

PULSEJACK™

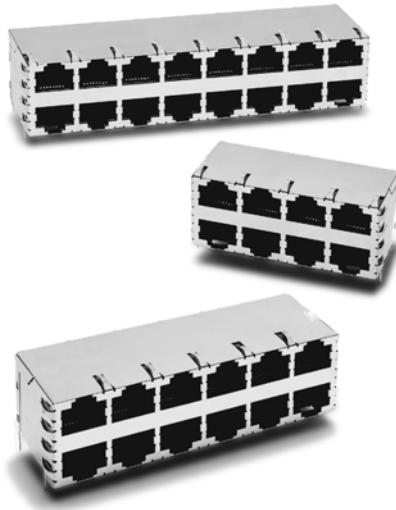
2XN RJ45 Connector



Description:

10/100 Base-TX RJ45 2XN Tab-UP with or without LEDs (J2 series) integrated magnetics connector (ICM), designed to support applications, such as Hub and Switches and Power over Ethernet enabled switch/hub systems.

Features and Benefits:



- RoHS-5 peak wave solder temperature rating 235°C
- RoHS-6 peak wave solder temperature rating 260°C
- 2XN RJ45 with internal magnetics
- Available with or without LEDs
- Power over Ethernet (PoE) Enabled. Compatible to IEEE 802.3af standard**
- Suitable for CAT 5 & 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 802.3i/u/af standard**
- 350µH minimum OCL with 8mA bias current
- High performance for maximum EMI suppression
- Minimum 1500 Vrms isolation per IEEE 802.3i/u/af requirement**

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

RoHS-5 ^{1,6} Compliant Part No.	RoHS-6 ⁷ Compliant Part No.	No. of Ports	Turns ² Ratios		LEDs ³ L/R	PoE ⁴ Enabled	Insertion Loss (dB TYP)		Return Loss (dB TYP) 100Ω ±15Ω					Crosstalk (dB TYP)			Common Mode Rejection (dB TYP)	
			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		
J2039H3 (A,B,C)	—	8,12,16	1CT:1CT	1CT:1CT	None	No	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20		
J2042H3 (A,B,C)	—	8,12,16	1CT:1CT	1CT:1CT	None	No	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20		
J2045H3 (A,B,C)	—	8,12,16	1CT:1CT	1CT:1CT	None	No	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20		
J20-0013	J20-0013NL	4	1CT:1CT	1CT:1CT	G/Y, G/Y	No	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20		
J20-0014	J20-0014NL	8	1CT:1CT	1CT:1CT	G/Y, G/Y	No	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20		
J20-0015	—	12	1CT:1CT	1CT:1CT	G/Y, G/Y	No	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20		
J20-0016	—	16	1CT:1CT	1CT:1CT	G/Y, G/Y	No	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20		
J20-0017 ⁵	—	8	1CT:1CT	1CT:1CT	None	Yes	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20		
J20-0019 ⁵	—	12	1CT:1CT	1CT:1CT	None	Yes	-1	-20	-16	-12	-12	-40	-35	-30	-30	-20		

- Notes: 1. Part numbers code (A,B,C, D): A = 2x4, B = 2x6, C = 2x8, D = 2x2
2. Both transmit and receive channels meet IEEE 802.3 specifications.
3. Bi-color LEDs: G = green; Y = yellow for each port
4. PoE = Power over Ethernet Compatible product, compliant to IEEE 802.3af standard, providing minimum 1.5Kv isolation
5. Contact Pulse for PoE enabled product with LEDs.
6. **RoHS-5** - Product does not contain 5 out of the 6 banned substances specified in the RoHS directive. Product contains lead in applications considered as solders.
7. **RoHS-6** - Product does not contain 5 out of the 6 banned substances specified in the RoHS directive. Some internal connections may contain lead in high temperature solder (solder alloys containing more than 85% lead).

RJ45 Durability Testing Rating

Part Number	Mating Force (MAX)	Unmating Force (MAX)	Durability	Plug to Jack Retention (MIN)
J2 Series	5lbs./2.268kgs.	5lbs./2.268kgs.	750 Insertions	20lbs./9.072kgs.

