Working in Today's World......

Working in today's world means that electronic devices are smaller, faster, smarter, and generally far more complex than ever before.

The need for packaged devices operating at greater frequencies, presents a new set of challenges in the test and production environment.

Paricon Technologies provides a state of the art family of high performance contact materials, specifically designed for the advanced needs of the electronic industry.

Our unique contact system has been applied at virtually every level of interconnection, such as test and burn-in sockets, production level sockets, cable to board connectors and mezzanine connectors.

PariPoser® Interconnect Technology

To achieve optimum performance with PariPoser® materials, it is important to understand their structure and to provide the correct mechanical interface. Paricon’s studies have shown that when the design rules are followed, very high performance electrical interconnection capability can be obtained for a wide range of applications including test, burn-in and production interconnection products.

The PariPoser® conductive film is comprised of columns of silver-plated nickel particles uniformly distributed in a thin sheet of silicone. Typical sheet thickness ranges from 0.0025" to 0.015". When the PariPoser film is compressed between a pair of flat conductors the silicone elastically moves allowing the columns to electrically interconnect the conductors. The contact loading force is generated by the elastic displacement of the silicone. Paricon markets these products under the name “BallWire® contact”. Unlike wire based elastomeric products, BallWire contacts are not easily damaged by excessive loading and are not subject to Euler Column failure. The nickel particles are very hard and are very effective at penetrating oxide layers.

The column density is such that multiple columns will contact each interconnection pad. The PariPoser column density is much greater than the contact spacing. Multiple BallWire columns will be present at each pad location. As a result, no orientation of the material, relative to the pads, is required. One just has to make sure that the components being interconnected are aligned to each other.

PariPoser films do not compress under load but move elastically allowing the contact pads to make intimate contact with the BallWire columns. Space must be provided for the silicone to move into. This space is provided by the PariPoser surface roughness and the interstitial space between the contact pads. When a PariPoser connector is compressed between an LGA device and board, the PariPoser film conforms to the surface tending to fill all the voids providing a stable, gasket like interconnection. Little additional vertical motion will occur with load or time. The result is a very stable, environmentally protected interconnection.
FEATURES AND BENEFITS
- High Bandwidth (>70GHz)
- Low Profile (<0.4mm)
- Fine Pitch (<0.2mm)
- Low Loss (<0.3dB@40GHz)

Markets
- Telecom
- Computer
- Instrumentation
- Medical
- Automotive
- Military
- Space

Applications
- Board to Board
- Memory
- Processor
- Test Fixtures
- Military Equipment
- Ground and Flight
- Space Application
### PariPoser® Interconnect Technology

<table>
<thead>
<tr>
<th>Construction</th>
<th>1.27mm</th>
<th>1.0mm</th>
<th>0.8mm</th>
<th>0.65mm</th>
<th>0.5mm</th>
<th>0.4mm</th>
<th>0.3mm</th>
<th>0.2mm</th>
<th>0.1mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ni/Ag Silicone Sheet</td>
<td>Ni/Ag Silicone Sheet</td>
<td>Ni/Ag Silicone Sheet</td>
<td>Ni/Ag Silicone Sheet</td>
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<td>Ni/Ag Silicone Sheet</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Thickness</th>
<th>0.38mm</th>
<th>0.25mm</th>
<th>0.23mm</th>
<th>0.17mm</th>
<th>0.14mm</th>
<th>0.11mm</th>
<th>0.09mm</th>
<th>0.06mm</th>
<th>0.05mm</th>
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</thead>
<tbody>
<tr>
<td>Min Pad Height</td>
<td>0.075mm</td>
<td>0.075mm</td>
<td>0.075mm</td>
<td>0.075mm</td>
<td>0.05mm</td>
<td>0.05mm</td>
<td>0.05mm</td>
<td>0.05mm</td>
<td>0.035mm</td>
</tr>
<tr>
<td>Pad Diameter</td>
<td>0.762mm</td>
<td>0.6mm</td>
<td>0.48mm</td>
<td>0.39mm</td>
<td>0.3mm</td>
<td>0.24mm</td>
<td>0.18mm</td>
<td>0.12mm</td>
<td>0.06mm</td>
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<tr>
<td>Pad Gap</td>
<td>0.51mm</td>
<td>0.4mm</td>
<td>0.32mm</td>
<td>0.26mm</td>
<td>0.20mm</td>
<td>0.16mm</td>
<td>0.12mm</td>
<td>0.08mm</td>
<td>0.04mm</td>
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<tr>
<td>Pad Loading (g/contact)</td>
<td>80.6</td>
<td>50</td>
<td>32</td>
<td>21.1</td>
<td>12.5</td>
<td>8</td>
<td>4.5</td>
<td>2</td>
<td>0.5</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-50°C to 210°C</td>
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</tr>
<tr>
<td>Thermal Conductivity</td>
<td>1300W/m²k</td>
<td>2000W/m²k</td>
<td>2200W/m²k</td>
<td>2900W/m²k</td>
<td>3600W/m²k</td>
<td>4500W/m²k</td>
<td>5600W/m²k</td>
<td>8300W/m²k</td>
<td>10000W/m²k</td>
</tr>
<tr>
<td>Current: Amps/pad</td>
<td>40</td>
<td>20</td>
<td>15</td>
<td>12</td>
<td>8</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>¼</td>
</tr>
<tr>
<td>Breakdown Voltage</td>
<td>&gt;500v DC</td>
<td>&gt;500v DC</td>
<td>&gt;500v DC</td>
<td>&gt;500v DC</td>
<td>&gt;500v DC</td>
<td>&gt;500v DC</td>
<td>&gt;500v DC</td>
<td>&gt;500v DC</td>
<td>500v DC</td>
</tr>
<tr>
<td>RF insertion Loss at 40GHz</td>
<td>&lt;1.0dB</td>
<td>&lt;0.6dB</td>
<td>&lt;0.7dB</td>
<td>&lt;0.4dB</td>
<td>&lt;0.3dB</td>
<td>&lt;0.3dB</td>
<td>&lt;0.2dB</td>
<td>&lt;0.1dB</td>
<td>&lt;0.05dB</td>
</tr>
<tr>
<td>Out Gassing (CVCM)</td>
<td>0.07%</td>
<td>0.07%</td>
<td>0.07%</td>
<td>0.07%</td>
<td>0.07%</td>
<td>0.07%</td>
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<td>0.07%</td>
</tr>
</tbody>
</table>

**Please Note:**

1. Data provided is for guidance only.
2. Performance may vary in application.
3. Pad Height includes total height of opposing pads.
4. Gap applies to pads on both surfaces.
5. Recommended Pad loading has determination factors subject to application.
6. Single pad @ 20°C.

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A Proven High Performance Approach To:

- Connect Devices in a Test and Burn-In Environment
- Low Loss Performance at All Levels of Interconnection
- Custom Interconnections for IC's in Test/Production Equipment

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