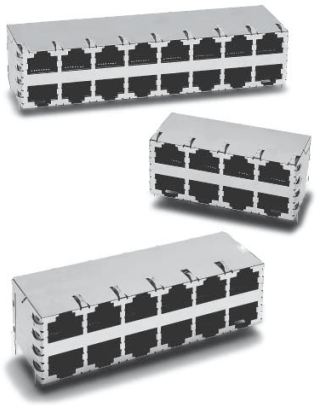
PulseJack®
2xN Gigabit

US Patent #7241181

Description:

10/100/1000 Base-T RJ45 2xN Integrated Connector with Magnetics, designed to support such applications as: Switches, Routers, Servers and Hub.



Features and Benefits:

- *RoHS peak wave solder temperature rating 260°C*
- *Suitable for CAT 3, 5, 6 UTP cable or better*
- *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

RoHS Compliant Part Number	Number of Ports	Insertion Loss TX/RX (dB MIN)	Return Loss (dB TYP) 100Ω (± 15 Ω)			Crosstalk (dB TYP)			Common Mode Rejection (dB TYP)		Hipot (Vdc MIN)
		1-125 MHz	1-40 MHz	60 MHz	100 MHz	1-10 MHz	30-60 MHz	60-100 MHz	1-10 MHz	10-150 MHz	I MIN
JCO-0131NL	2x4	-0.8	-20	-17	-14	-40	-35	-30	-50	-40	2250
JCO-0132NL	2x6	-0.8	-20	-17	-14	-40	-35	-30	-50	-40	2250
JCO-0133NL	2x8	-0.8	-20	-17	-14	-40	-35	-30	-50	-40	2250

Notes:
1. Contact Pulse for LED options.

RJ45 Durability Testing Rating

Part Number	Mating Force (MAX)	Unmating Force (MAX)	Durability
JCO Series	5 lbs./2.268 kgs.	5 lbs./2.268 kgs.	750 Insertions

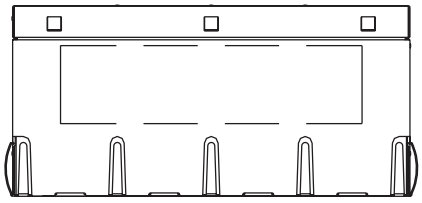
RJ45 Material Specification

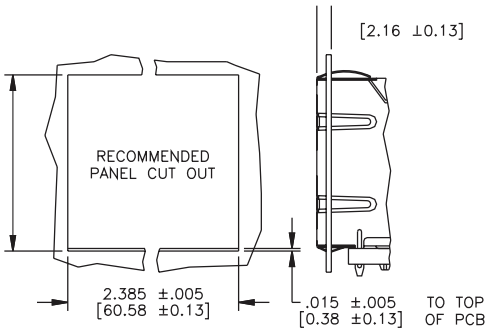
Part Number	Shield		Contact			Housing		
	Material	Finish	Material	Plating Area	Solder Area	Material	Specification	MSL[2]
JCO Series	Brass	10-20µ inches thick Nickel over brass	Phosphor Bronze	30µ inches gold over 30-80µ inches nickel	Tin matte finish	Thermoplastic	UL 94 V-0	1

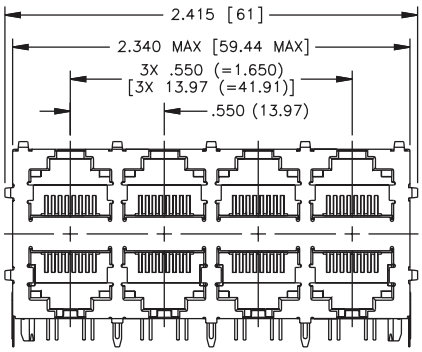
Notes: 1. Connector dimensions comply with FCC dimension requirements **2. MSL** = Moisture Sensitivity Level rating from 1 to 5 (highest rating = 1, lowest rating = 5).

