

# STARJACK™

## 1x1 Tab-DOWN RJ45



[www.pulseeng.com](http://www.pulseeng.com)

### Description:

10/100 Base-TX RJ45 1x1 Tab-DOWN 8-pin Integrated Magnetics Connector, designed to support high volume cost-conscious consumer applications such as: ADSL modems, Cable modems, STB and Video on Demand.



### Features and Benefits:

- ⊕ RoHS-5 peak wave solder temperature rating 235°C
- ⊕ RoHS-6 peak wave solder temperature rating 260°C
- ⊕ Suitable for CAT 5 & 6 Fast Ethernet Cable or better UTP

### Electrical Performance Summary:

- ⊕ Meets IEEE 802.3 specification
- ⊕ 350µH minimum OCL with 8mA bias current
- ⊕ High performance for Max EMI suppression for cost-conscious applications

### 10 Base-T Electrical Specifications @ 25°C — Operating Temperature 0°C to +70°C

RoHS-5 <sup>4</sup> Compliant Part No.	RoHS-6 <sup>5</sup> Compliant Part No.	Data Rate	Turns Ratios		EMI <sup>1</sup> Fingers	LEDs <sup>2</sup> (L/R)	BST	Insertion Loss (dB MAX)	Return Loss (dB MIN) 100Ω ±15Ω	Crosstalk (dB MIN)	Common Mode Rejection (dB MIN)	Hipot (Vrms)
			TX	RX				1-10MHz	1-10MHz	1-10MHz	5MHz	@60Hz 1 MIN
J00-0025 <sup>3</sup>	J00-0025 NL <sup>3</sup>	10BT	1CT:2.5	1CT:1	Yes	None	No	-1	-15	-30	-25	1500
J00-0051 <sup>3</sup>	J00-0051NL <sup>3</sup>	10BT	1CT:2.5	1CT:1	Yes	G/Y	No	-1	-15	-30	-25	1500
J00-0062 <sup>3</sup>	J00-0062 NL <sup>3</sup>	10BT	1CT:2.5	1CT:1	No	None	No	-1	-15	-30	-25	1500
J00-0063 <sup>3</sup>	J00-0063NL <sup>3</sup>	10BT	1CT:2.5	1CT:1	No	G/Y	No	-1	-15	-30	-25	1500

### 10/100 Base-T Electrical Specifications @ 25°C — Operating Temperature 0°C to +70°C

RoHS-5 <sup>4</sup> Compliant Part No.	RoHS-6 <sup>5</sup> Compliant Part No.	Data Rate	Turns Ratios		EMI <sup>1</sup> Fingers	LEDs <sup>2</sup> (L/R)	BST	Insertion Loss (dB MAX)	Return Loss (dB MIN) 100Ω ±15Ω				Crosstalk (dB MIN)			Common Mode Rejection (dB MIN)		Hipot (Vrms)		
			TX	RX					1-65MHz	1-10MHz	10-30MHz	30-60MHz	60-80MHz	1-30MHz	30-60MHz	60-100MHz	1-50MHz		50-150MHz	@60Hz 1 MIN
			J00-0014	J00-0014NL					100BT	1CT:1	1CT:1	No	None	Yes	-1	-18	-14		-12	-10
J00-0042	J00-0042NL	100BT	1CT:1	1CT:1	No	None	No	-1	-18	-14	-12	-10	-35	-35	-30	-20	-15	1500		
J00-0045	J00-0045NL	100BT	1CT:1	1CT:1	No	G/Y	Yes	-1	-18	-14	-12	-10	-35	-35	-30	-20	-15	1500		
J00-0046	J00-0046NL	100BT	1CT:1	1CT:1	No	G/Y	No	-1	-18	-14	-12	-10	-35	-35	-30	-20	-15	1500		
J00-0061	J00-0061NL	100BT	1CT:1	1CT:1	Yes	None	Yes	-1	-18	-14	-12	-10	-35	-35	-30	-20	-15	1500		
J00-0064	J00-0064NL	100BT	1CT:1	1CT:1	Yes	None	No	-1	-18	-14	-12	-10	-35	-35	-30	-20	-15	1500		
J00-0065	J00-0065NL	100BT	1CT:1	1CT:1	Yes	G/Y	Yes	-1	-18	-14	-12	-10	-35	-35	-30	-20	-15	1500		
J00-0066	J00-0066NL	100BT	1CT:1	1CT:1	Yes	G/Y	No	-1	-18	-14	-12	-10	-35	-35	-30	-20	-15	1500		

