### Spring Combos

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>POLY-Si</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young’s Modulus, $E$</td>
<td>150</td>
<td>GPa</td>
</tr>
<tr>
<td>Poisson’s Ratio, $\nu$</td>
<td>0.226</td>
<td>-</td>
</tr>
<tr>
<td>Density, $\rho$</td>
<td>2,300</td>
<td>kg/m³</td>
</tr>
<tr>
<td>DI Water Contact Angle, $\theta_c$</td>
<td>85</td>
<td>°</td>
</tr>
<tr>
<td>DI Water Contact Angle, $\gamma$</td>
<td>$72.75 \times 10^{-3}$</td>
<td>N/m</td>
</tr>
<tr>
<td>Width of Coupling/Suspension Beams, $W_b$</td>
<td>2</td>
<td>μm</td>
</tr>
<tr>
<td>Structural Layer Thickness, $h$</td>
<td>2</td>
<td>μm</td>
</tr>
<tr>
<td>Structure to Substrate Gap, $d_o$</td>
<td>2</td>
<td>μm</td>
</tr>
</tbody>
</table>

- What’s the $x$-directed stiffness at point $A$?
- What’s the $x$-directed stiffness at point $B$?
- If the shuttles are stuck, will coupling beam folding trusses be stuck?
Spring Combos (cont.)

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