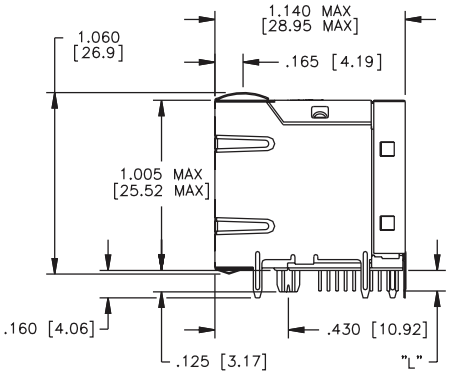
2X4 Mechanicals (No LEDs)

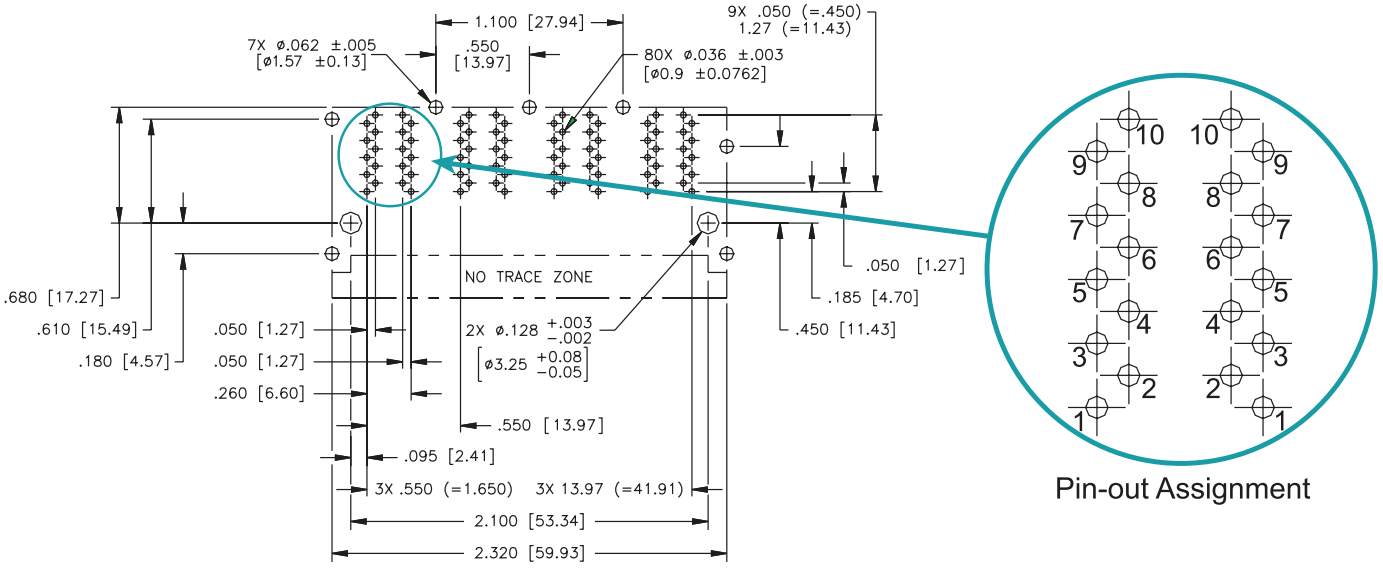
JC0-0131NL









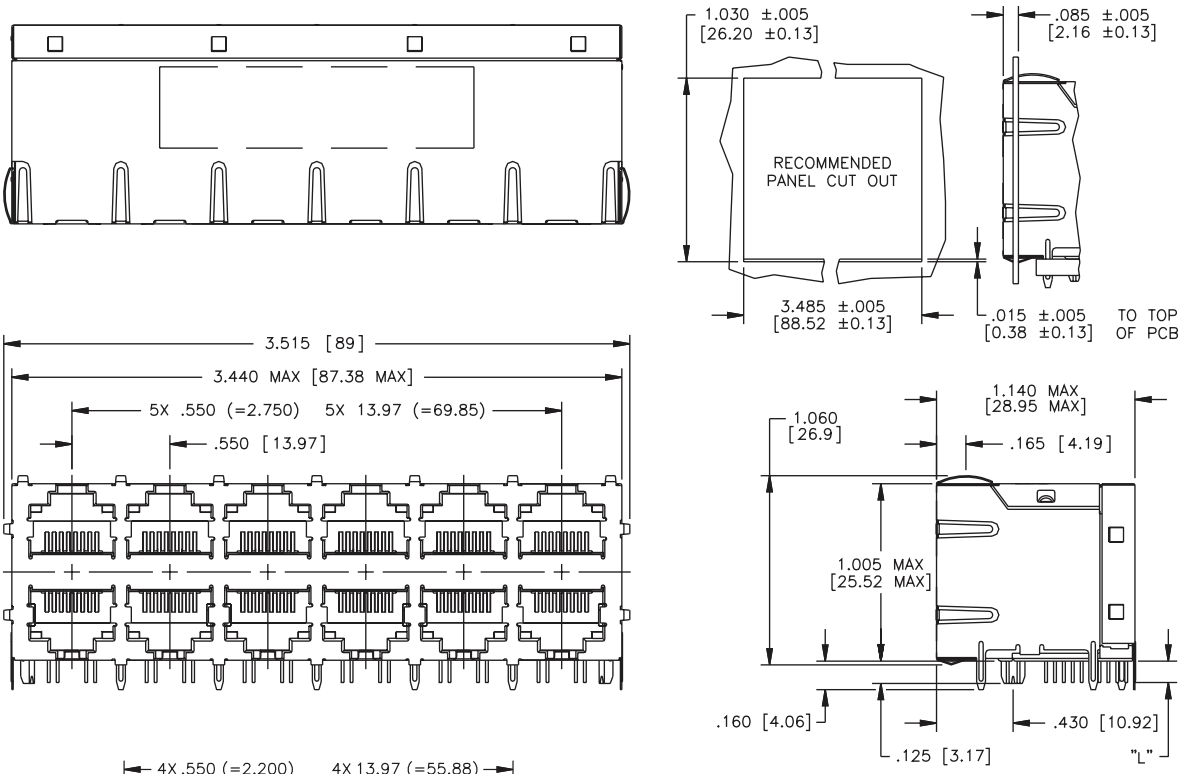


