

# PULSEJACK™

## 1x1 Tab-DOWN RJ45



### Description:

10/100 Base-TX RJ45 1x1 Tab-DOWN with LEDs 8-pin (J0 series) integrated magnetics connector (ICM), designed to support applications, such as SOHO (ADSL modems), LAN-on-Motherboard (LOM), Hub and Switches.



### Features and Benefits:

- ⊕ RoHS “NL” peak solder rating 260°C, non-RoHS peak solder rating 235°C
- ⊕ Available with or without LEDs
- ⊕ Suitable for CAT 5 & 6 Fast Ethernet Cable or better UTP
- ⊕ For RoHS part, add suffix NL<sup>7</sup>

### Electrical Performance Summary:

- ⊕ Internal magnetics options available
- ⊕ Meets or exceeds IEEE 802.3 standard for 100Base-T
- ⊕ 350 µH minimum OCL with 8 mA bias current
- ⊕ Minimum 1500 Vrms isolation per IEEE 802.3 requirement

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

Part Number	Turns <sup>1,2</sup> Ratios		EMI <sup>5</sup> Fingers	LEDs <sup>3</sup> (L/R)	Insertion Loss (dB TYP)	Return Loss (dB TYP) 100 Ω ±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		@60Hz 1 MIN
J0006D01B	1CT:1	1CT:1	No	G/Y	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0006D21	1CT:1	1CT:1	YES	N/A	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0006D21B	1CT:1	1CT:1	YES	G/Y	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0011D01	1CT:1	1CT:1	No	N/A	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0011D01B	1CT:1	1CT:1	No	G/Y	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0011D21	1CT:1	1CT:1	YES	N/A	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0011D21B	1CT:1	1CT:1	YES	G/Y	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0011D21E	1CT:1	1CT:1	YES	G/G	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0012D21	1CT:1	1CT:1	YES	N/A	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0018D21	1CT:1.414	1CT:1	YES	N/A	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0018D21E	1CT:1.414	1CT:1	YES	G/G	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0024D21	1CT:2	1CT:1	YES	N/A	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0024D21B	1CT:2	1CT:1	YES	G/Y	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0026D01	1CT:1	1CT:1	No	N/A	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0026D01B	1CT:1	1CT:1	No	G/Y	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0026D01E	1CT:1	1CT:1	No	G/G	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0026D01F <sup>4</sup>	1CT:1	1CT:1	No	Y/G	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0026D21	1CT:1	1CT:1	YES	N/A	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0026D21B	1CT:1	1CT:1	YES	G/Y	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0026D21E	1CT:1	1CT:1	YES	G/G	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0026D21F <sup>4</sup>	1CT:1	1CT:1	YES	Y/G	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0026D21G <sup>5</sup>	1CT:1	1CT:1	YES	Y/G	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0033D21	1.25CT:1	1CT:1	YES	N/A	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0035D21B	1CT:1	1CT:1	YES	G/Y	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0048D21M	1CT:1	1CT:1	YES	G/G	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		
J0073D01B	1CT:2.5	1CT:1	No	G/Y	-1	-20	-16	-12	-10	-40	-35	-30	-30	-20	1500		

- Notes: 1. Both transmit and receive channels meet IEEE 802.3 specifications. 2. Different electrical and mechanical specifications can be accommodated. 3. LEDs Left/Right: G=green, Y=yellow, N/A=none, YG=Bi-color LED Yellow Green. 4. LEDs with internal resistor. 5. Bi- color Left LED. 6. For an explanation of EMI fingers, please refer to the mechanical drawing page.

