13.97)]

1.235 MAX [31.40 MAX]
(.171) [(4.35)]
.005 MIN [.13 MIN]

(1.11) [(28. 3)]
1.005 MAX [25.52 MAX]

.160 [4.06]
.125 [3.17]
.430 [10.92]
.120 [3.05]

7X .550 (=3.850) [7X 13.97 (=97.790)]

.550 [13.97]
.480 [12.19]
.380 [9.65]
.280 [7.11]
.200 [5.08]
.100 [2.54]
.065 [1.65]

(.550) [(13.97)]
.400 [10.16]
.100 [2.54]
.050 [1.27]

48X Ø.045 ±003 [Ø1.143 ±.0762]

128X Ø.036 ±003 [Ø0.9144 ±.0762]

4X Ø.062 [Ø1.57]

NO TRACE ZONE

2X .110 [2.79]

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

4.300 [109.22]

.430 [10.92]
.180 [4.57]
.610 [15.49]
.727 [18.47]

.100 [2.54]
.160 [4.06]
.250 [6.35]
.100 [2.54]
.450 [11.43]

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

PulseJack®
2xN RJ45 Connector

J2 Series (With LEDs) Mechanicals (not PoE Enabled)

2 X 6

RECOMMENDED PANEL CUT OUT

1.035 [26.3]

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)]

1.260 MAX [32.0 MAX]
(.150) [(3.75)]
.005 MIN [.13 MIN]
(1.065) [(27.1)]
1.005 MAX [25.52 MAX]
.160 [4.19]
.125 [3.17]
.430 [10.92]
.120 [3.05]

5X .550 (=2.750) [5X 13.97 (=69.85)]
(.550) [(13.97)]
.400 [10.16]
.100 [2.54]
.050 [1.27]
4X ø.062 [ø1.57]
.080 [2.03]
.100 [2.54]
.100 [2.54]
.065 [1.65]
36X ø.045 ±.003 [ø1.143 ±0.0762]
96X ø.036 ±.003 [ø0.9144 ±0.0762]

NO TRACE ZONE

2X .110 [2.79]
2X ø.128 +.003 −.002 [ø3.25 +0.08 −0.05]
3.200 [81.28]
.192 [4.88]
.292 [7.42]
.180 [4.57]
.610 [15.49]
.727 [18.47]
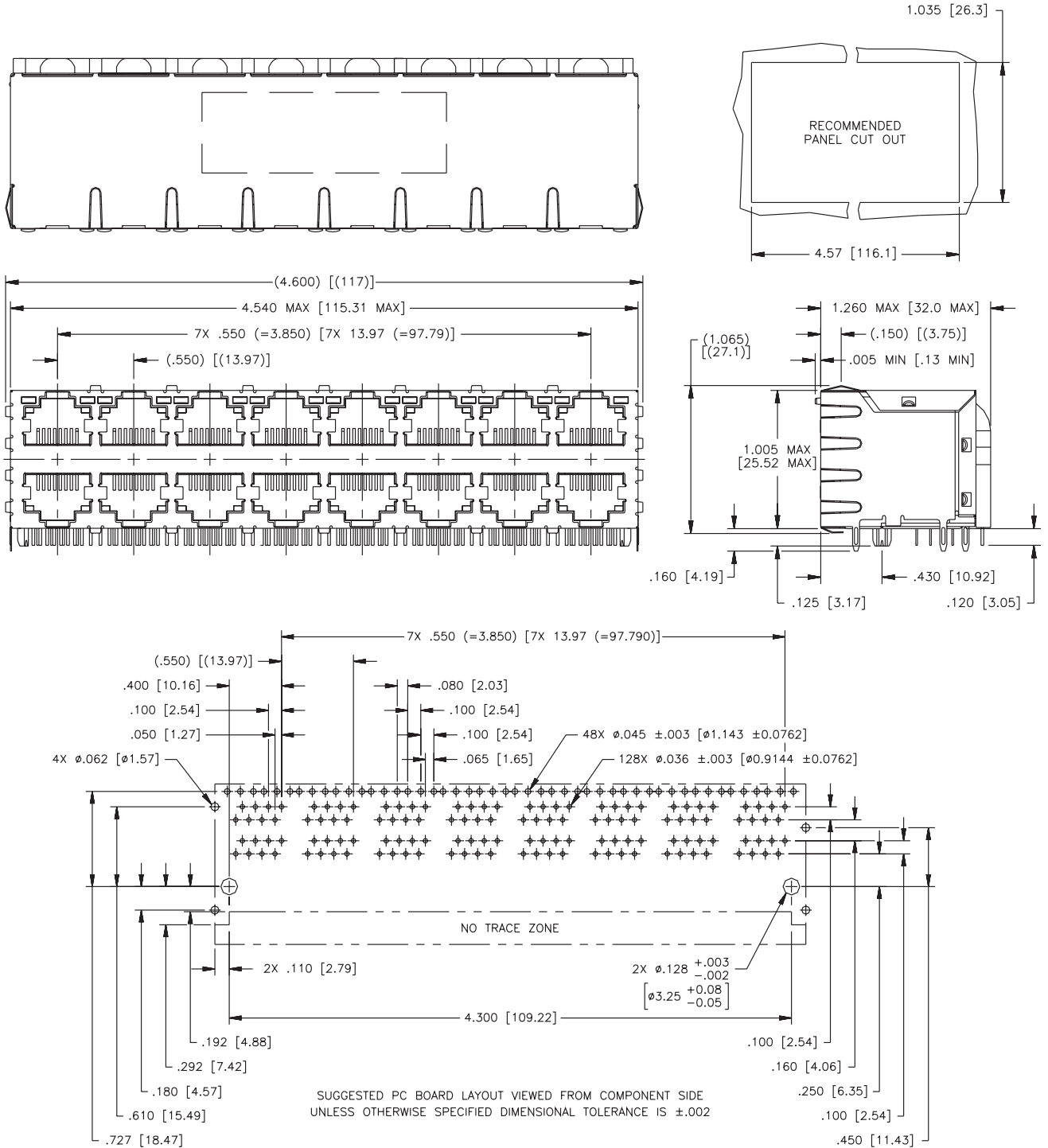.100 [2.54]
.160 [4.06]
.250 [6.35]
.100 [2.54]
.450 [11.43]