RJ45 Material Specification

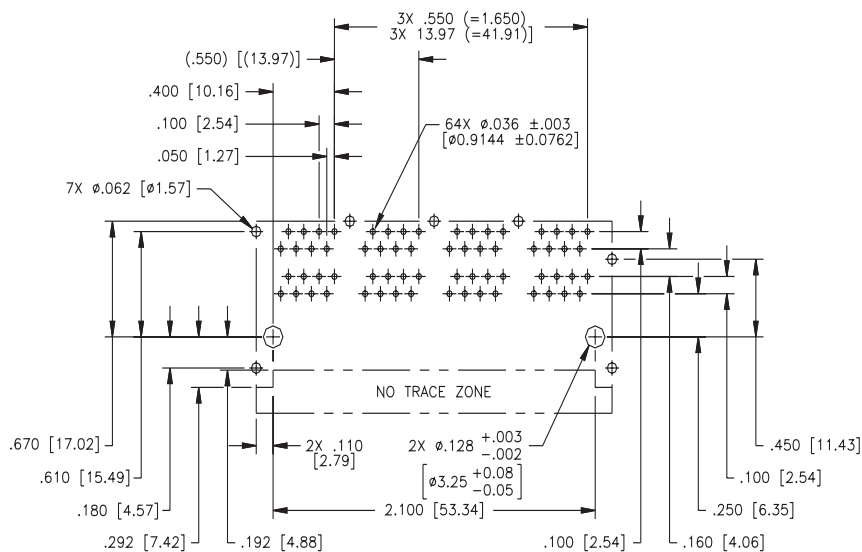
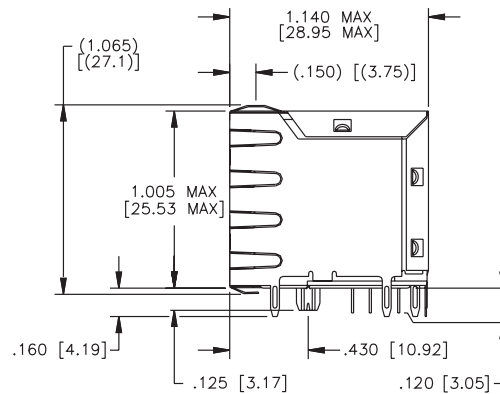
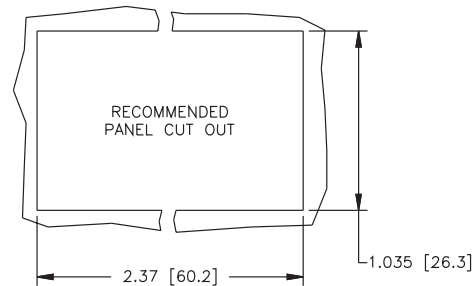
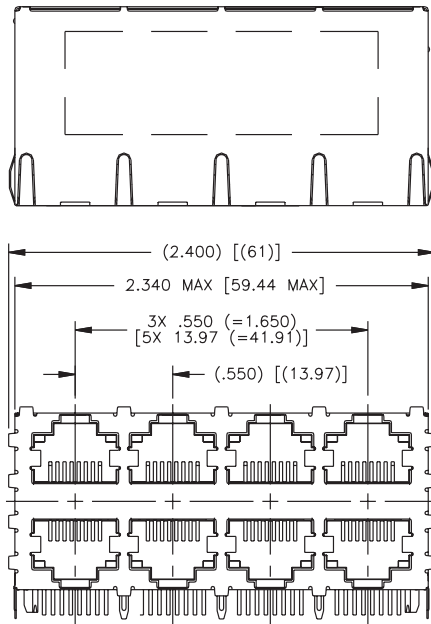
Part Number	Shield		Contact			Housing	
	Material	Finish	Material	Plating Area	Solder Area	Material	Specification
J2 Series	Brass	10-20m inches Nickel over 10-20m inches Brass	Phosphor Bronze	Nickel underplating and selective gold plating 30µ inches	120µ inches Sn90/Pb10 over 50µ inches nickel	Thermoplastic	UL 94 V-0

Notes: 1. All connector part numbers starting with the series prefix J2 comply to the above limits. 2. Connector dimensions comply with FCC dimension requirements.

USA 858 674 8100 • UK 44 1483 401 700 • France 33 3 84 35 04 04 • Singapore 65 6287 8998 • Shanghai 86 21 54643211 / 2 • China 86 769 85538070 • Taiwan 886 3 4641811

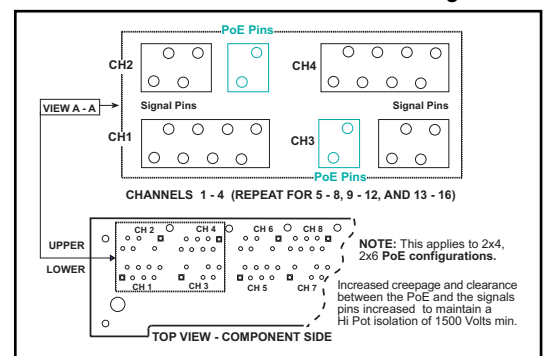
J2 Series (No LEDs) Mechanicals (available PoE Enabled)

2 X 4



SUGGESTED PC BOARD LAYOUT VIEWED FROM COMPONENT SIDE
UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE IS ± 0.02

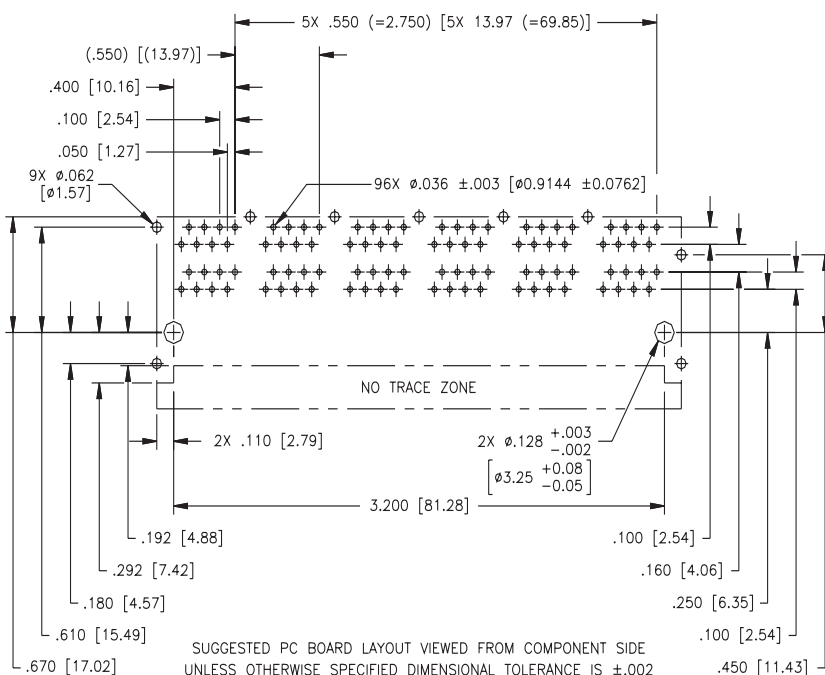
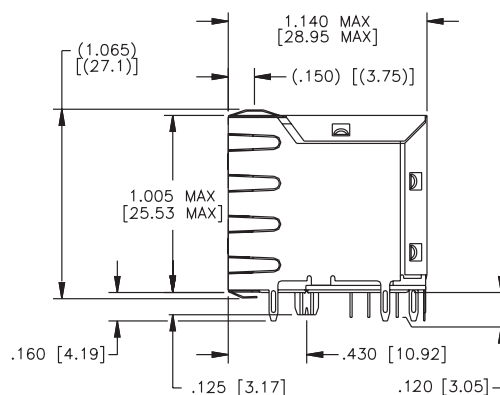
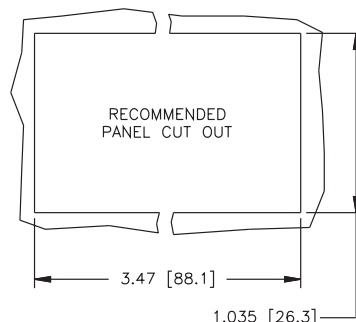
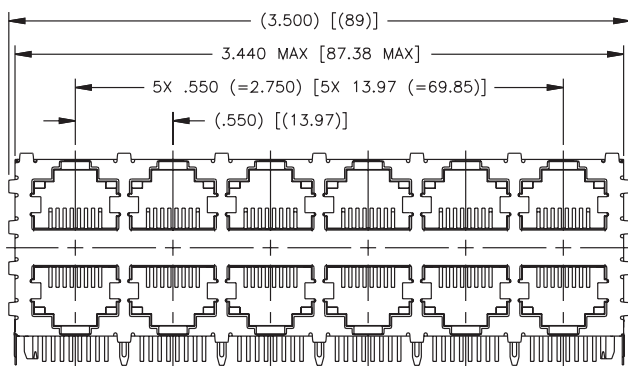
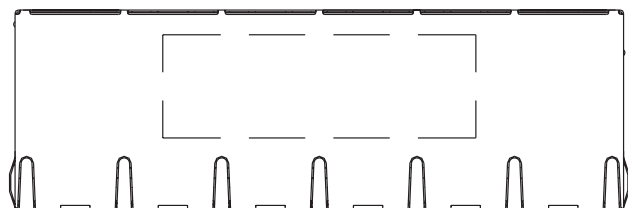
PoE Enabled Connector Pin Out Assignment