### RJ45 Durability Testing Rating

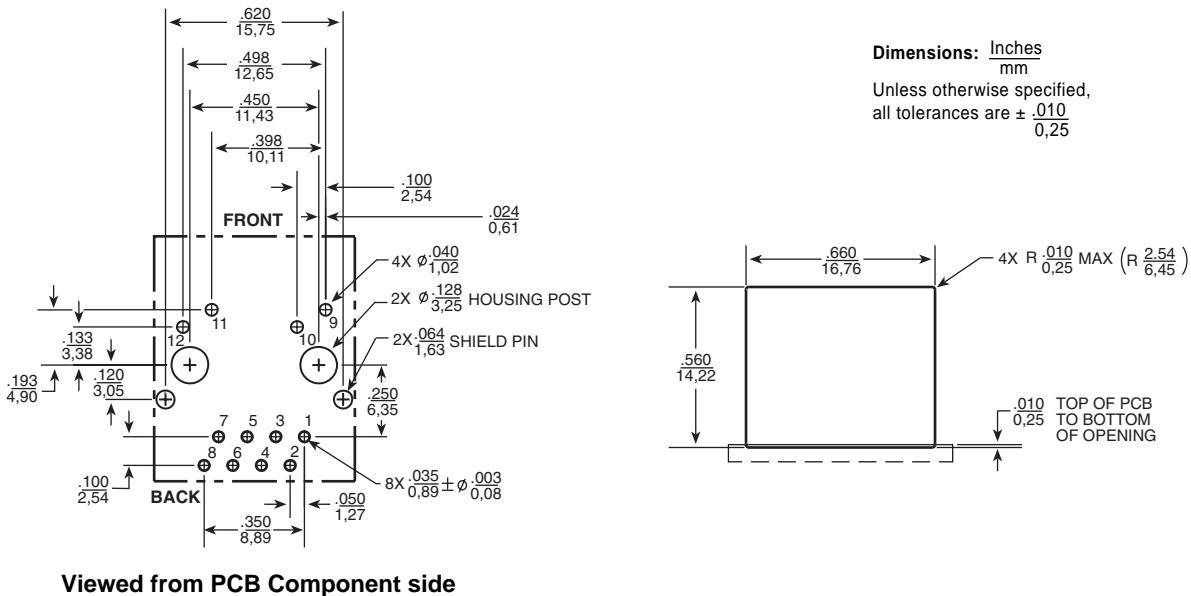
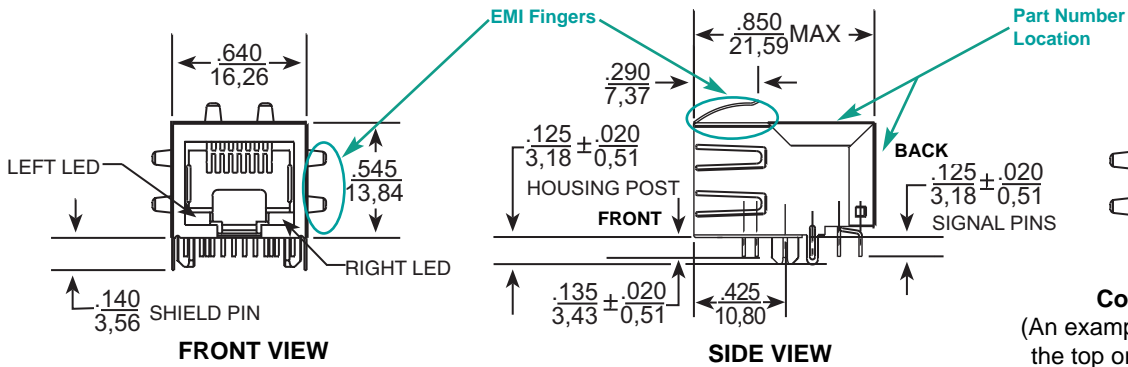
Part Number	Mating Force (MAX)	Unmating Force (MAX)	Durability	Plug to Jack Retention (MIN)
J0 Series	5 lbs./2.268 kgs.	5 lbs./2.268 kgs.	750 Insertions	20 lbs./9.072 kgs.

