

PULSEJACK™

1X1 Tab-UP RJ45

Description:

10/100 Base-TX RJ45 1X1 Tab-UP with LEDs 8-pin (J1 series) and 6-pin (JP series) integrated magnetics connector (ICM), designed to support applications, such as SOHO (ADSL modems), LAN-on-Motherboard (LOM), Hub and Switches.



Features and Benefits:

- 1X1 Tab-UP RJ45 with internal magnetics
- 8 or 6-pin signal pin versions available
- Available with LEDs
- 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 802.3 standard for 100Base-T
- 350 μ H 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

Part Number	Turns ^{1,2} Ratios		EMI ⁵ Fingers	LEDs ³ L/R	Insertion Loss (dB TYP)	Return Loss (dB TYP) 100 Ω $\pm$ 15 Ω					Crosstalk (dB TYP)			Common Mode Rejection (dB TYP)		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	
J1006F01P	1CT:1	1CT:1	No	G/Y	-1.0	-20	-16	-12	-10	-10	-40	-35	-30	-30	-20	1500
J1006F21	1CT:1	1CT:1	YES	NONE	-1.0	-20	-16	-12	-10	-10	-40	-35	-30	-30	-20	1500
J1011F01P	1CT:1	1CT:1	No	G/Y	-1.0	-20	-16	-12	-10	-10	-40	-35	-30	-30	-20	1500
J1011F21P	1CT:1	1CT:1	YES	G/Y	-1.0	-20	-16	-12	-10	-10	-40	-35	-30	-30	-20	1500
J1012F01C	1CT:1	1CT:1	No	Y/G	-1.0	-20	-16	-12	-10	-10	-40	-35	-30	-30	-20	1500
J1012F21C	1CT:1	1CT:1	YES	Y/G	-1.0	-20	-16	-12	-10	-10	-40	-35	-30	-30	-20	1500
J1012F21K	1CT:1	1CT:1	YES	G/G	-1.0	-20	-16	-12	-10	-10	-40	-35	-30	-30	-20	1500
J1012F21R	1CT:1	1CT:1	YES	RG/R	-1.0	-20	-16	-12	-10	-10	-40	-35	-30	-30	-20	1500
J1012F21L	1CT:1	1CT:1	YES	RY/RG	-1.0	-20	-16	-12	-10	-10	-40	-35	-30	-30	-20	1500
J1026F01	1CT:1	1CT:1	No	NONE	-1.0	-20	-16	-12	-10	-10	-40	-35	-30	-30	-20	1500
J1026F01P	1CT:1	1CT:1	No	G/Y	-1.0	-20	-16	-12	-10	-10	-40	-35	-30	-30	-20	1500
J1026F21C	1CT:1	1CT:1	YES	Y/G	-1.0	-20	-16	-12	-10	-10	-40	-35	-30	-30	-20	1500
JP006821U	1CT:1	1CT:1	YES	G_O/Y	-1.0	-20	-16	-12	-10	-10	-40	-35	-30	-30	-20	1500
JP011821U	1CT:1	1CT:1	YES	G_O/Y	-1.0	-20	-16	-12	-10	-10	-40	-35	-30	-30	-20	1500
JP026821U	1CT:1	1CT:1	YES	G_O/Y	-1.0	-20	-16	-12	-10	-10	-40	-35	-30	-30	-20	1500

Notes:

- Both transmit and receive channels meet IEEE 802.3 specifications.
- Different electrical and mechanical specifications can be accommodated.
- LEDs Left/Right: G=green, Y=yellow, G_O=green/orange bi-color, R = LEDs with resistors.
- J1/JP series platform capable of withstanding 235°C solder reflow.
- For explanation of EMI fingers, refer to mechanical drawing on page 2.

RJ45 Durability Testing Rating

Part Number	Mating Force (MAX)	Unmating Force (MAX)	Durability	Plug to Jack Retention (MIN)
JP/J1 Series	5 lbs./2.268 kgs.	5 lbs./2.268 kgs.	750 Insertions	20 lbs./9.072 kgs.

