

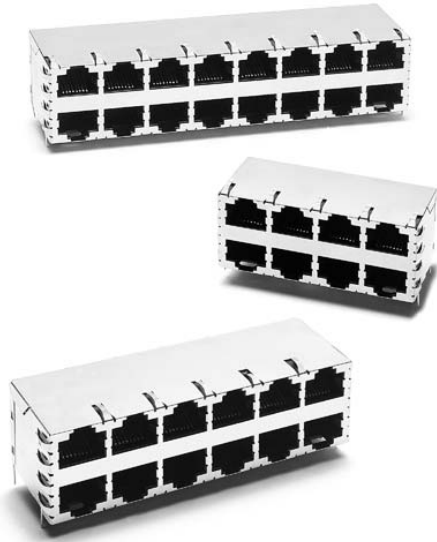


**THE DATASHEET OF**  
**JC0-0131**







### Description:




10/100/1000 Base-TX RJ45 2xN Integrated Magnetics Connector without LEDs, designed to support such applications as: Switches, Routers, Servers and Hub.



### Features and Benefits:

-  2xN RJ45 with internal magnetics
-  Suitable for CAT 3, 5, 6 UTP cable or better
-  Internal magnetics are 100% electrically tested for HI-POT and functionality per IEEE802.3 requirement
-  Meets or exceeds IEEE 802.3ab standard for 1000Base-T

### Electrical Performance Summary:

-  350µH minimum OCL with 8mA bias current
-  High performance for maximum EMI suppression
-  Meets or exceeds IEEE 802.3ab standard for 1000Base-T

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

Part Number (Number of Ports)	Insertion Loss TX/RX (dB TYP)	Return Loss (dB TYP) 100Ω (±15Ω)			Crosstalk (dB TYP)			Common Mode Rejection (dB TYP)		Hipot (MIN)
		1-40 MHz	60 MHz	100 MHz	1-10 MHz	30-60 MHz	60-100 MHz	1-10 MHz	10-150 MHz	
JC0-0131 (2X4)	-0.8	-20	-17	-14	-40	-35	-30	50	40	2250Vdc
JC0-0132 (2X6)	-0.8	-20	-17	-14	-40	-35	-30	50	40	2250Vdc
JC0-0133 (2X8)	-0.8	-20	-17	-14	-40	-35	-30	50	40	2250Vdc

### RJ45 Durability Test Rating

Part Number	Mating Force (MAX)	Unmating Force (MAX)	Durability	Plug to Jack Retention (MIN)
JC 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		MSL <sup>2</sup> Rating
	Material	Finish	Material	Plating Area	Solder Area	Material	Specification	
JC Series	Brass	20-40µ inches thick nickel over brass	Phosphor Bronze	30µ inches gold over 30-50µ inches nickel	75-300µ inches tin-lead over 50-100µ inches nickel	Thermoplastic	UL 94 V-0	1