#### NOTES:

1. For an explanation of EMI fingers, refer to the mechanical drawing page.
2. LEDs Left/Right: G=green, Y=yellow.
3. IEEE802.3i (10Base-T) standard does not require these parts to achieve 350µH minimum OCL with 8mA bias current for 10Base-T parts.
4. **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.
5. **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

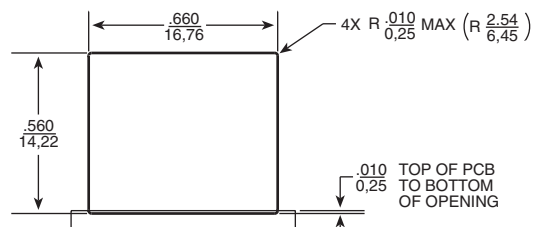
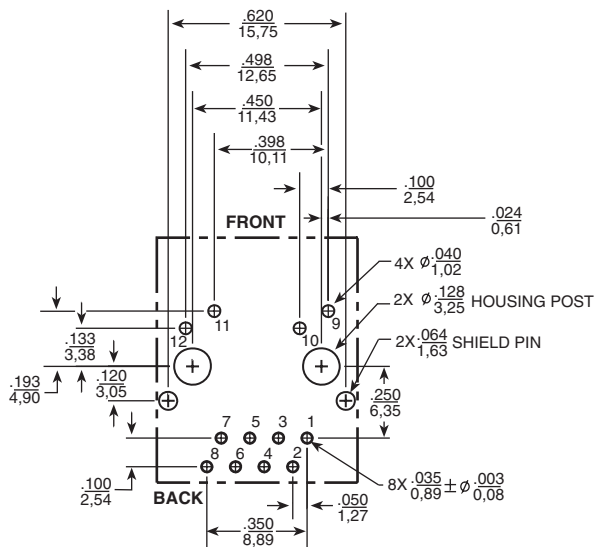
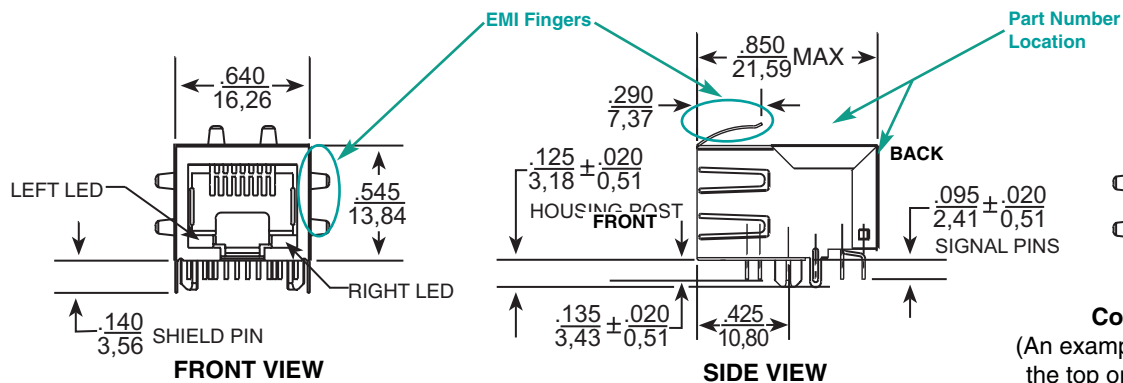
Part Number	Mating Force (MAX)	Unmating Force (MAX)	Durability	Plug to Jack Retention (MIN)
J00 Series	5lbs./2.268kgs.	5lbs./2.268kgs.	750 Insertions	20lbs./9.072kgs.

### RJ45 Material Specification

Part Number	Shield		Contact			Housing		MSL <sup>2</sup> Rating
	Material	Finish	Material	Plating Area	Solder Area <sup>3</sup>	Material	Specification	
J00 Series	Brass	20-40m 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	1

- NOTES: 1. Connector dimensions comply with FCC dimension requirements. 3. **RoHS-6** parts are tin matte finish over nickel.  
2. MSL - Moisture Sensitivity Level class limits = 1 to 5 (Highest: 1; Lowest: 5).