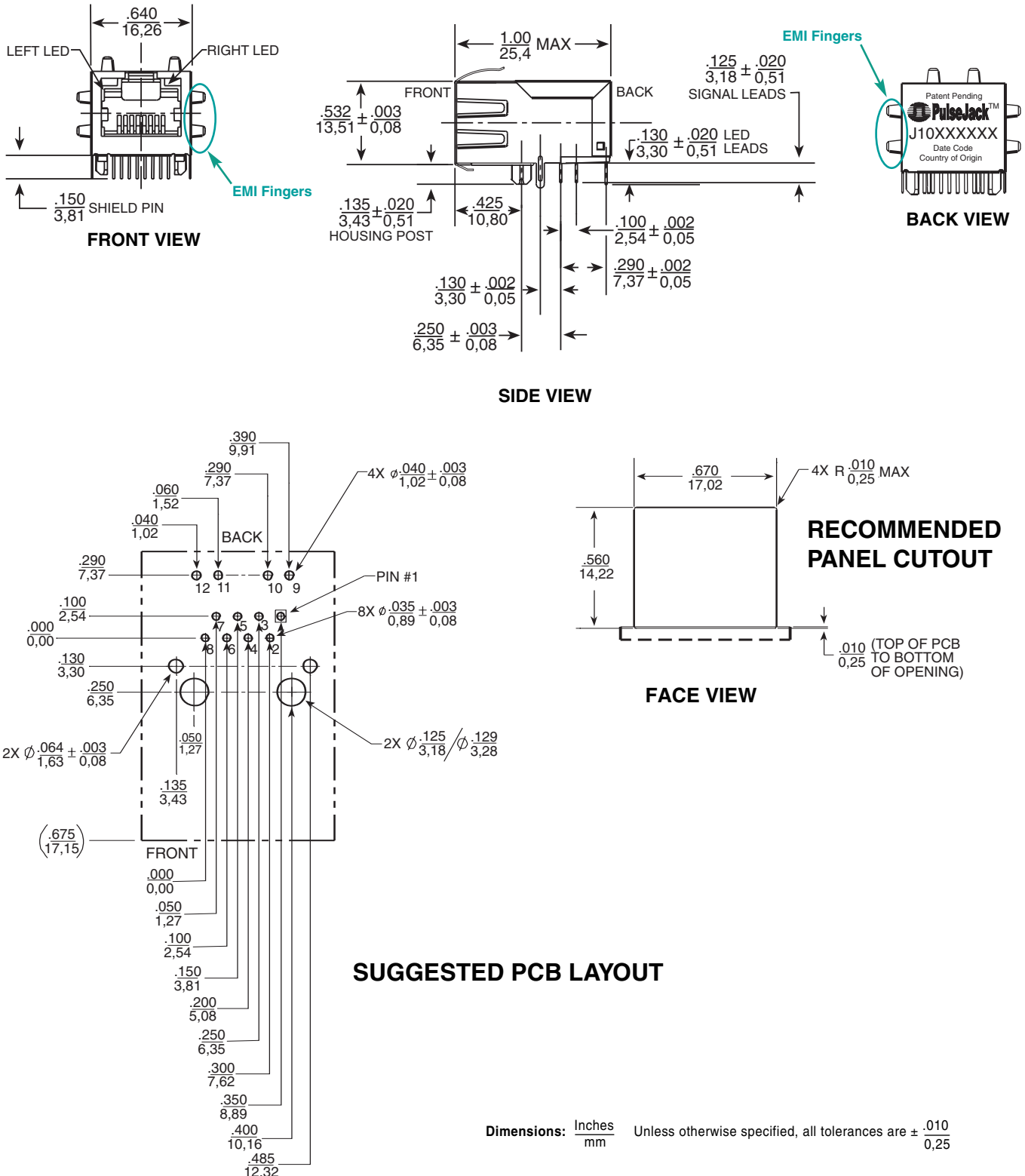
RJ45 Material Specification

Part Number	Shield		Contact		Solder Area	Housing	
	Material	Finish	Material	Plating Area		Material	Specification
JP/J1 Series	Brass	10-20m inches Nickel over 10-20m inches Brass	Phosphor Bronze	Nickel underplating and selective gold plating 15 μ inches	120 μ inches Sn90/Pb10 over 50 μ inches nickel	Thermoplastic	UL 94 V-0

