PULSEJACK™
2x1 RJ45

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:
- RoHS-5 peak wave solder temperature rating 235°C
- RoHS-6 peak wave solder temperature rating 260°C
- 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 1500Vrms isolation per IEEE 802.3 requirement

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

<table>
<thead>
<tr>
<th>RoHS-5 Compliant Part No.</th>
<th>RoHS-6 Compliant Part No.</th>
<th>Data Rate</th>
<th>Turns¹²</th>
<th>Insertion Loss TX/RX (dB MAX)</th>
<th>Return Loss @ 100Ω ±15Ω (dB TYP)</th>
<th>Crosstalk (dB MIN)</th>
<th>Common Mode Rejection (dB TYP)</th>
<th>Hipot (Vrms) (MIN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JC0-0019</td>
<td>JC0-0019NL</td>
<td>10/100/1000</td>
<td>1CT:1 1CT:1</td>
<td>-1.0</td>
<td>-20 -16 -12</td>
<td>-40 -35 -30</td>
<td>-30 -20</td>
<td>1500</td>
</tr>
</tbody>
</table>

NOTES:
1. Both transmit and receive channels meet IEEE 802.3 specifications.
2. Different electrical specifications can be accommodated. For more information, please contact Pulse.
3. 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.
4. 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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Mating Force (MAX)</th>
<th>Unmating Force (MAX)</th>
<th>Durability</th>
<th>Plug to Jack Retention (MIN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JC Series</td>
<td>5lbs./2.268kgs.</td>
<td>5lbs./2.268kgs.</td>
<td>500 Insertions</td>
<td>20lbs./9.072kgs.</td>
</tr>
</tbody>
</table>

RJ45 Material Specification

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Shield</th>
<th>Contact</th>
<th>Solder Area</th>
<th>Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>JC Series</td>
<td>Brass</td>
<td>20-40µ inches thick nickel over brass</td>
<td>75-300µ inches bright nickel</td>
<td>Thermoplastic UL 94 V-0</td>
</tr>
</tbody>
</table>

Notes: Connector dimensions comply with FCC dimension requirements.
**Mechanical**

**Weight** ............... 8.1 grams

**Tray** ................. 45/tray

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