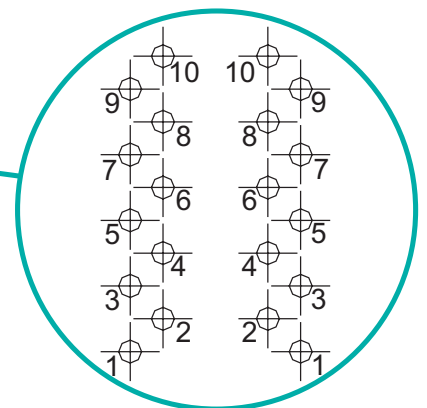
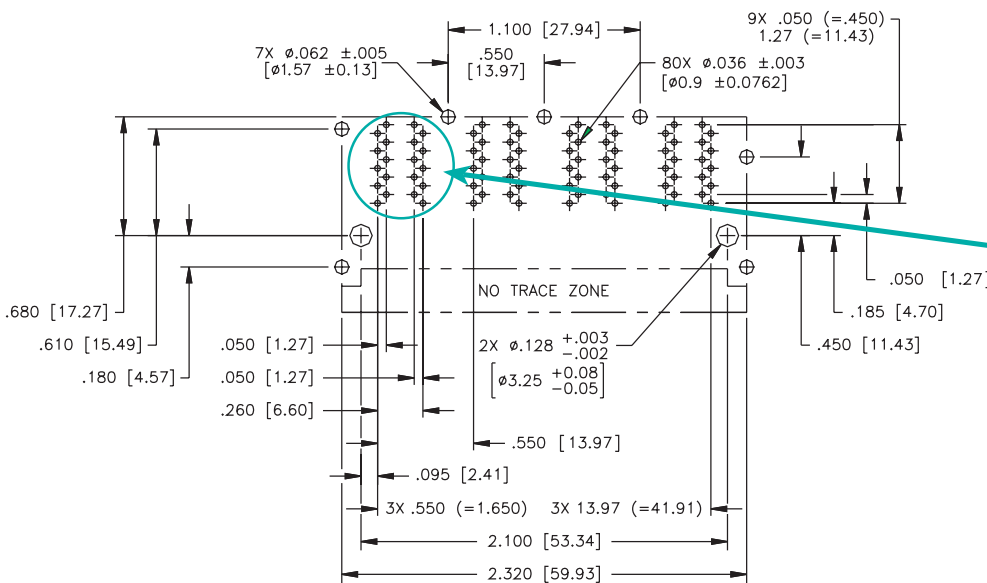
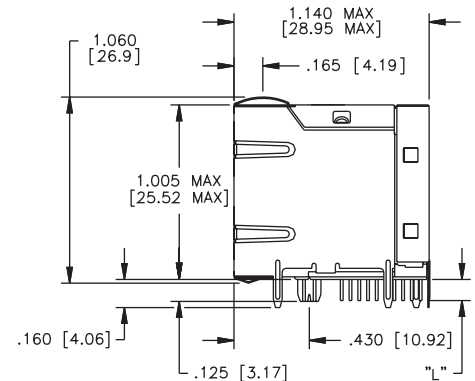
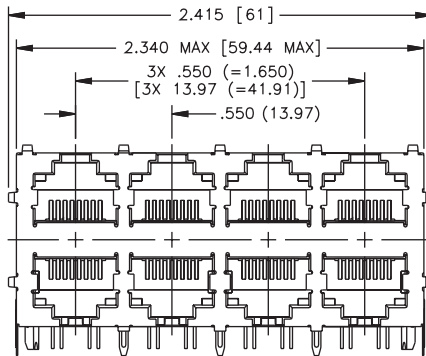
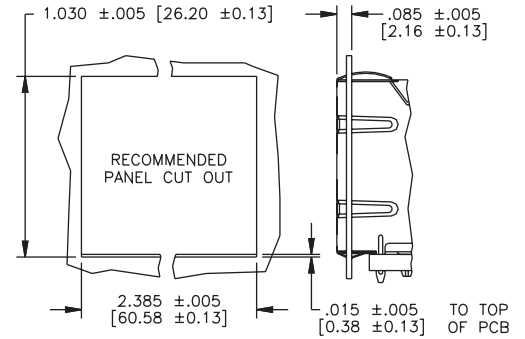
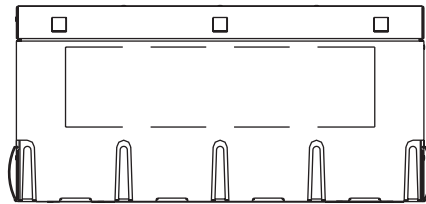
#### NOTES:

1. Connector dimensions comply with FCC dimension requirements..

2. MSL - Moisture Sensitivity Level class limits = 1 to 5 (Highest: 1; Lowest: 5).

### 2X4 Mechanicals (No LEDs)

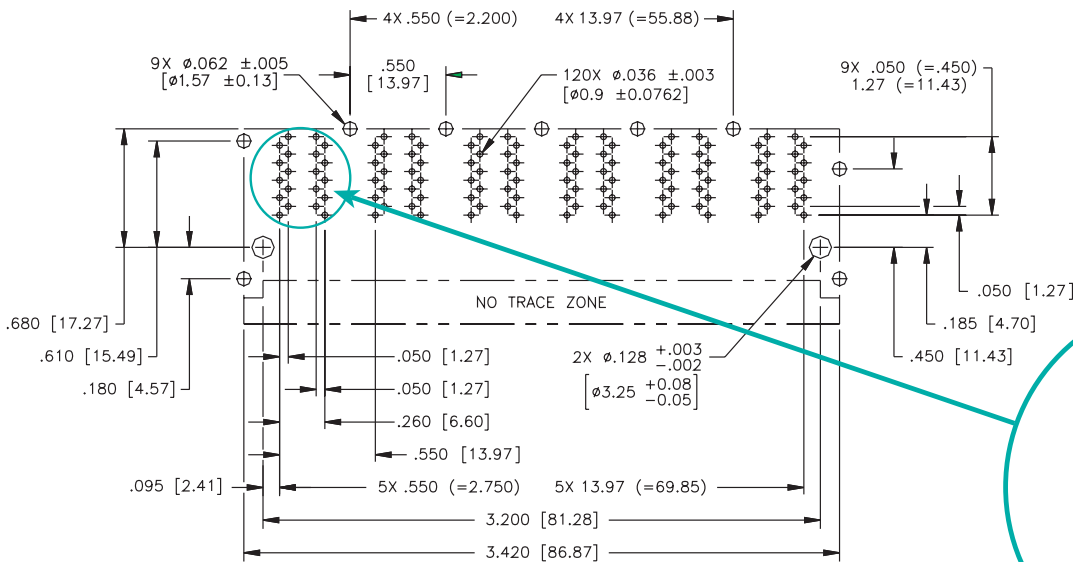
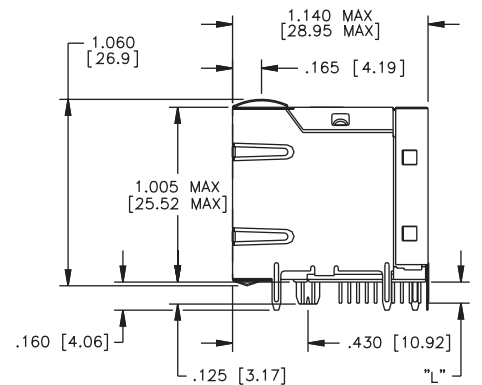
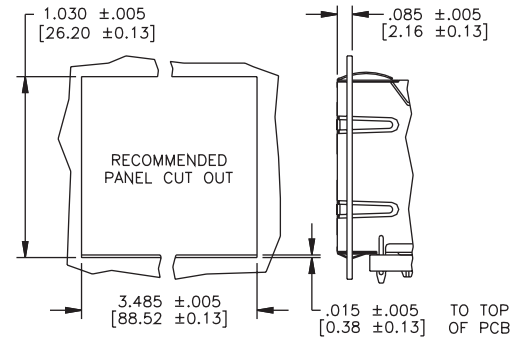
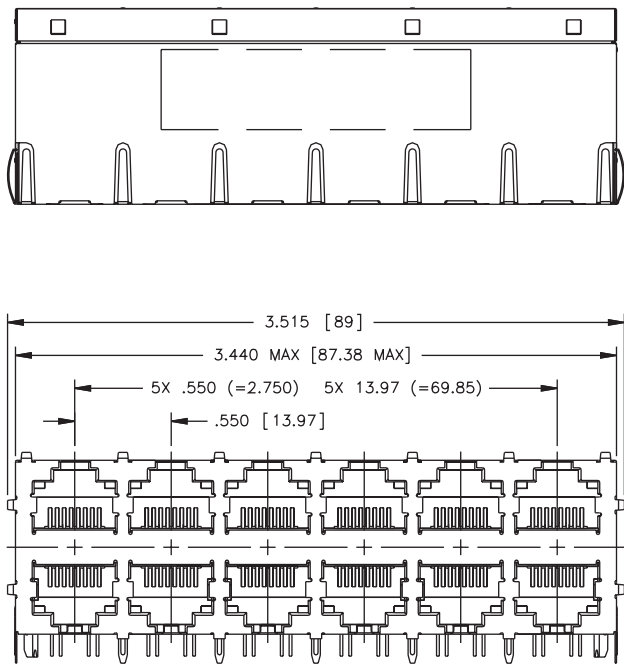
JC0-0131