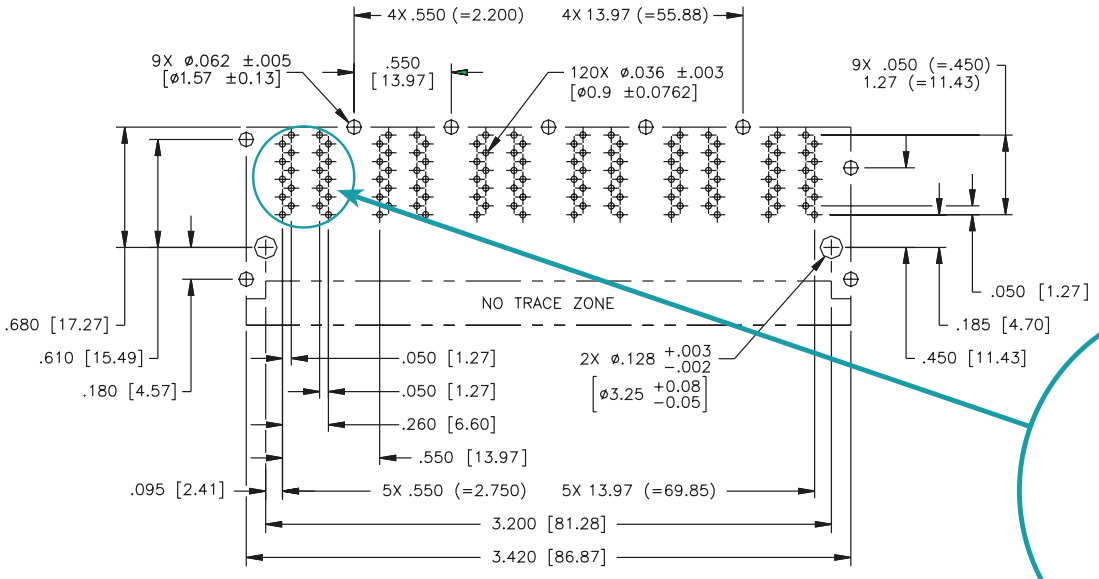
Pin-out Assignment

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

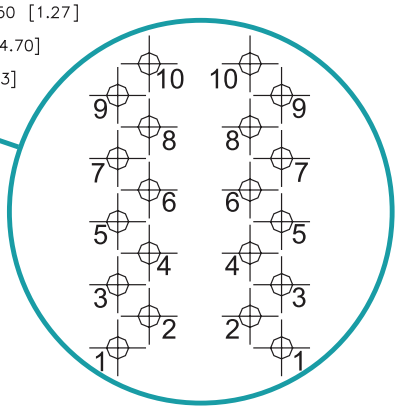
2X6 Mechanicals (No LEDs)

