

Description:

The 2x1 is a Through Hole (THT) Integrated Connector Module. The internal magnetics are designed to support 10/100/1000Base-TX applications such as LAN-on-Motherboard (LOM) and PC applications.



Features and Benefits:

- 🔌 LAN interface suitable for 10/100/1000Base-TX applications
- 🔌 2x1 RJ45 design saves on PCB real estate
- 🔌 RJ45 connection meets CAT3, 5e & 6 Fast Ethernet performance standard

Electrical Performance Summary:

- 🔌 Meets IEEE 802.3 specification
- 🔌 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	Data Rate	Turns ^{1,2} Ratios		Insertion Loss TX/RX (dB MAX)	Return Loss @ 100Ω ±15Ω (dB TYP)			Crosstalk (dB MIN)			Common Mode Rejection (dB TYP)		Hipot (Vrms) (MIN)
		TX	RX	1-65 MHz	1-10 MHz	30 MHz	60-80 MHz	1-10 MHz	32-60 MHz	60-100 MHz	1-50 MHz	50-130 MHz	@60Hz 1 MIN
JC0-0019	10/100/1000	1CT:1	1CT:1	-1.0	-20	-16	-12	-40	-35	-30	-30	-20	1500

Notes:

- Both transmit and receive channels meet IEEE 802.3 specifications.
- Different electrical specifications can be accommodated. For more information, please contact Pulse.

RJ45 Durability Testing 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.	500 Insertions	20 lbs./9.072 kgs.