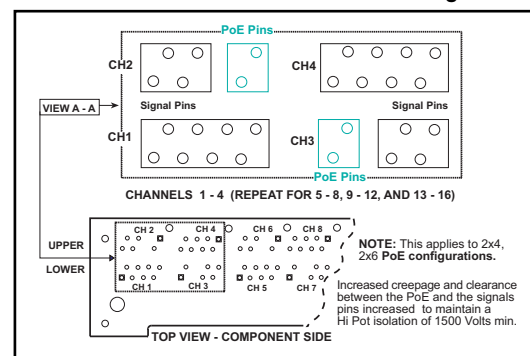
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

J2 Series (No LEDs) Mechanicals (available PoE Enabled)

2 X 6



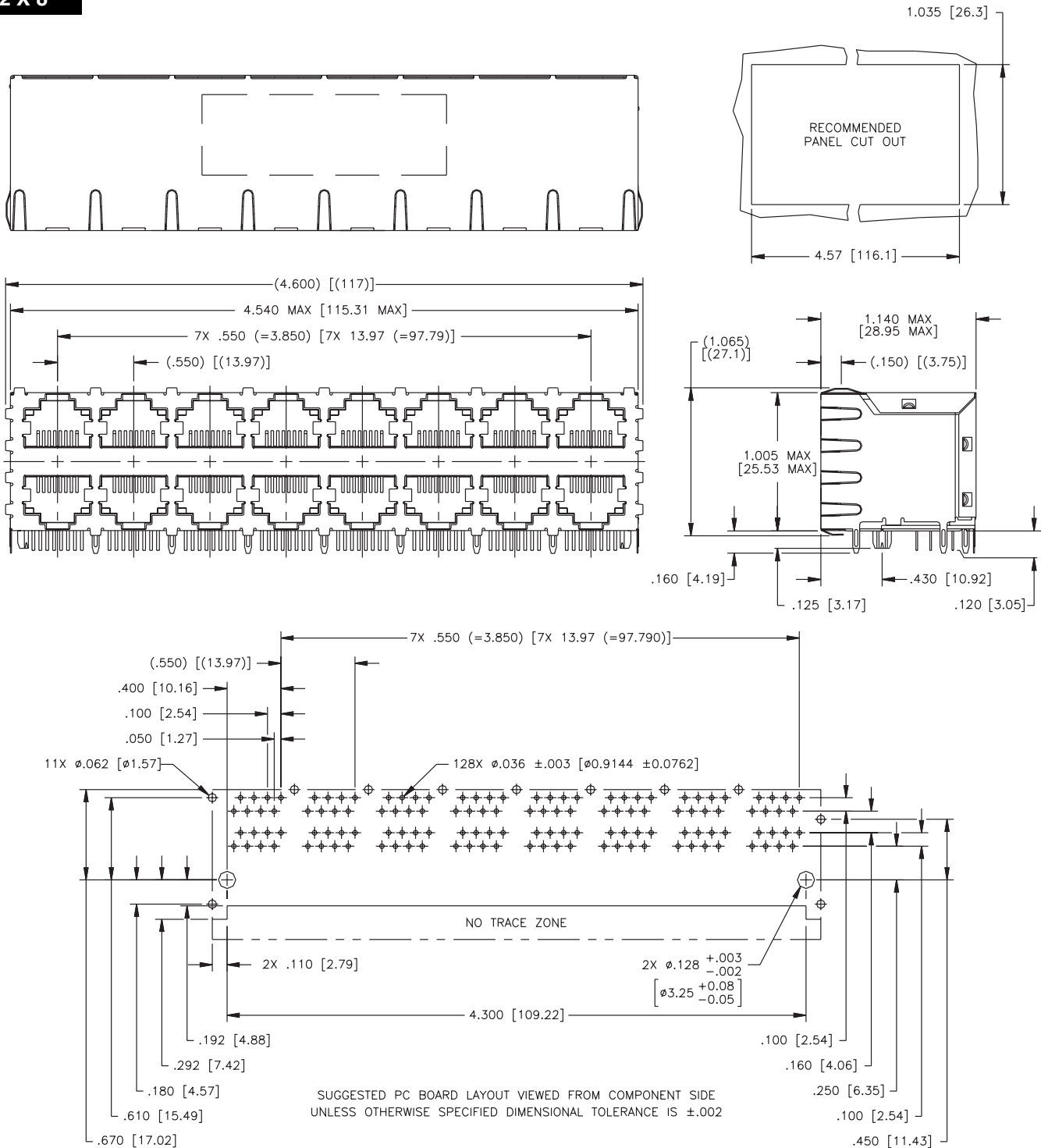
PoE Enabled Connector Pin Out Assignment



Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

J2 Series (No LEDs) Mechanicals (not PoE Enabled)

2 X 8

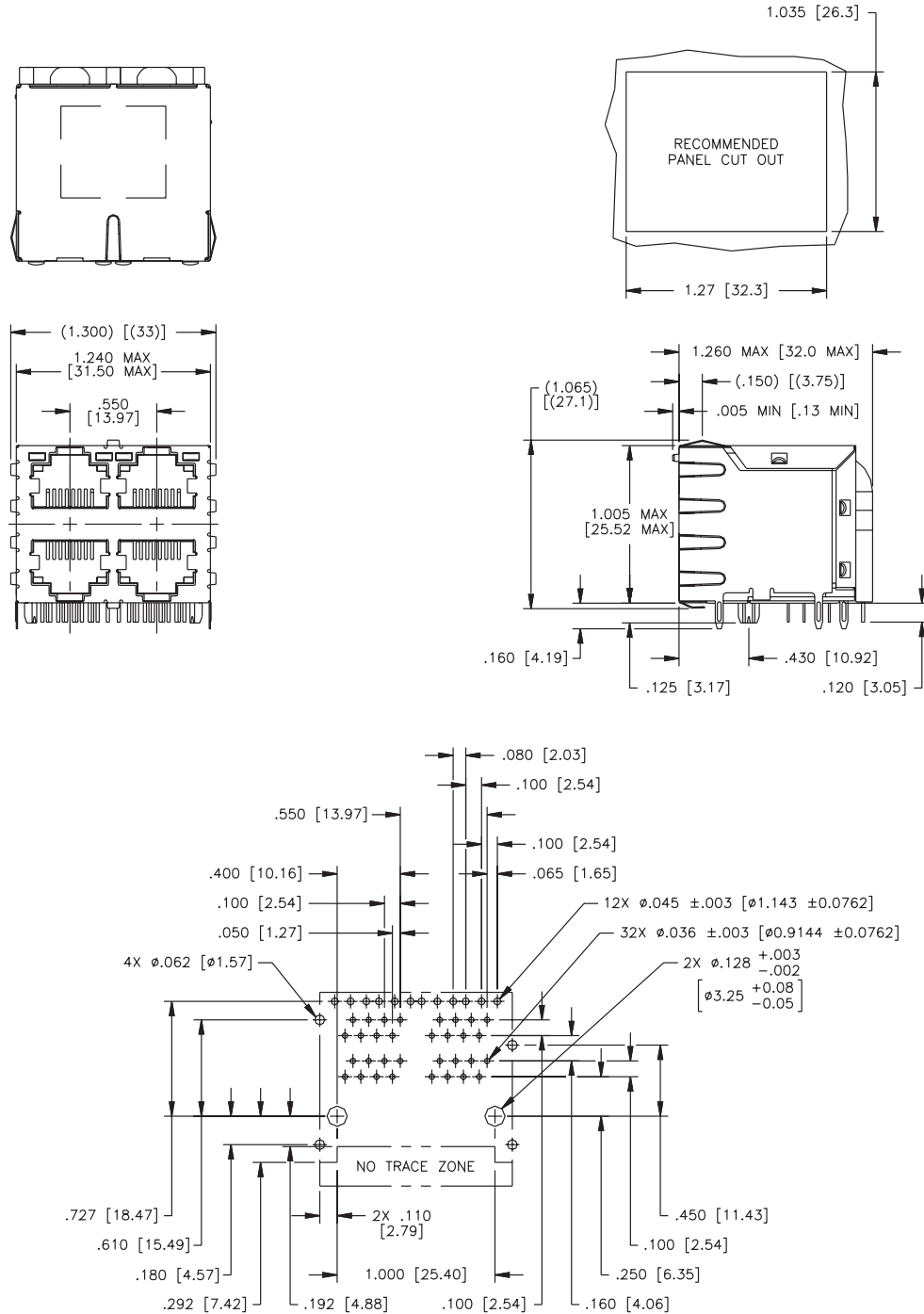


Dimensions: $\frac{\text{Inches}}{\text{mm}}$

mm
Unless otherwise specified, all tolerances are $\pm \frac{.010}{0.25}$

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

2 X 2

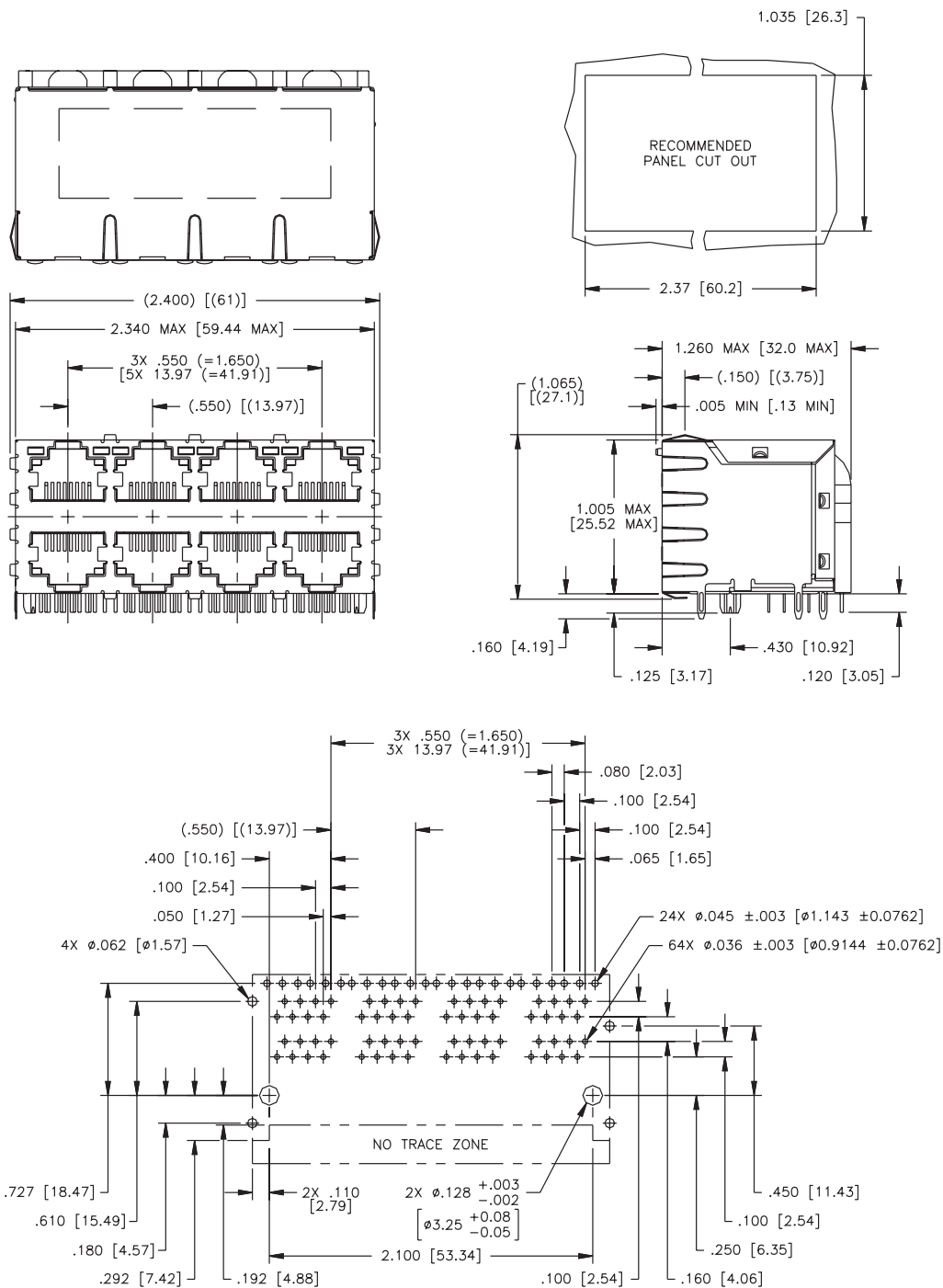