JC0-0132NL





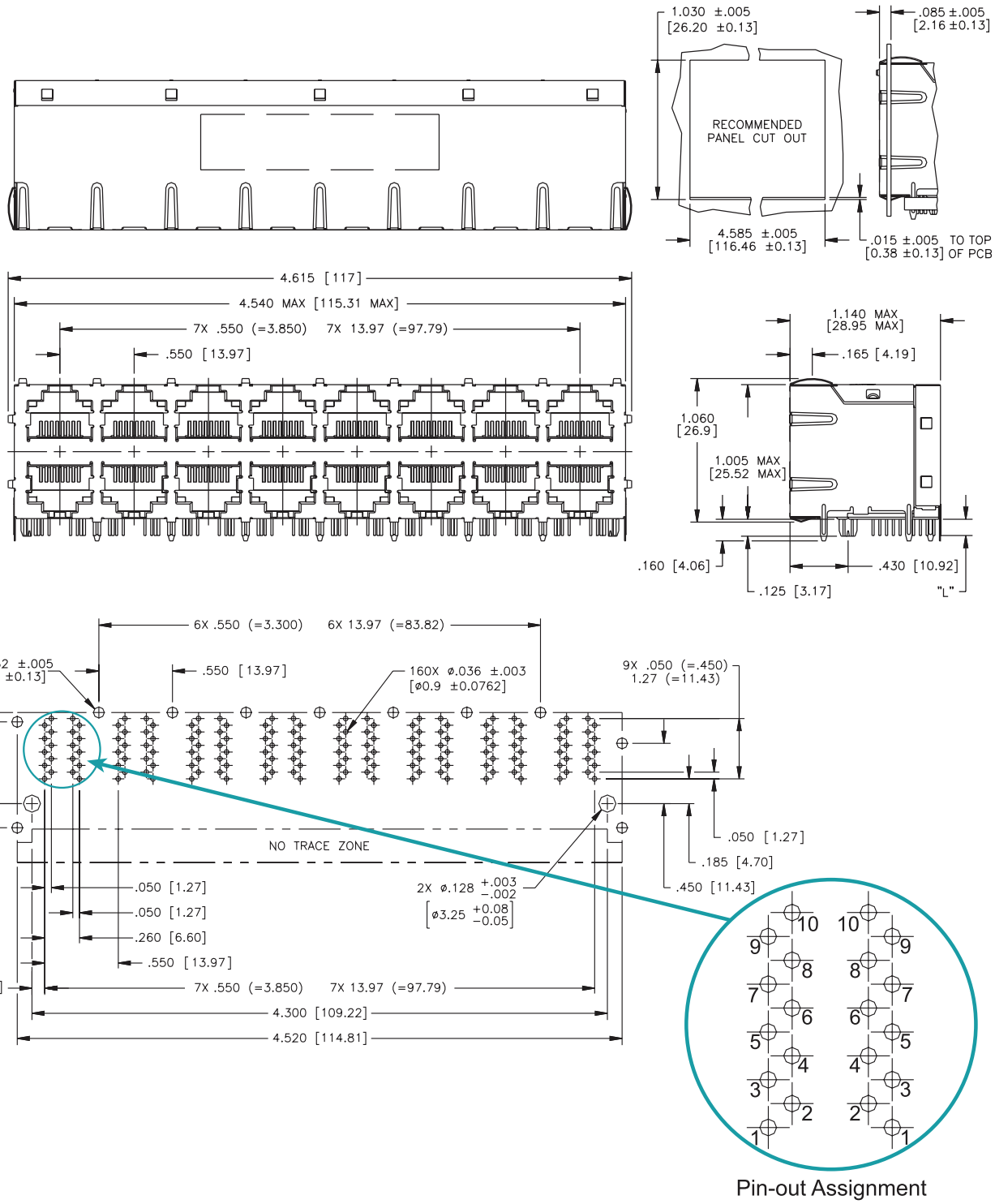
SUGGESTED PC BOARD LAYOUT VIEWED FROM COMPONENT SIDE
UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE IS ±.002



