# Hermetic Package Mechanical Configuration

<table>
<thead>
<tr>
<th>Package</th>
<th>Devices</th>
<th>Cavity</th>
<th>Weight (grams)</th>
<th>Lid (mils)</th>
<th>Heat Spreader (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PG84</td>
<td>A1010B</td>
<td>Up</td>
<td>8.0</td>
<td>690x690</td>
<td>No</td>
</tr>
<tr>
<td>CQ84</td>
<td>A1020B</td>
<td>Up</td>
<td>2.2</td>
<td>520x520</td>
<td>No</td>
</tr>
<tr>
<td>PG84</td>
<td>A1020B</td>
<td>Up</td>
<td>8.0</td>
<td>690x690</td>
<td>No</td>
</tr>
<tr>
<td>PG100</td>
<td>A1225XL</td>
<td>Up</td>
<td>–</td>
<td>550x550</td>
<td>No</td>
</tr>
<tr>
<td>PG132</td>
<td>A1240A</td>
<td>Up</td>
<td>11.0</td>
<td>720x720</td>
<td>No</td>
</tr>
<tr>
<td>PG132</td>
<td>A1240XL</td>
<td>Up</td>
<td>11.0</td>
<td>720x720</td>
<td>No</td>
</tr>
<tr>
<td>CQ172</td>
<td>A1280A</td>
<td>Up</td>
<td>8.8</td>
<td>870x870</td>
<td>No</td>
</tr>
<tr>
<td>PG176</td>
<td>A1280A</td>
<td>Up</td>
<td>18.2</td>
<td>870x870</td>
<td>17.00x17.00 (inside of package)</td>
</tr>
<tr>
<td>CQ172</td>
<td>A1280XL</td>
<td>Up</td>
<td>8.8</td>
<td>870x870</td>
<td>No</td>
</tr>
<tr>
<td>PG176</td>
<td>A1280XL</td>
<td>Up</td>
<td>19</td>
<td>870x870</td>
<td>No</td>
</tr>
<tr>
<td>CQ256</td>
<td>A14100A</td>
<td>Up</td>
<td>13.0</td>
<td>860x860</td>
<td>No</td>
</tr>
<tr>
<td>PG257</td>
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<td>Down</td>
<td>27.3</td>
<td>860x860</td>
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<td>CQ132</td>
<td>A1425A</td>
<td>Up</td>
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<td>650x650</td>
<td>No</td>
</tr>
<tr>
<td>PG175</td>
<td>A1440A</td>
<td>Down</td>
<td>19</td>
<td>670x670</td>
<td>No</td>
</tr>
<tr>
<td>CQ196</td>
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<td>11.1</td>
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</tr>
<tr>
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<td>24.5</td>
<td>770x770</td>
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<td>900x900</td>
<td>22.85x22.85x0.50</td>
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<tr>
<td>CQ256</td>
<td>A32200DX</td>
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<td>-</td>
<td>900x900</td>
<td>22.86x22.86x0.50</td>
</tr>
<tr>
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<td>770x770</td>
<td>No</td>
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<td>CQ256</td>
<td>A42MX36</td>
<td>Down</td>
<td>13.0</td>
<td>770x770</td>
<td>No</td>
</tr>
<tr>
<td>CQ208</td>
<td>A54SX16</td>
<td>Up</td>
<td>8.8</td>
<td>520x520</td>
<td>No</td>
</tr>
<tr>
<td>CQ256</td>
<td>A54SX16</td>
<td>Up</td>
<td>15.0</td>
<td>520x520</td>
<td>18.29x18.29x0.50</td>
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</tbody>
</table>

1. Device weights are approximate values. There might be slight variations from lot to lot and device to device. For increased accuracy, Actel recommends weighing the parts that are being used. CQFP package weights do not include the ceramic lead frame, therefore they are the approximate weights after devices are trim-and-formed.
2. Dimensions for CQFPs are recorded as mean design dimensions (X, Y, and Z as thickness) and tolerance shall be applied. The overall package thickness is: ceramic thickness + lid thickness (typical ~0.60 mm) + HS (0.50mm if exist).
3. HS thickness is 0.50mm and brazed to the surface of the ceramic substrate.
4. Total HS thickness is 1.27mm with only 0.50mm extended outside of the ceramic surface.
5. Cavity down CQFPs have their lid on the bottom side when attached to PCBs. The trim-form mechanical samples for both 32200DX and MX36 are interchangeable, since the 32200DX HS is facing upward.
6. All CQFPs in the same group of configuration (for example, CQ208, cavity up, no HS) are interchangeable as trim-form mechanical samples.
7. All CQFPs and CPGAs have their lids and heat sinks grounded to the ground plane within the packages.
<table>
<thead>
<tr>
<th>Package</th>
<th>Devices</th>
<th>Cavity</th>
<th>Weight (grams)</th>
<th>Lid (mils)</th>
<th>Heat Spreader (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CQ208</td>
<td>A54SX32</td>
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<td>590x590</td>
<td>No</td>
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<td>A54SX32</td>
<td>Up</td>
<td>14.5</td>
<td>590x590</td>
<td>12.07x12.70x0.50q</td>
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<td>CQ208</td>
<td>A54SX32A</td>
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<td>No</td>
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<tr>
<td>CQ256</td>
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<td>Up</td>
<td>13.0</td>
<td>720x720</td>
<td>No</td>
</tr>
<tr>
<td>CQ208</td>
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<td>720x720</td>
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<tr>
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<td>APA1000</td>
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<tr>
<td>CQ352</td>
<td>APA1000</td>
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<tr>
<td>CQ352</td>
<td>AX2000</td>
<td>Up</td>
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<td>1000x1000</td>
<td>No</td>
</tr>
<tr>
<td>CG624</td>
<td>AX2000</td>
<td>Up</td>
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<tr>
<td>CO84</td>
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<td>RT1020</td>
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<td>CQ172</td>
<td>RT1280A</td>
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<td>870x870</td>
<td>No</td>
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<tr>
<td>CQ256</td>
<td>RT14100A</td>
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<td>860x860</td>
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<td>CQ132</td>
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<td>No</td>
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<td>12.07x12.70x0.50q</td>
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<tr>
<td>CC256</td>
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<td>-</td>
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<td>CQ208</td>
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<td>15.5</td>
<td>900x900</td>
<td>22.85x22.85x0.50q</td>
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<tr>
<td>CQ256</td>
<td>RT54SX72S</td>
<td>Up</td>
<td>20.2</td>
<td>900x900</td>
<td>22.86x22.86x0.50q</td>
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<tr>
<td>CQ352</td>
<td>RTAX1000S</td>
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<td>1000x1000</td>
<td>No</td>
</tr>
<tr>
<td>CG624</td>
<td>RTAX1000S</td>
<td>Up</td>
<td>13.28</td>
<td>1000x1000</td>
<td>No</td>
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<td>Up</td>
<td>13.28</td>
<td>1160x1160</td>
<td>No</td>
</tr>
</tbody>
</table>

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