SUGGESTED PC BOARD LAYOUT VIEWED FROM COMPONENT SIDE
UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE IS ± 0.002

Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

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

2 X 4

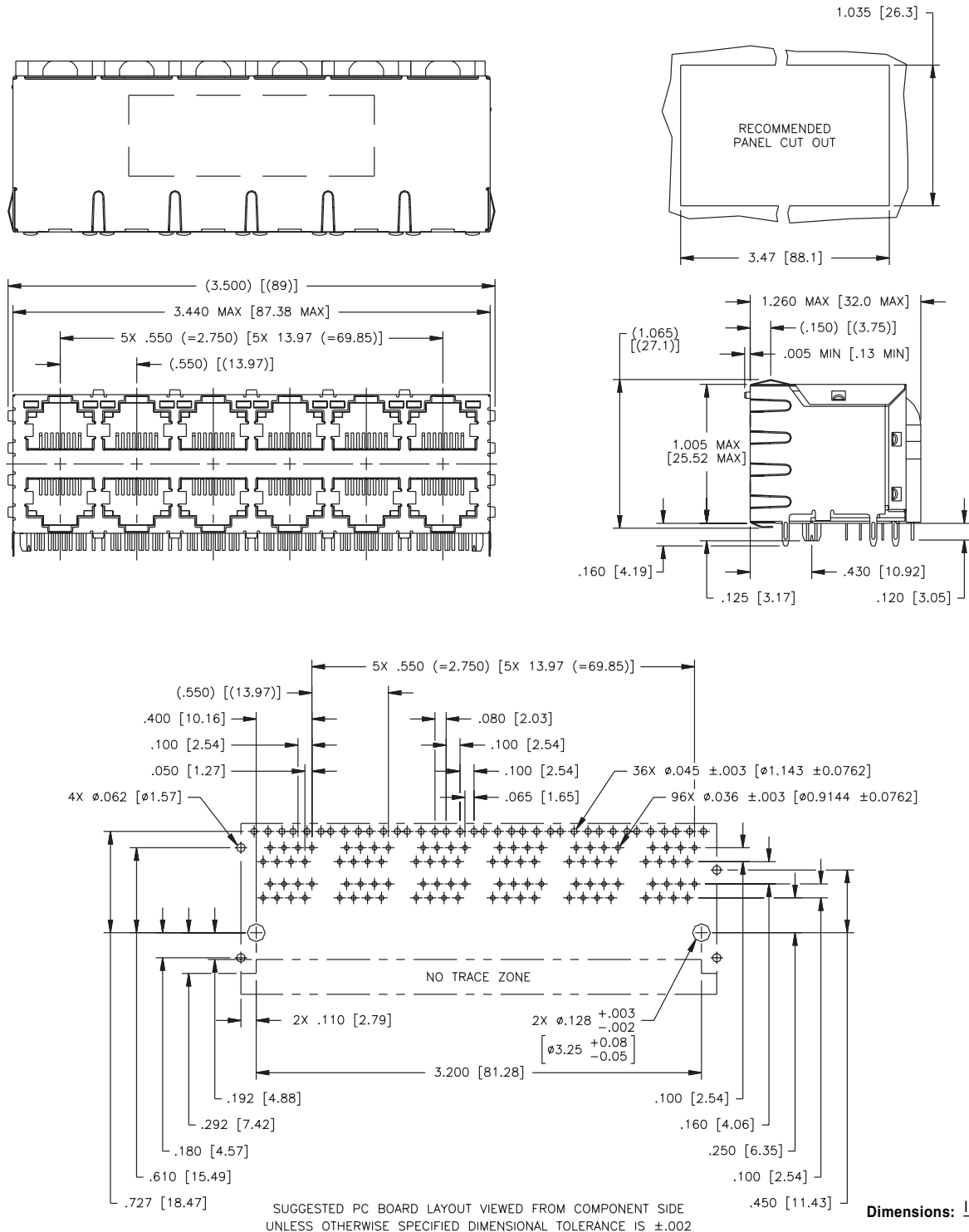


SUGGESTED PC BOARD LAYOUT VIEWED FROM COMPONENT SIDE
UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE IS $\pm .002$

Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

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

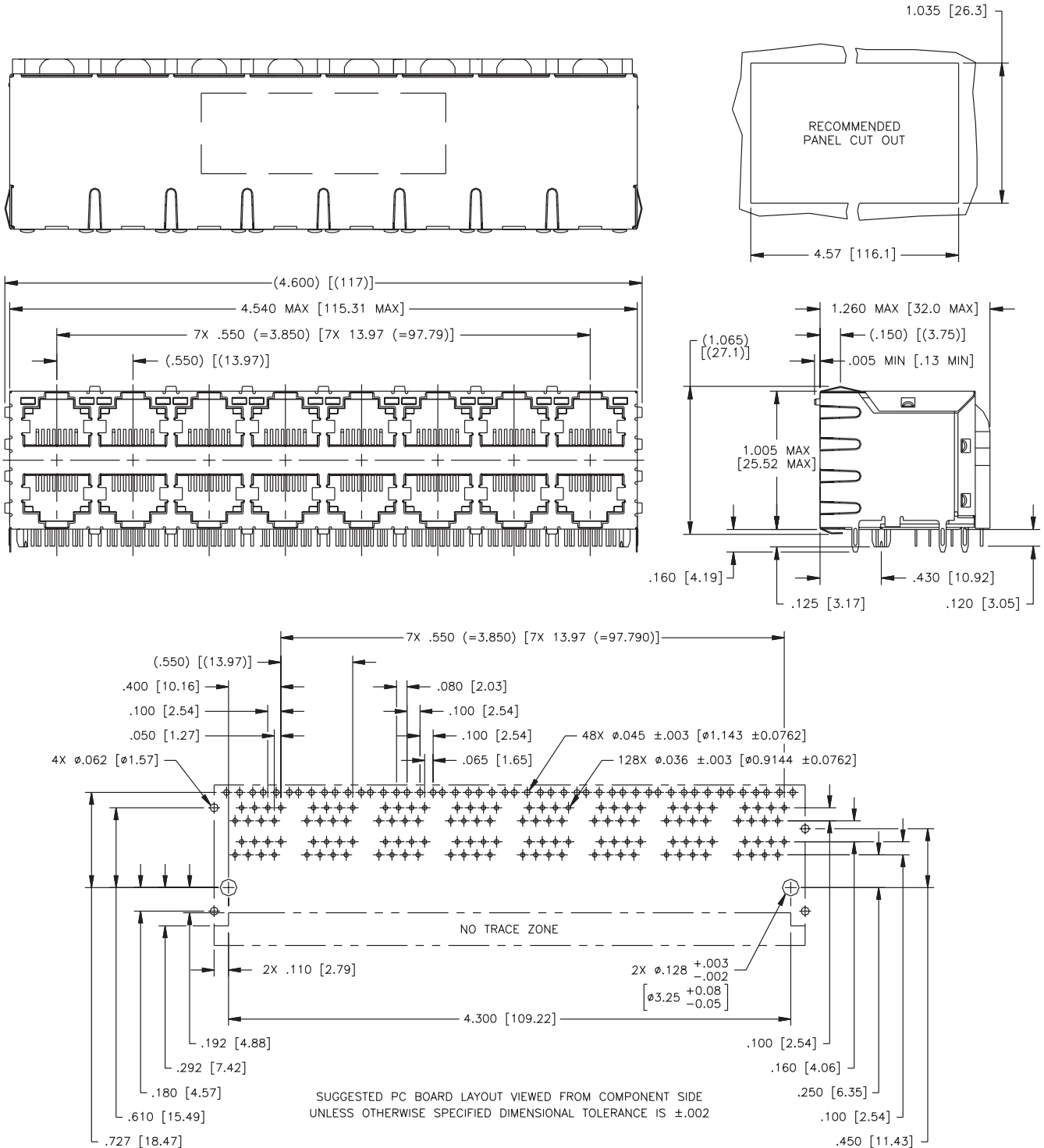
2 X 6



Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

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

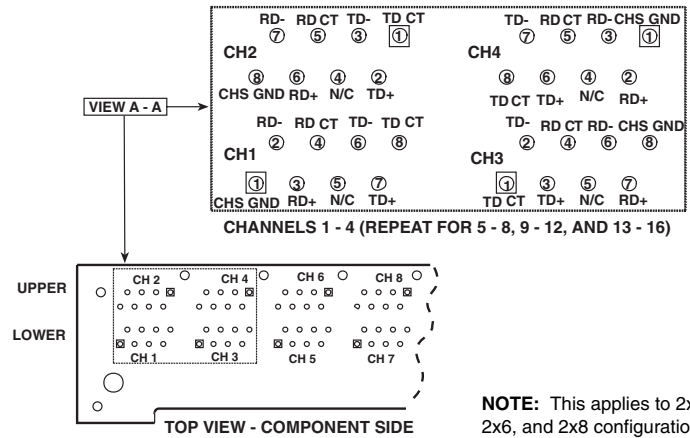
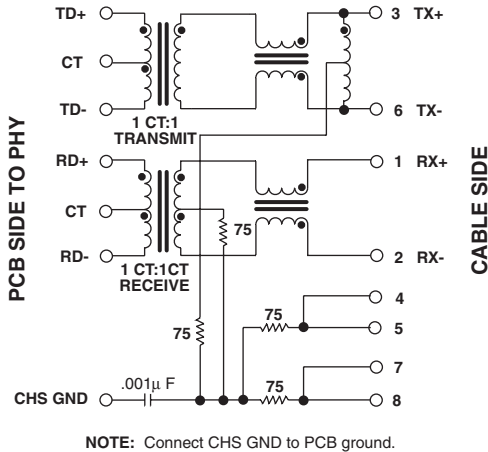
2 X 8