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

Dimensions: Inches / mm
Unless otherwise specified,
all tolerances are ± .010 / 0,25

PulseJack®
2xN RJ45 Connector

## J2 Series (With LEDs) Mechanicals (not PoE Enabled)

2 X 8

1.035 [26.3]

RECOMMENDED
PANEL CUT OUT

4.57 [116.1]

(4.600) [(117)]
4.540 MAX [115.31 MAX]
7X .550 (=3.850) [7X 13.97 (=97.79)]
(.550) [(13.97)]

1.260 MAX [32.0 MAX]
(1.065) [(27.1)]
(.150) [(3.75)]
.005 MIN [.13 MIN]
1.005 MAX [25.52 MAX]
.160 [4.19]
.125 [3.17]
.430 [10.92]
.120 [3.05]

7X .550 (=3.850) [7X 13.97 (=97.790)]
(.550) [(13.97)]
.400 [10.16]
.100 [2.54]
.050 [1.27]
4X ø.062 [ø1.57]
.080 [2.03]
.100 [2.54]
.100 [2.54]
.065 [1.65]
48X ø.045 ±.003 [ø1.143 ±0.0762]
128X ø.036 ±.003 [ø0.9144 ±0.0762]

NO TRACE ZONE

2X .110 [2.79]
2X ø.128 +.003 −.002
[ø3.25 +0.08 −0.05]
4.300 [109.22]

.192 [4.88]
.292 [7.42]
.180 [4.57]
.610 [15.49]
.727 [18.47]

.100 [2.54]
.160 [4.06]
.250 [6.35]
.100 [2.54]
.450 [11.43]

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

Dimensions: $\frac{Inches}{mm}$

Unless otherwise specified, all tolerances are ± $\frac{.010}{0,25}$

PulseJack®
2xN RJ45 Connector

J2 Series Electrical Schematics

SCHEMATIC
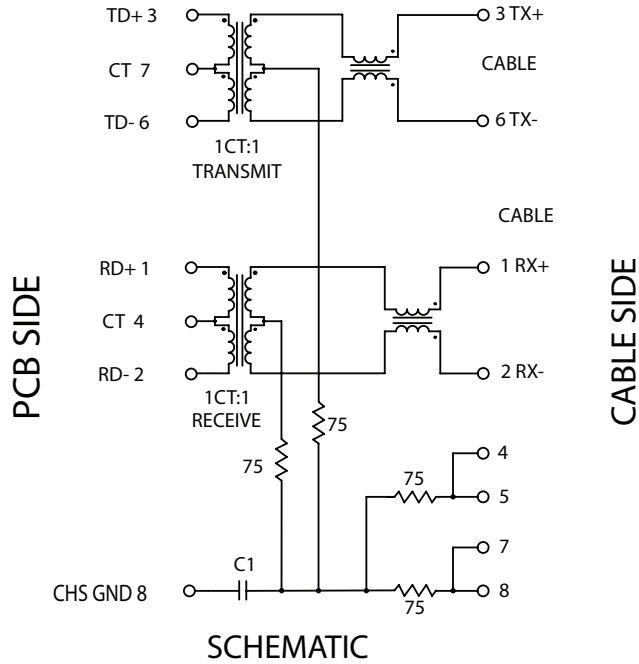
LED Configuration
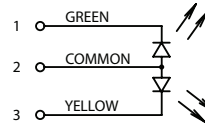
LED ELECTRICAL SPECIFICATIONS		
EMMITTED COLOR	GREEN	YELLOW
WAVE LENGTH (If = 20 mA)	570 nm	590 nm
BRIGHTNESS - MIN TO MAX (mcd) If - (mA)	5 TO 12 20	3.5 TO 8.5 20
VIEWING ANGLE	120°	120°
POWER DISSIPATION (Pd)	85 mW MAXIMUM	85 mW MAXIMUM
FORWARD CURRENT (0.1 mS PULSE)	160 mA MAXIMUM	160 mA MAXIMUM
FORWARD VOLTAGE (Vf) (If = 20 mA)	2.8 V MAXIMUM	2.8 V MAXIMUM

NOTE: PER VENDOR'S SPECIFICATION

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X-ON Electronics

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