Pin-out Assignment

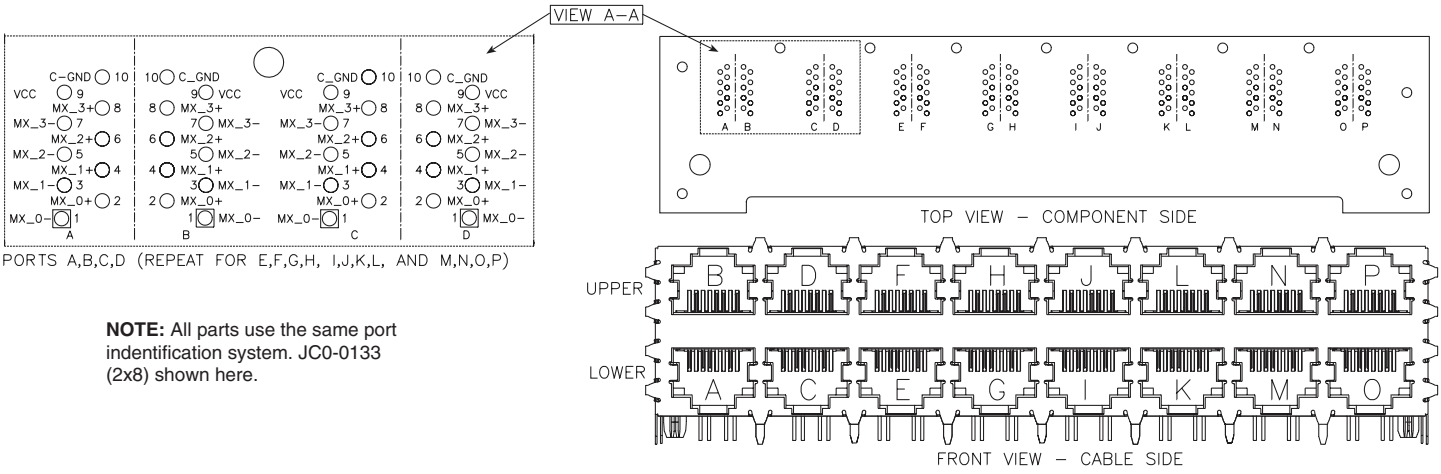
Mechanicals

JC0-0133NL



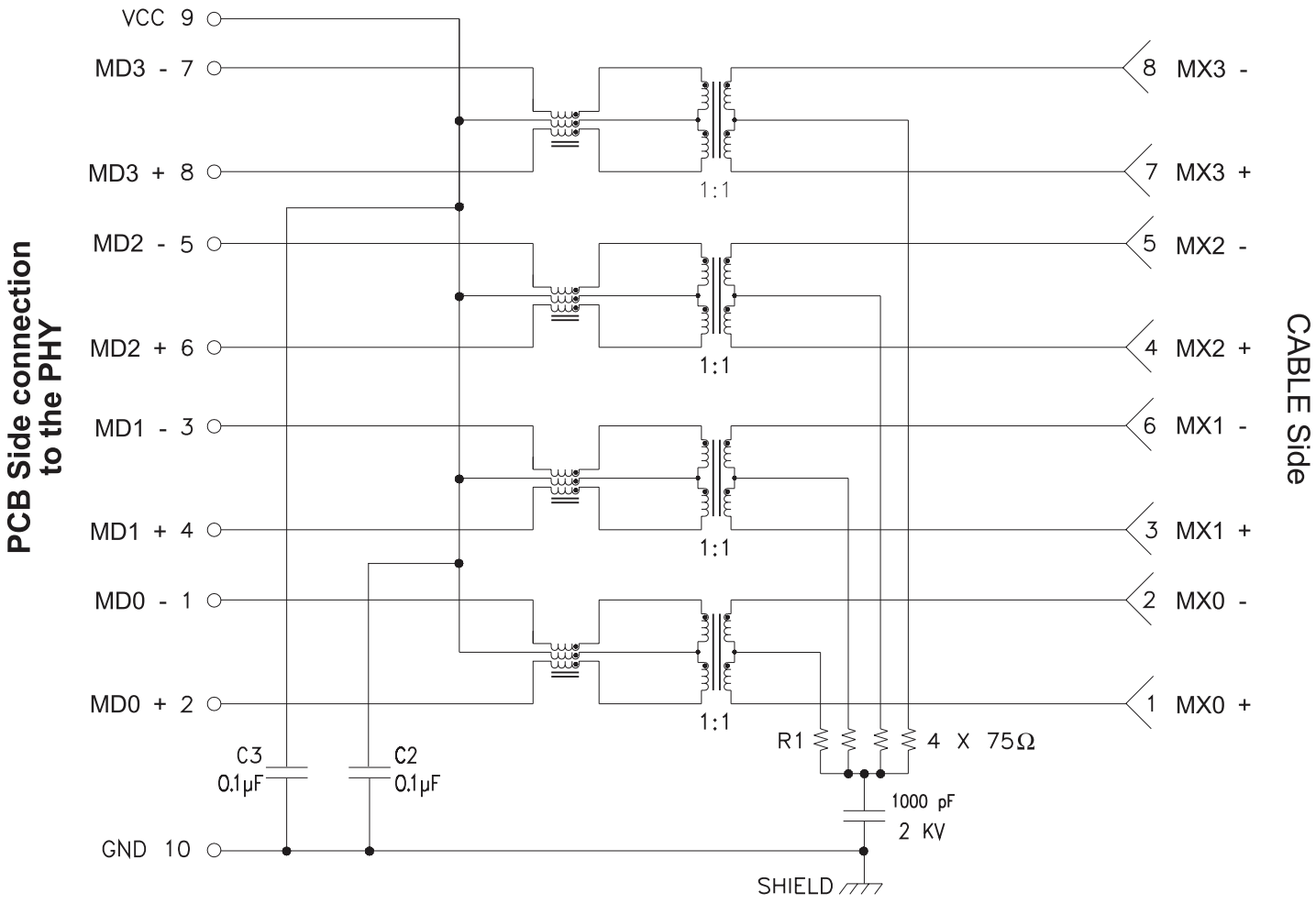
Pin-out Assignment

JC0-0131NL/32NL/33NL



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

Schematic



PulseJack®
2xN Gigabit

US Patent #7241181

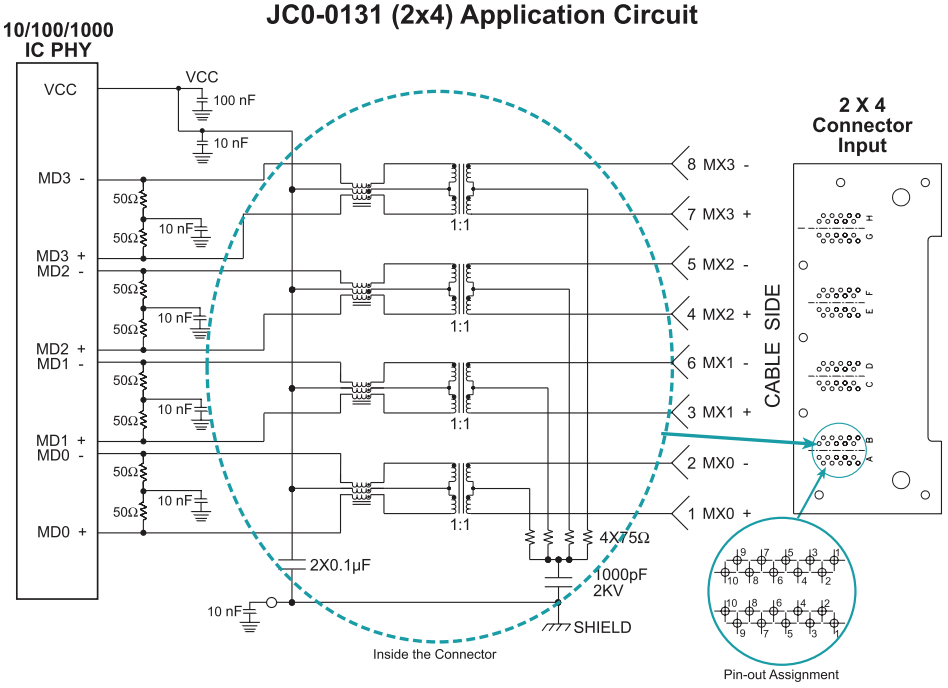
2XN Gigabit Application Note

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 comptability 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 350 µH of open circuit inductance. The transformers used in each module also provide 2250Vdc minimum isolation, wide band width with minimal attenuation and fast rise times to minimize system level jitter.

JC0-0131 (2x4) Application Circuit



Notes:

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

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