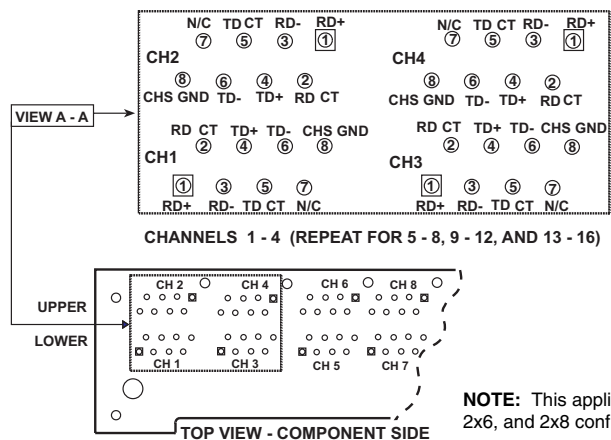
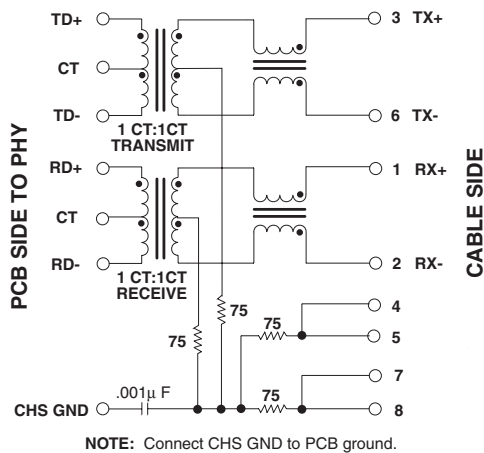
Dimensions: Inches
mm
Unless otherwise specified, all tolerances are ± .010 / 0.25

J2 Series (No LEDs) Schematics (not PoE Enabled)

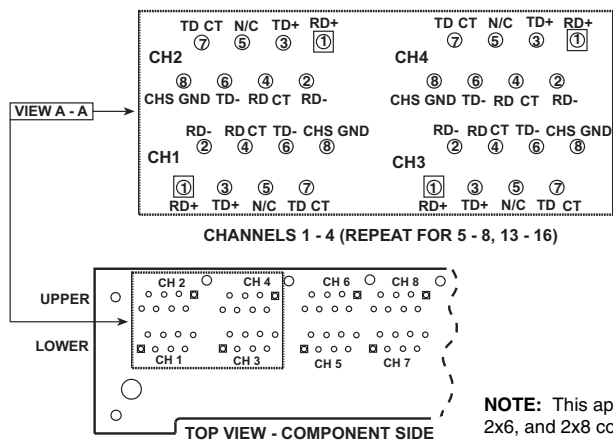
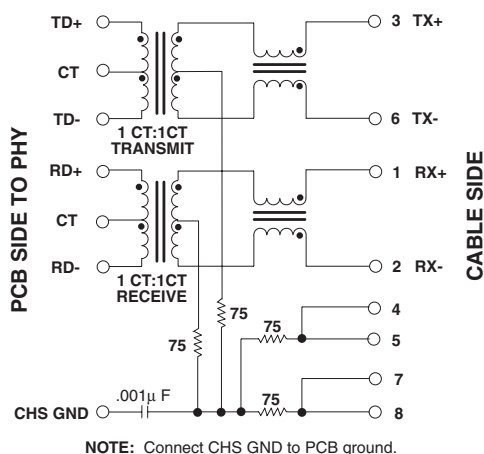
J2039