### J00-00XX Series Mechanicals



**Dimensions:** Inches  
mm  
Unless otherwise specified,  
all tolerances are ±  $\frac{.010}{0,25}$

### LED Configuration

#### Green / Yellow LED Specification - (LEDs without internal resistors)



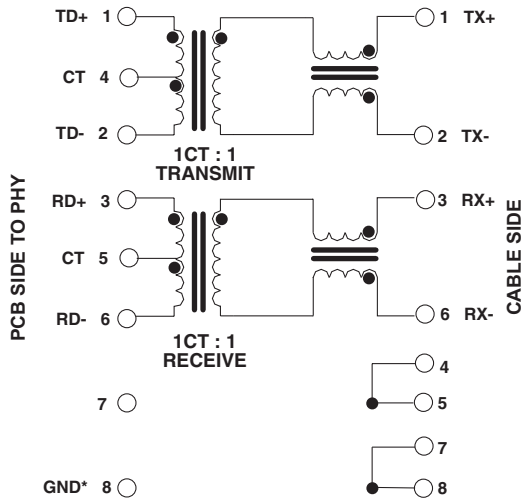
Standard LED	Wavelength	Forward* V(MAX)	(TYP)
Yellow	585 nm	2.5 V	2.1 V
Green	565 nm	2.5 V	2.2 V

\* Assumes bias current = 20mA



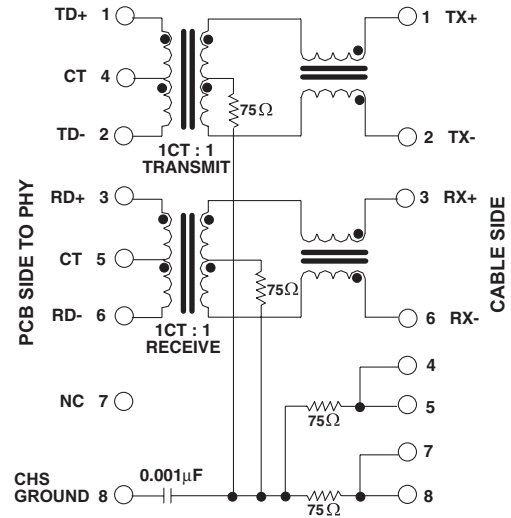
### J00-00XX Series Electrical Schematics

#### J00-0042/46/64/66



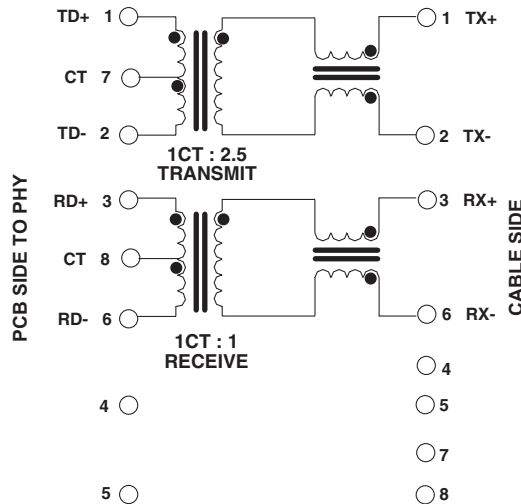
\*Connecting pin 8 to Ground makes J00-0042/46/64/66 footprint compatible to J00-0014/45/61/65.

#### J00-0014/45/61/65



NOTE: Connect CHS GND to PCB ground.

#### J00-0025/51/62/63



### For More Information:

#### Pulse Worldwide Headquarters

12220 World Trade Drive  
San Diego, CA 92128  
U.S.A.  
[www.pulseeng.com](http://www.pulseeng.com)  
TEL: 858 674 8100  
FAX: 858 674 8262

#### Pulse Northern Europe

3 Huxley Road  
Surrey Research Park  
Guildford, Surrey GU2 5RE  
United Kingdom  
TEL: 44 1483 401700  
FAX: 44 1483 401701

#### Pulse Southern Europe

Zone Industrielle  
F-39270  
Orgelet  
France  
TEL: 33 3 84 35 04 04  
FAX: 33 3 84 25 46 41

#### Pulse China Headquarters

No. 1  
Industrial District  
Changan, Dongguan  
China  
TEL: 86 769 85538070  
FAX: 86 769 85538870

#### Pulse North China

Room 1503  
XinYin Building  
No. 888 YiShan Road  
Shanghai 200233  
China  
TEL: 86 21 54643211/2  
FAX: 86 21 54643210

#### Pulse South Asia

150 Kampong Ampat  
#07-01/02  
KA Centre  
Singapore 368324  
TEL: 65 6287 8998  
FAX: 65 6280 0080

#### Pulse North Asia

No. 26  
Kao Ching Road  
Yang Mei Chen  
Taoyuan Hsien  
Taiwan, R. O. C.  
TEL: 886 3 4641811  
FAX: 886 3 4641911

Performance warranty of products offered on this data sheet is limited to the parameters specified. Data is subject to change without notice. Other brand and product names mentioned herein may be trademarks or registered trademarks of their respective owners.

© Copyright, 2006. Pulse Engineering, Inc. All rights reserved.