Gap Pad® VO Ultra Soft-B is recommended for applications that require a minimum amount of pressure on components. The viscoelastic nature of the material also gives excellent low-stress vibration dampening and shock absorbing characteristics. Gap Pad® VO Ultra Soft-B is an electrically isolating material, which allows its use in applications requiring isolation between heat sinks and high-voltage, bare-leaded devices.

Note: To build a part number, visit our website at www.bergquistcompany.com.

PRODUCT DESCRIPTION
Ultra Conformable, Thermally Conductive Material for Filling Air Gaps

FEATURES AND BENEFITS
• Thermal conductivity: 1.0 W/m-K
• Highly conformable, low hardness
• Gel-like modulus
• Decreased strain
• Puncture, shear and tear resistant
• Electrically isolating

TYPICAL APPLICATIONS INCLUDE
• Various IC packages
• Telecommunications
• Between any heat-generating semiconductor and a heat sink
• Automotive
• LED lighting packages
• Computers and peripherals

CONFIGURATIONS AVAILABLE
• Sheet form and die-cut parts

TYPICAL PROPERTIES OF GAP PAD VO ULTRA SOFT-B

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>IMPERIAL VALUE</th>
<th>METRIC VALUE</th>
<th>TEST METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Black/Black</td>
<td>Black/Black</td>
<td>Visual</td>
</tr>
<tr>
<td>Reinforcement Carrier</td>
<td>Fiberglass</td>
<td>Fiberglass</td>
<td>—</td>
</tr>
<tr>
<td>Thickness (inch) / (mm)</td>
<td>0.020 to 0.125</td>
<td>0.508 to 3.175</td>
<td>ASTM D374</td>
</tr>
<tr>
<td>Inherent Surface Tack (1 sided)</td>
<td>1</td>
<td>1</td>
<td>—</td>
</tr>
<tr>
<td>Density (Bulk Rubber) (g/cc)</td>
<td>1.6</td>
<td>1.6</td>
<td>ASTM D792</td>
</tr>
<tr>
<td>Heat Capacity (W/K)</td>
<td>1.0</td>
<td>1.0</td>
<td>ASTM E1269</td>
</tr>
<tr>
<td>Hardness (Bulk Rubber) (Shore 00) (1)</td>
<td>5</td>
<td>5</td>
<td>ASTM D2240</td>
</tr>
<tr>
<td>Young’s Modulus (psi) / (kPa) (2)</td>
<td>8</td>
<td>55</td>
<td>ASTM D575</td>
</tr>
<tr>
<td>Continuous Use Temp (°F) / (°C)</td>
<td>-76 to 392</td>
<td>-60 to 200</td>
<td>—</td>
</tr>
</tbody>
</table>

ELECTRICAL
• Dielectric Breakdown Voltage (Vac) 6000 6000 ASTM D149
• Dielectric Constant (1 Mhz) 5.5 5.5 ASTM D150
• Volume Resistivity (Ohm-meter) $10^{11}$ $10^{11}$ ASTM D257
• Flame Rating V-0 V-0 UL 94

THERMAL
• Thermal Conductivity (W/m-K) 1.0 1.0 ASTM D5470

THERMAL PERFORMANCE vs. STRAIN

<table>
<thead>
<tr>
<th>Deflection (% strain)</th>
<th>10</th>
<th>20</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal Impedance (°C-in²/W) 0.040&quot; (3)</td>
<td>1.97</td>
<td>1.87</td>
<td>1.68</td>
</tr>
<tr>
<td>Thermal Impedance (°C-cm²/W) 1.016mm (3)</td>
<td>12.7</td>
<td>12.1</td>
<td>10.8</td>
</tr>
</tbody>
</table>

1) Thirty second delay value Shore 00 hardness scale. 2) Young’s Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch. 3) The ASTM D5470 test fixture was used. The recorded value includes interfacial thermal resistance. These values are provided for reference only. Actual application performance is directly related to the surface roughness, flatness and pressure applied.

TYPICAL APPLICATIONS INCLUDE
• Various IC packages
• Telecommunications
• Between any heat-generating semiconductor and a heat sink
• Automotive
• LED lighting packages
• Computers and peripherals

CONFIGURATIONS AVAILABLE
• Sheet form and die-cut parts
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