Gigabit Ethernet

RClamp®3374N

**KEY FEATURES**
- 3.3V low operating voltage
- Protects 4 lines
- ±30kV air discharge/ ±30kV contact
- Low capacitance for high-speed interfaces
- Able to withstand a high-level surge current (40A, 8/20us)
- Flow-through package (3.0 x 2.0 x 0.60mm)

*Alternative Solutions*

RClamp®0512TQ

**KEY FEATURES**
- 5V working voltage
- Protects two high-speed data lines
- ±30kV air discharge/ ±30kV contact
- Low capacitance: 1.1pF typ
- Dynamic Resistance: 0.075 Ohms (Typ)
- AEC-Q100 qualified
- Small 3-pin 0402 package (1.0 x 0.60 x 0.40mm)

RClamp®2502L

**KEY FEATURES**
- 2.5V low operating voltage
- Protects up to two I/O lines
- ±15kV air discharge/ ±8kV contact
- <5pF (Line-to-Line) low capacitance
- High surge capability: 40A (tp=8/20μs)
- Industry standard SO-8 package

Surge and ESD Protection for Safeguarding Gigabit Ethernet

Gigabit Ethernet transceivers, built on advanced semiconductor process nodes, are more sensitive to electrical transient events than ever before. Today’s advanced PHYs require state of the art TVS protection arrays that can absorb the expected transient energy, clamp the incoming surge to a safe level, and present sufficiently low junction capacitance to be electrically transparent to the system under normal operation.

Semtech has pioneered and led the way in transient protection for high speed data lines. Semtech offers leading edge protection technology to achieve best in class protection on Gigabit Ethernet lines.
RClamp®3374N

Device Parameter Summary

<table>
<thead>
<tr>
<th>Part #</th>
<th>( V_{rms} )</th>
<th>Lines</th>
<th>ESD Rating</th>
<th>Cap (I/O - I/O)</th>
<th>Ipp @ 8/20µs</th>
<th>Package size (mm)</th>
<th>Schematic Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>RClamp3374N</td>
<td>3.3</td>
<td>4</td>
<td>±30kV</td>
<td>±30kV</td>
<td>1.7pF</td>
<td>40</td>
<td>3.0x2.0x0.6</td>
</tr>
<tr>
<td>RClamp0512TQ</td>
<td>5</td>
<td>2</td>
<td>±30kV</td>
<td>±30kV</td>
<td>2.0pF</td>
<td>25</td>
<td>1.0x0.6x0.6</td>
</tr>
<tr>
<td>RClamp2502L</td>
<td>2.5</td>
<td>2</td>
<td>±20kV</td>
<td>±5kV</td>
<td>1.5pF</td>
<td>40</td>
<td>4.9x5.9x1.5</td>
</tr>
</tbody>
</table>

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