### RJ45 Material Specification

Part Number	Shield		Contact			Housing	
	Material	Finish	Material	Plating Area	Solder Area	Material	Specification
J0 Series	Brass	10-20m inches Nickel over 10-20m inches Brass	Phosphor Bronze	Nickel underplating and selective gold plating 15µ inches	120µ inches Sn90/Pb10 over 50µ inches nickel	Thermoplastic	UL 94 V-0

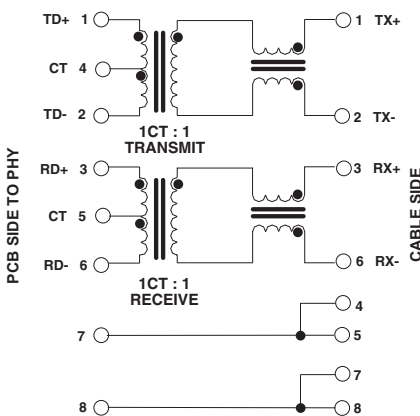
- Notes: 1.All connector part numbers starting with the series prefix J0 comply to the above limits. 2. Connector dimensions comply with FCC dimension requirements.

### J0 Series Mechanicals

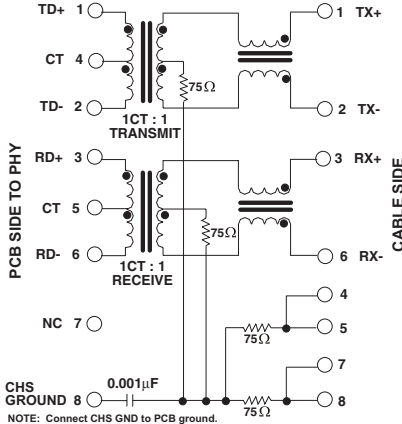


### J0 Series Electrical Schematics

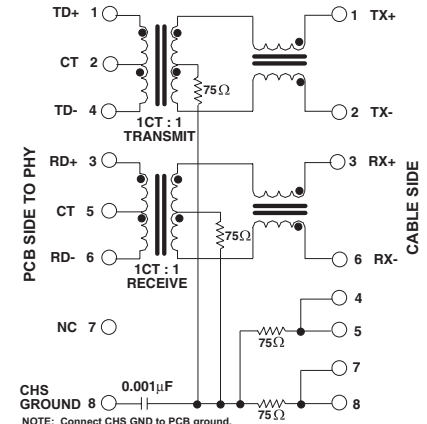
#### J0006



#### J0011



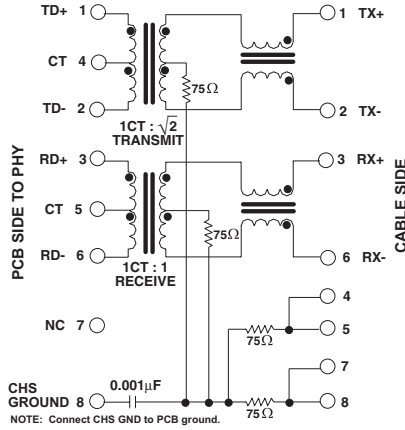
#### J0012



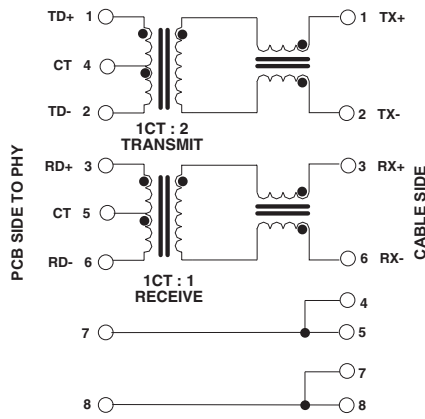


### J0 Series Electrical Schematics (continued)

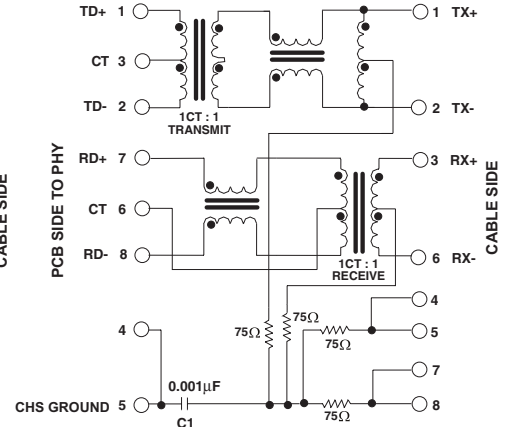
**J0018**



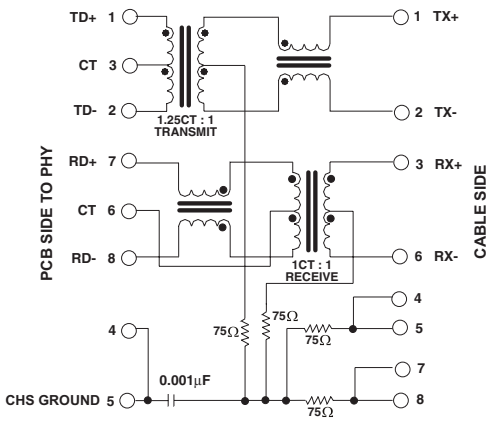