J2042



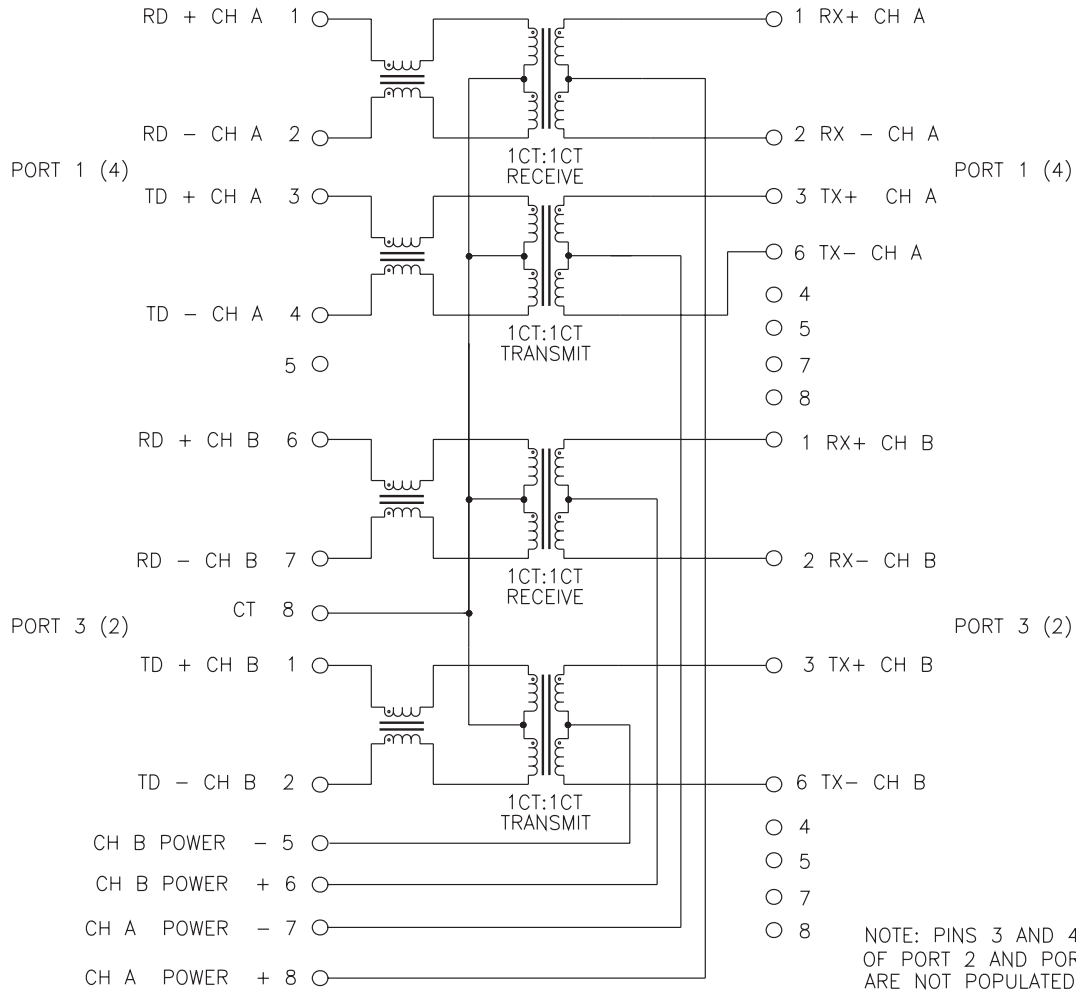
J2045



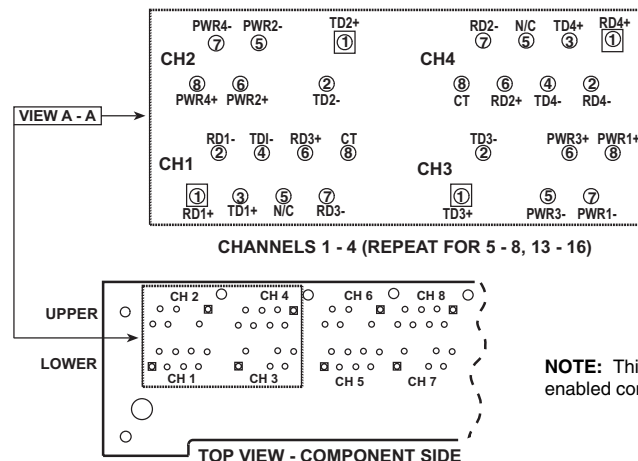
J2 Series (No LEDs/PoE Enabled) Schematics

J20-0017/19

PCB SIDE



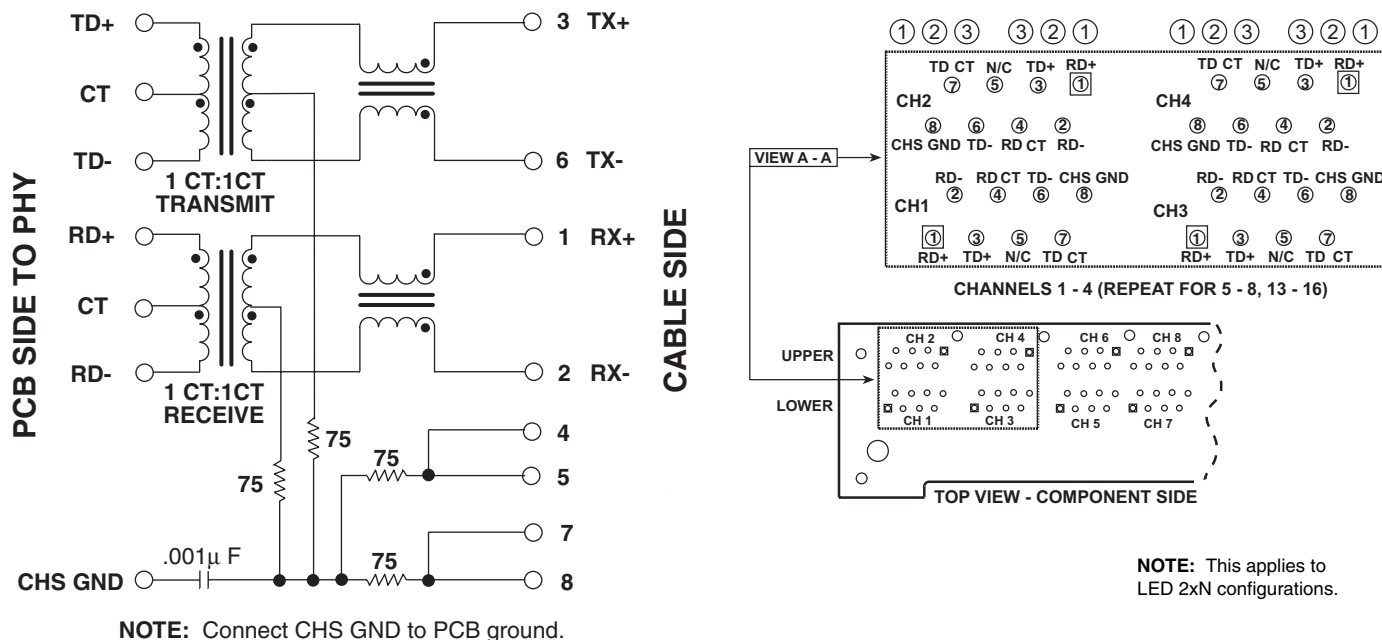
CABLE SIDE



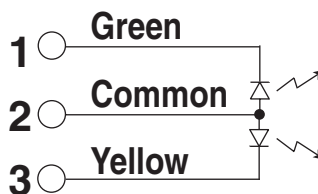
NOTE: This applies to 2xN PoE enabled configurations.

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

J20-0013/14/15/16



LED Configuration



Standard LED Color	LED Wavelength ¹	Forward ² (V MAX)	Typical (V TYP)
Green	560 - 570 nm	2.5	2.1 - 2.2
Yellow	588 - 610 nm	2.5	2.1 - 2.2

1. LED intensity/wavelength measured with Photo Research PR-650 Colormeter
2. With a forward current of 20 mA

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