Notes:

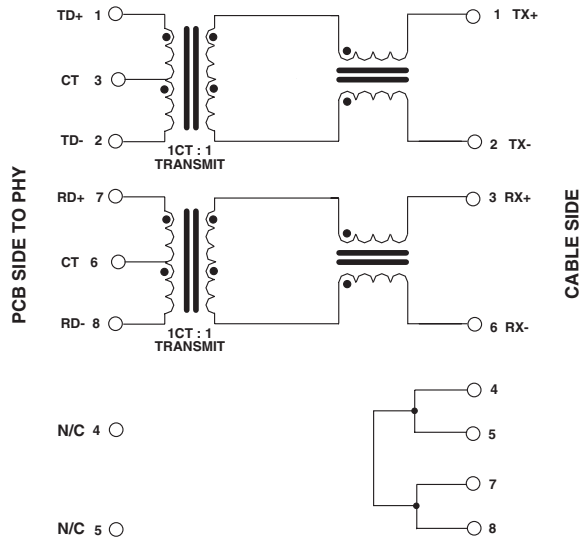
- All connector part numbers starting with the series prefix JP/J1 comply to the above limits.
- Connector dimensions comply with FCC dimension requirements.

J1 Series Mechanicals



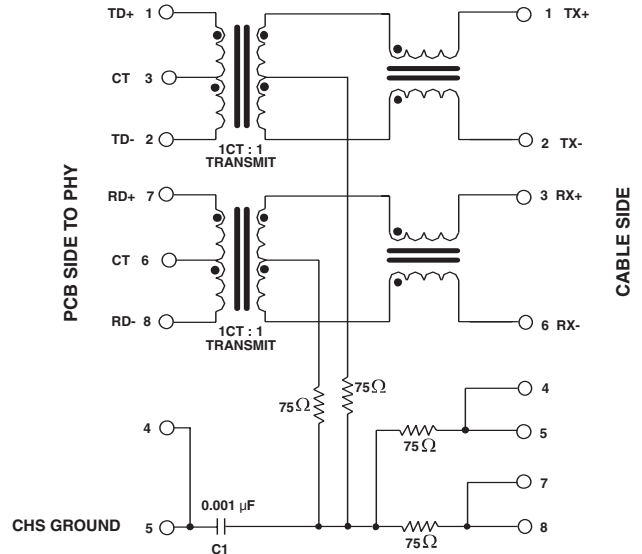
J1 Series Electrical Schematics

J1006



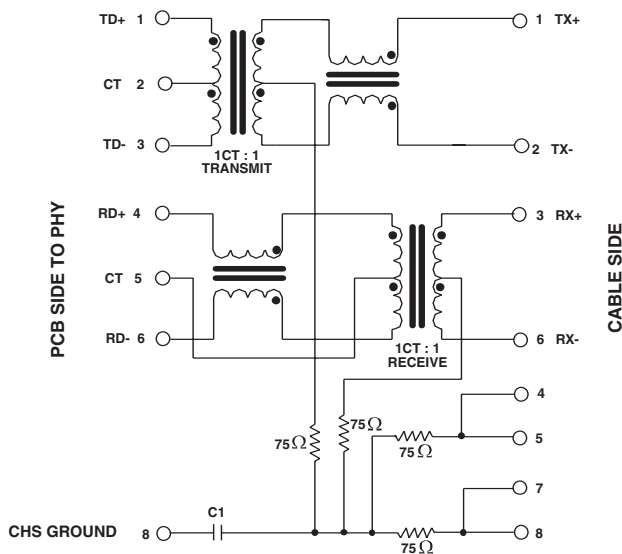
NOTE: Connect CHS GND to PCB ground.