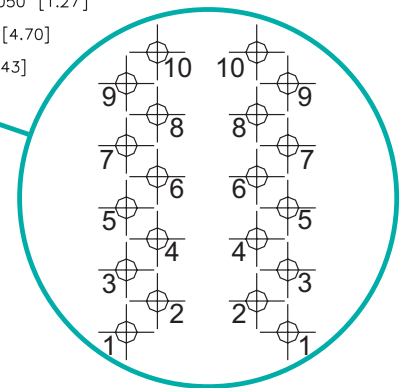
SUGGESTED PC BOARD LAYOUT VIEWED FROM COMPONENT SIDE  
 UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE IS ±.002

### 2X6 Mechanicals (No LEDs)

JC0-0132



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

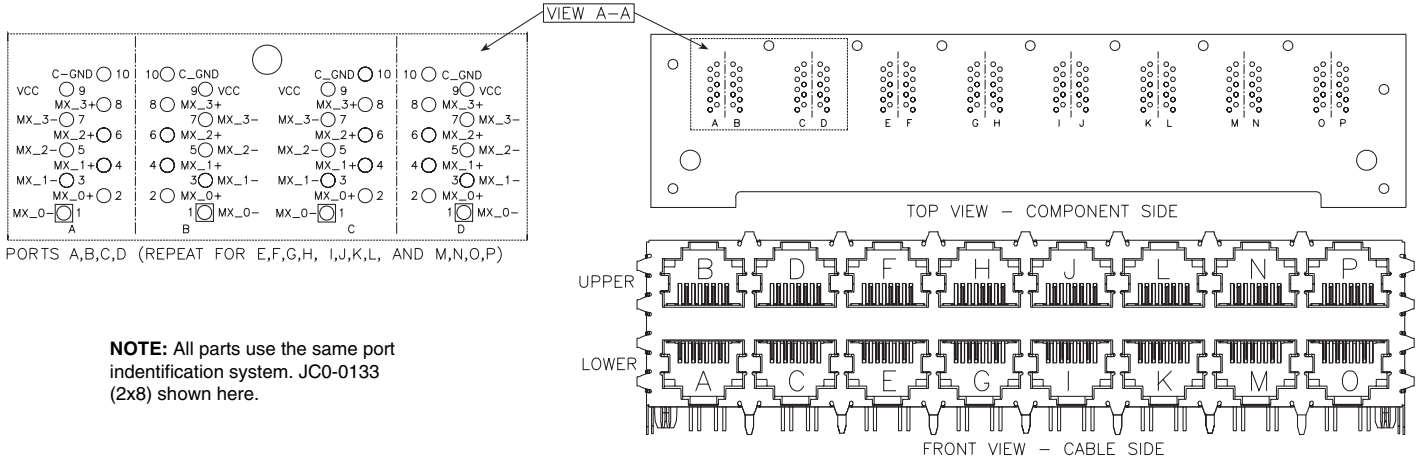


Pin-out Assignment



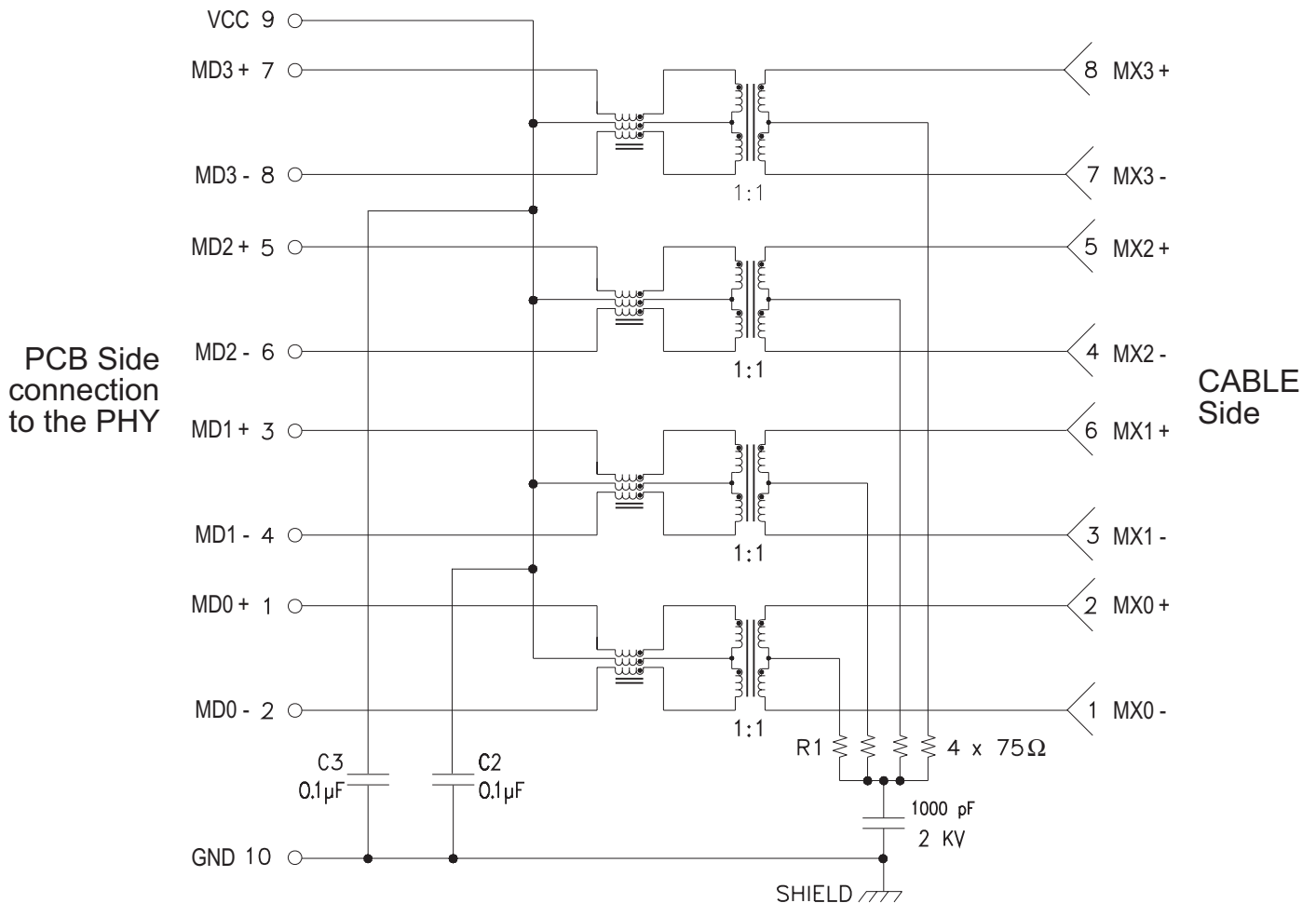
### Pin-out Assignment

JC0-0131/32/33



**NOTE:** All parts use the same port identification system. JC0-0133 (2x8) shown here.

### Schematic



### 2XN Gigstack Application Note

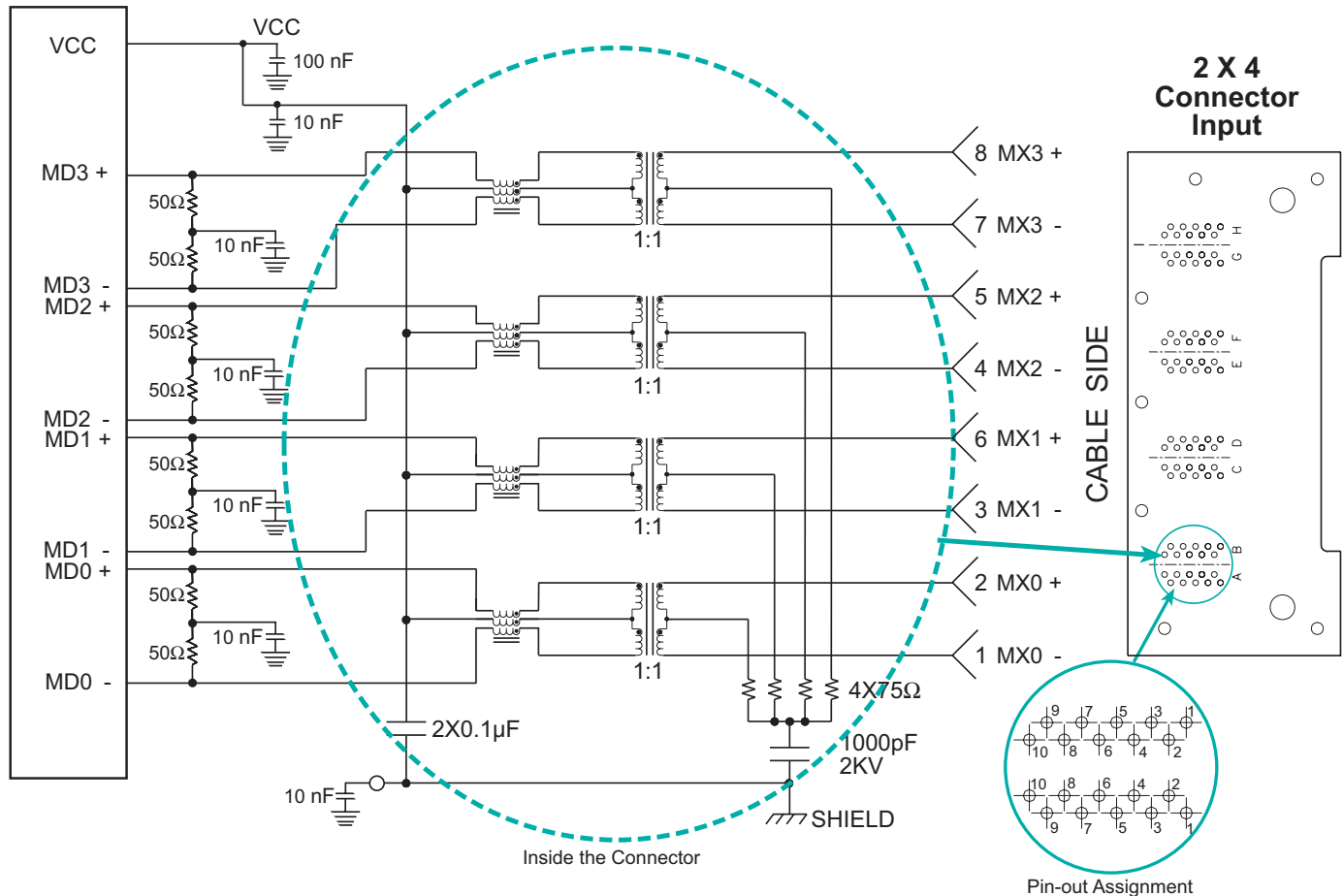
These Integrated Connector Modules are specifically designed for the implementation of a 10Base-T, 100Base-TX and 1000Base-TX transmission over data-grade unshielded twisted pair cable (UTP-3, 5/5e and 6).

The connectors category provide excellent EMI filtering and are suitable for Embedded Systems and Multiport Applications. Pulse has worked closely with the leading IC manufacturers in providing these 10/100/1000 solutions, thereby assuring compatibility with each transceiver.

JC0 series meet the stringent open circuit inductance requirements imposed by IEEE. When an 8mA DC current is applied across the transformer windings, the transformer will provide at least 350µH of open circuit inductance. The transformers used in each module also provide 2250Vdc minimum isolation, wide bandwidth with minimal attenuation and fast rise times to minimize system level jitter.

### JC0-0131 (2x4) Application Circuit

10/100/1000  
IC PHY



#### PCB Layout Recommendations:

- For maximum EMI suppression (electromagnetic interference) place the decoupling capacitors adjacent to Vcc and 50Ω connections.
- Connections to ground should be as short as possible.
- Connections between the 10/100/1000 IC and the connector should be direct (ideally no change in direction) and of minimum length.

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