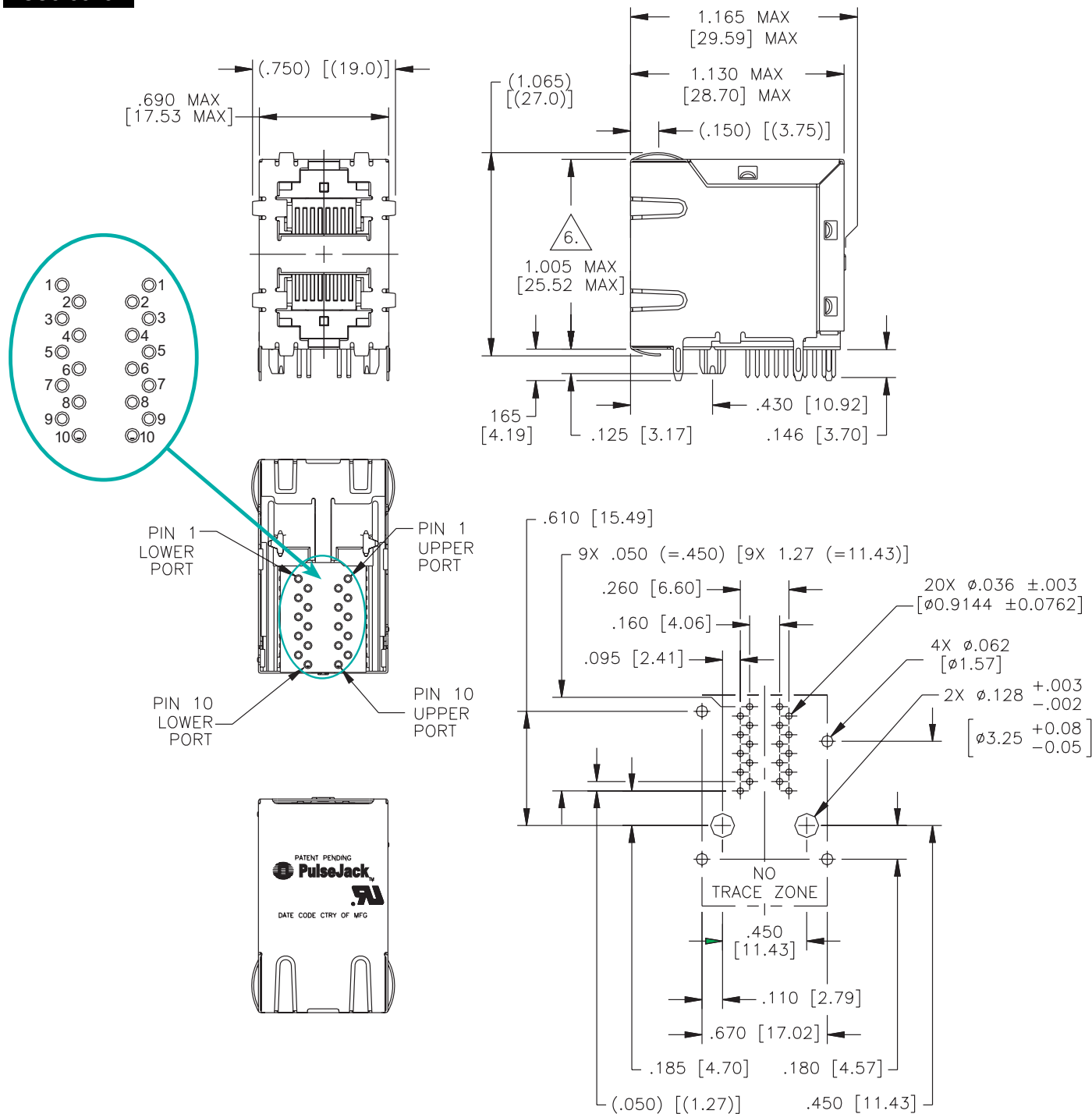
RJ45 Material Specification

Part Number	Shield		Contact			Housing	
	Material	Finish	Material	Plating Area	Solder Area	Material	Specification
JC Series	Brass	20-40μ inches thick nickel over brass	Phosphor Bronze	15μ inches gold over 30-80μ inches nickel	75-300μ inches tin-lead over 75-300μ inches bright nickel	Thermoplastic	UL 94 V-0

Notes: Connector dimensions comply with FCC dimension requirements.