J1011



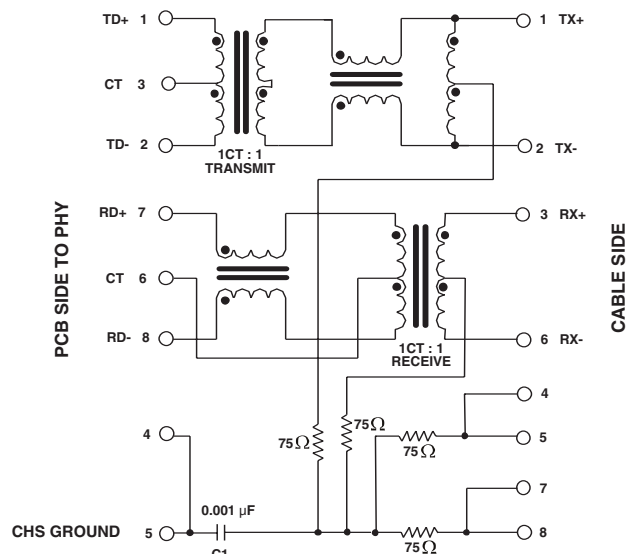
NOTE: Connect CHS GND to PCB ground.

J1012



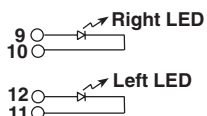
NOTE: Connect CHS GND to PCB ground.

J1026

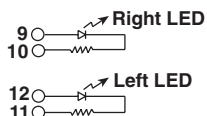


NOTE: Connect CHS GND to PCB ground.

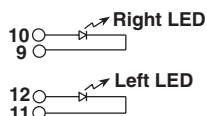
LED = P



LED = L or R



LED = C or K



Standard LED	Wavelength	Forward* V(MAX)	(TYP)
Yellow	585 nm	2.5 V	2.1 V
Green	565 nm	2.5 V	2.2 V

* With a forward current of 20 mA

Technical drawings of the LED module showing dimensions in inches and millimeters (in brackets).

Top View:

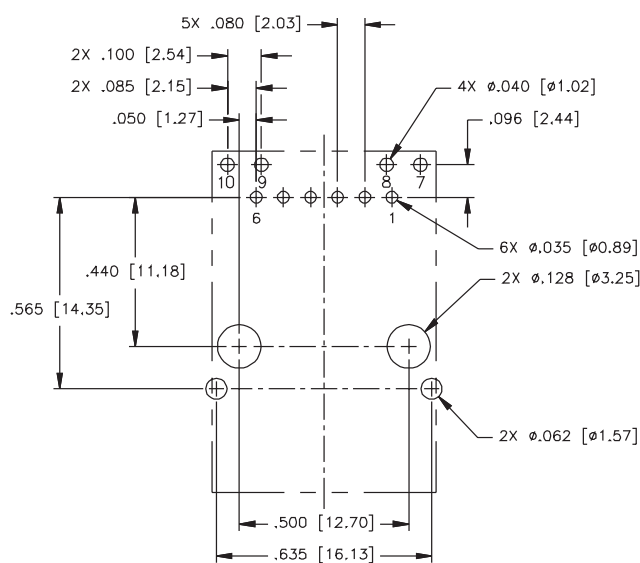
- Overall width: .656 [16.66]
- Overall height: .999 [25.37]

Front View:

- Distance between LED mounting points: .394 [10.00]
- Labels: LEFT LED, RIGHT LED, Pulse (center), EMI Fingers (indicated by a red circle and arrow)
- Distance from left edge to first finger: 5X .080 [2.03]
- Distance between fingers: .500 [12.70]
- Distance from last finger to right edge: 2X .068 [1.71]

Side View:

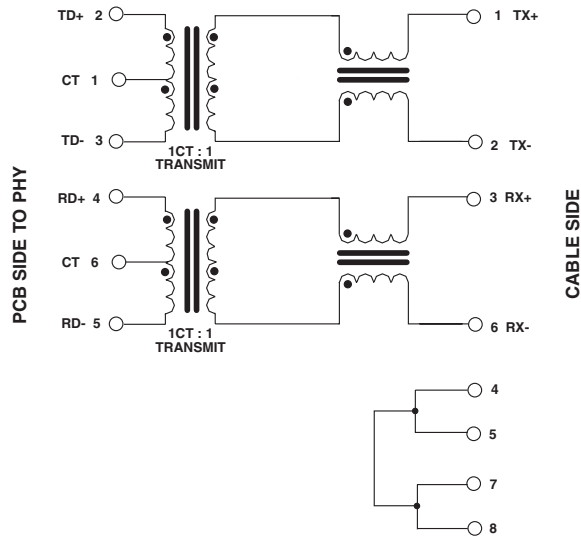
- Overall height: .531 [13.49]
- Distance from top to LED mounting plane: .130 [3.30]
- Distance from LED mounting plane to EMI fingers: .305 [7.75]
- Distance from EMI fingers to LED mounting plane: .125 [3.17]
- Distance from LED mounting plane to right edge: .565 [14.35]
- Distance from LED mounting plane to right edge (including mounting tab): .661 [16.79]
- Distance from LED mounting plane to right edge (including mounting tab and standoff): .125 ±.020 [3.18 ±0.51]



