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-T 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>LEDs</th>
<th>Turns¹ ¹⁄₂ Ratios</th>
<th>Insertion Loss (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>-</td>
<td>L / R</td>
<td>TX / RX</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1500</td>
</tr>
<tr>
<td>-</td>
<td>JC0-0063NL</td>
<td>G, Y</td>
<td>L / R</td>
<td>TX / RX</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1500</td>
</tr>
</tbody>
</table>

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 Material</th>
<th>Finish</th>
<th>Contact Material</th>
<th>Plating Area</th>
<th>Solder Area</th>
<th>Housing Material</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>JC Series</td>
<td>Brass</td>
<td>20-40µ inches thick nickel over brass</td>
<td>Phosphor Bronze</td>
<td>15µ inches gold over 30-80µ inches nickel</td>
<td>75-300µ inches tin-lead over 75-300µ inches bright nickel</td>
<td>Thermoplastic</td>
<td>UL 94 V-0</td>
</tr>
</tbody>
</table>

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

**JC0-0063NL**

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

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

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

JC0-0019 / JC0-0019NL / JC0-0063NL

PCB connections to the Physical Layer IC

VCC 9

MD3 - 7

MD3 + 8

1:1

4 MX2 +

5 MX2 -

7 MX3 -

8 MX3 +

MD2 - 5

MD2 + 6

1:1

3 MX1 +

2 MX0 -

1 MX0 +

MD0 - 1

1:1

3 X 75 OHMS

MD0 + 2

2X.1uF

4.75 OHMS

CH GND 10

2.1 KV

1000 pF

SHIELD

JC0-0063NL

USA 858 674 8100 • Germany 49 7032 7806 0 • Singapore 65 6287 8998 • Shanghai 86 21 32181071 • China 86 755 33966678 • Taiwan 886 3 4643715

www.pulseeng.com
Application Circuit

10/100/1000 IC PHY

VCC

100 nF

100Ω

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.

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