**J0024**



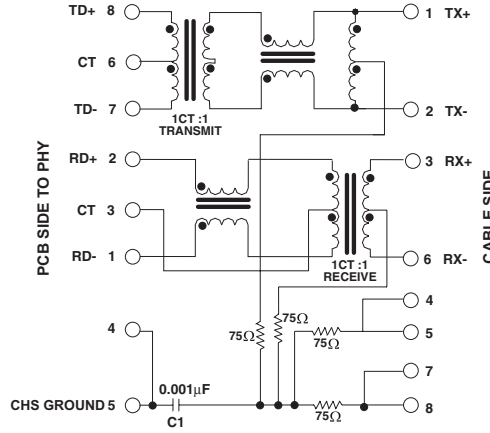
**J0026**



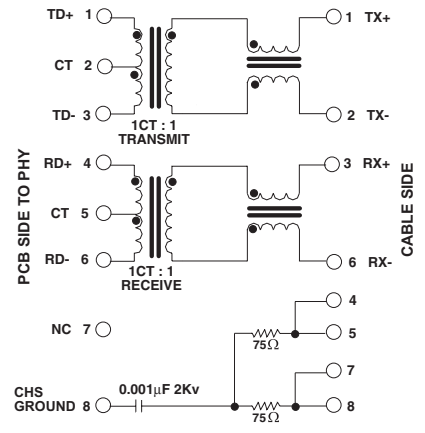
**J0033**



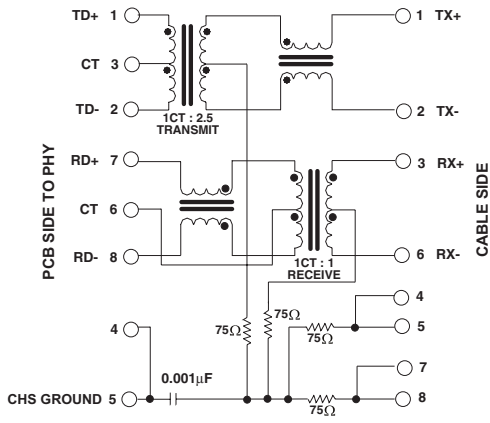
**J0035**



**J0048**

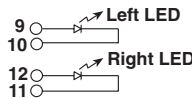


**J0073**

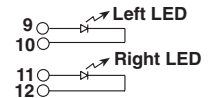


### LED Configuration

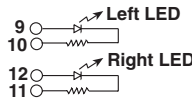
LED = "B & E" Specification  
(LEDs without internal resistors)



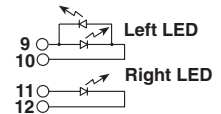
LED = "M" Specification  
(LEDs without internal resistors)



LED = "F" Specification  
(LEDs with internal resistors)



LED = "G" Specification  
(Bi-color LED option with internal resistors)



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

\* Using an internal resistor within the LED increases the voltage rating of the diode from 2.5 V to 5.0 V (assumes bias current = 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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