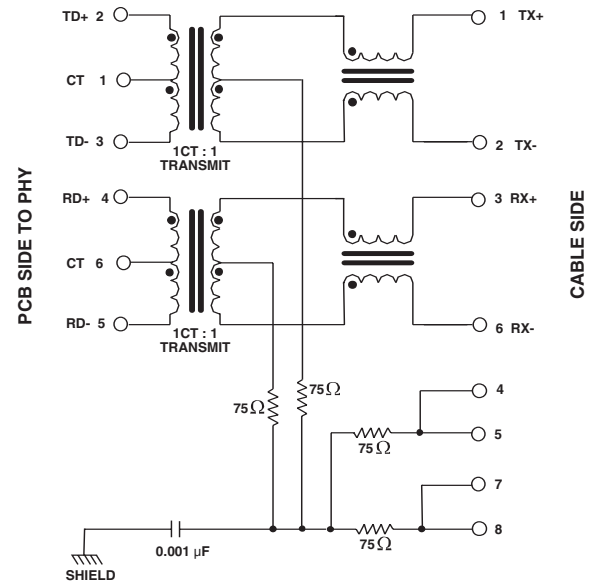
Dimensions: $\frac{\text{Inches}}{\text{mm}}$ Unless otherwise specified, all tolerances are $\pm \frac{.010}{.25}$

JP Series Electrical Schematics

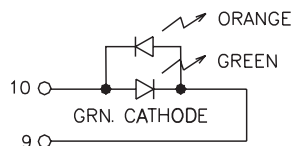
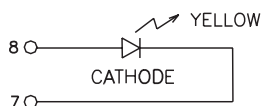
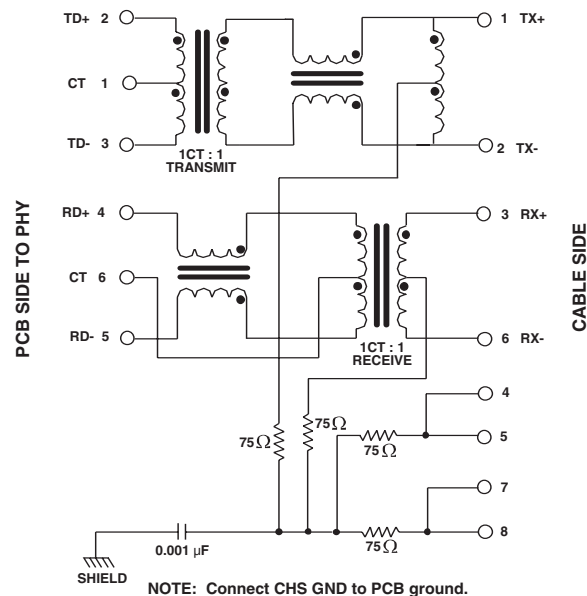
JP006



JP011



JP026



Standard LED	Wavelength	Forward* V (MAX)	(TYP)
Yellow	585 nm	2.5 V	2.1 - 2.2 V
Green	565 nm	2.5 V	2.1 - 2.2 V
Orange	610 nm	2.5 V	2.1 - 2.2 V

* With a forward current of 20 mA

Application Notes

Advantages of the PulseJack 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 internal magnetics specifically oriented on all parts, there are more consistent readings on all functional tests. This is optimized for best crosstalk, common mode rejection and return loss.
- With the selection of common mode material and winding techniques, common mode noise rejection maintains integrity at higher frequencies.
- Multiple tabs around shield-to-ground, shield-to-chassis, and shunt noise to ground improves EMI suppression.

For More Information :

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