Mechanical

JC0-0019



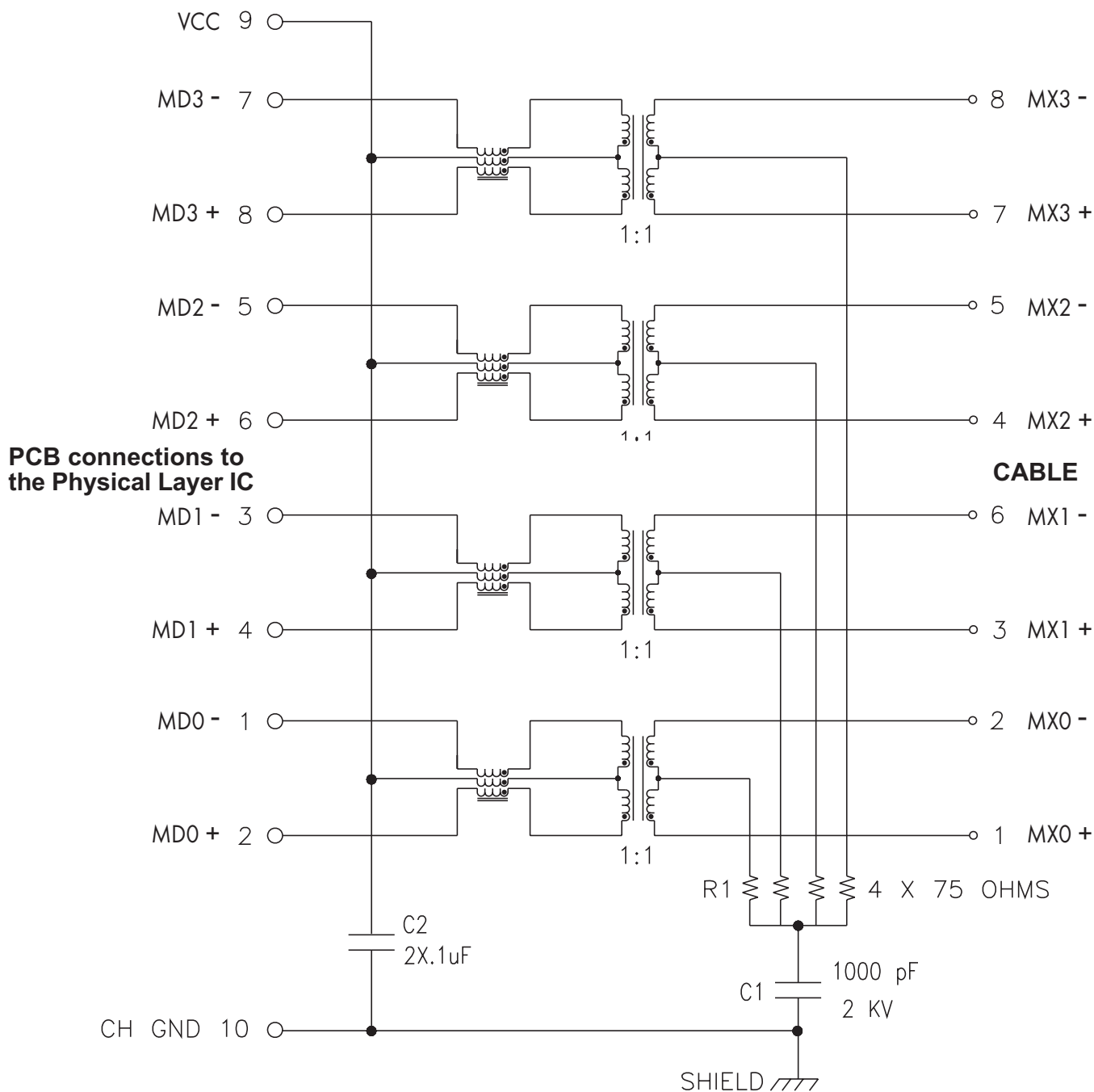
Weight8.1 grams
Tray45/tray

SUGGESTED PC BOARD LAYOUT VIEWED FROM COMPONENT SIDE
UNLESS OTHERWISE SPECIFIED DIMENSIONAL TOLERANCE IS ± 0.002



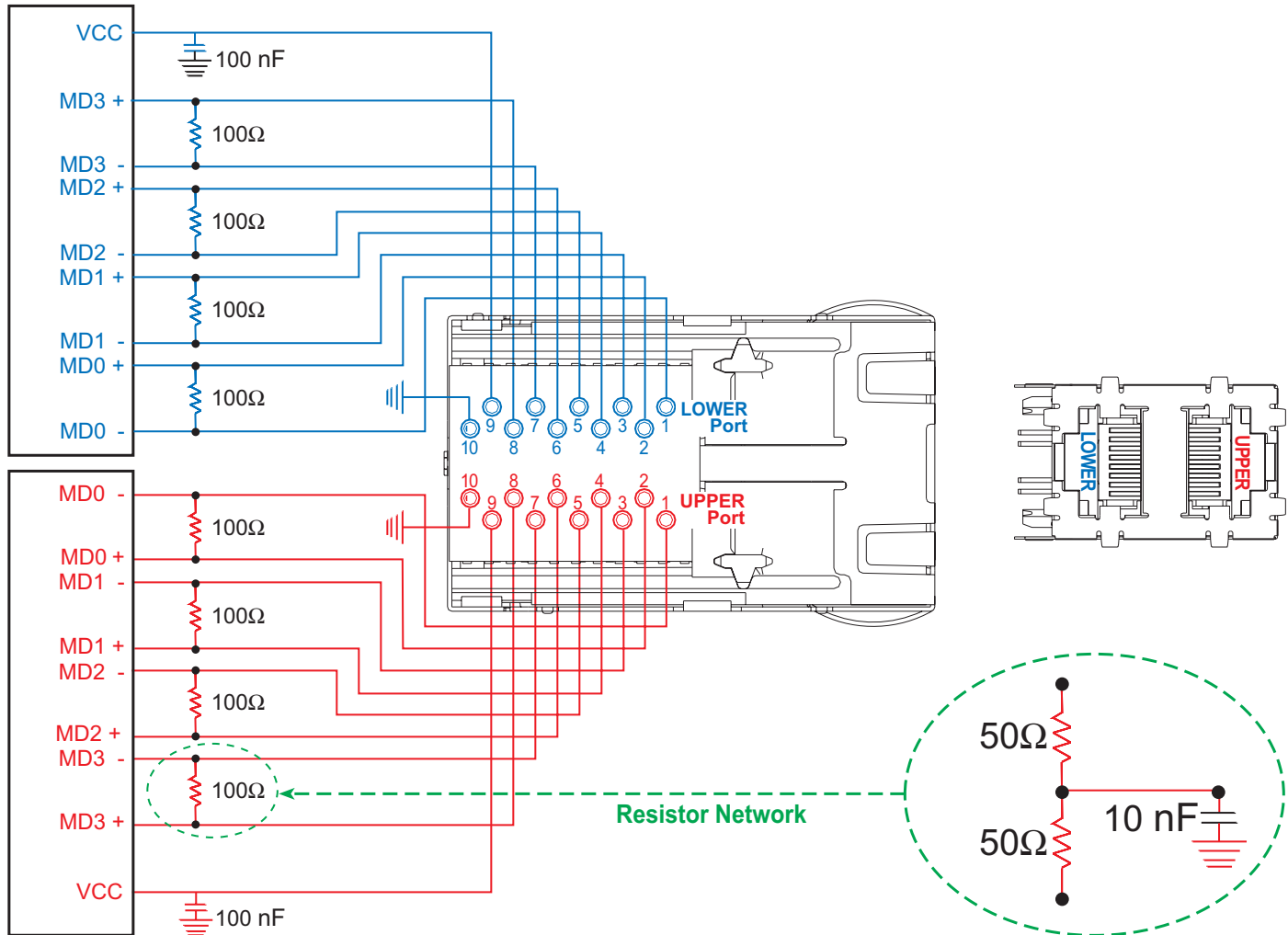
Schematic

JC0-0019



JC0-0019 Application Circuit

10/100/1000
IC PHY



PCB Layout Recommendations:

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

For More Information:

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