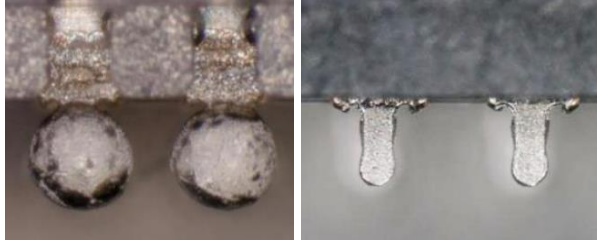


# Column (-0) Termination for ADX6/APX6: The Future of Samtec's AcceleRate® HD/HP Sockets

Samtec's AcceleRate® HD and HP array sockets are engineered for high-density, high-performance applications. Historically offered in both Ball (-1/-2) and Column (-0) termination styles, the Ball versions are now designated ECO (Existing Customers Only). For new designs, the Column (-0) termination is the recommended and fully supported solution.



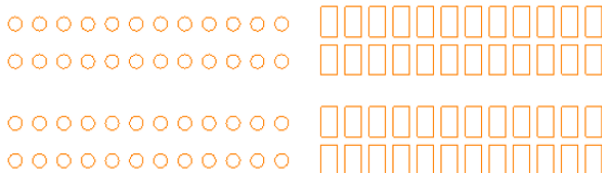
Ball Termination (Left) vs. Column Termination (Right)

The Column (-0) termination offers several key advantages over Ball terminations:

- ✓ **Long-Term Availability:** Fully supported for current and future designs
- ✓ **Simplified Design:** Fewer manufacturing irregularities and improved coplanarity
- ✓ **Higher Yields:** Consistent spacing reduces solder joint variability – and unlike ball terminations, column terminations are not prone to head-in-pillow defects, resulting in higher first-pass yield
- ✓ **Cost Efficiency:** Lower production costs enable more competitive pricing
- ✓ **Quality Assurance:** Eliminates common solder ball issues such as inadequate pin wetting or displacement

## Footprint Compatible

Column (-0) terminations share the same PCB footprint as Ball (-1/-2) terminations, allowing for a seamless transition from Ball to Column. The key difference lies in the stencil aperture design, with the Column termination version using a larger, rectangular stencil aperture to deposit increased solder volume. During reflow, the paste coalesces and flows to the tail, forming a robust columnar joint.



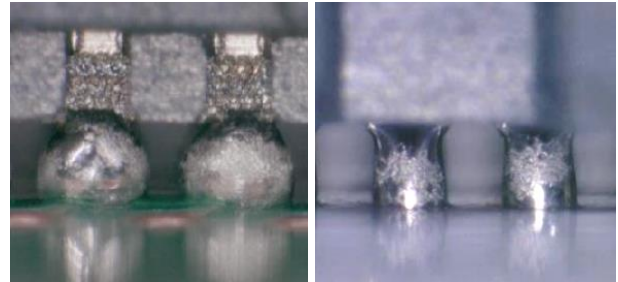
Stencil Apertures - Ball (Left) vs. Column (Right)

Links:

- [ADF6 – Surface Mount Footprint Drawing](#)
- [ADM6 – Surface Mount Footprint Drawing](#)
- [APF6 – Surface Mount Footprint Drawing](#)
- [APM6 – Surface Mount Footprint Drawing](#)

## Equivalent Performance

These solder joints have been rigorously tested per IPC 9701 for solder joint reliability, and pending the release of IPC-A-610 Rev K, the Column (-0) termination style will be recognized by IPC as a “Post” solder joint and will be Class 3 compliant. For more detailed information, reference the white paper linked [here](#).



Solder Joints: Ball (Left) vs. Column/Post (Right)

Parameter	Ball Termination	Column Termination
PCB Layout	Same	Same
Stencil Aperture Design	1:1 Round Apertures	Oversized Rectangular Apertures
Stencil Thickness	Same	Same
Reflow Profile	Same	Same
Solder Joint Reliability	Similar	Similar
Signal Integrity	Similar	Similar

## Conclusion

With the Solder ball (-1/-2) termination's transition to ECO status, the Column (-0) termination stands as the preferred solution for new designs. With identical PCB layout and proven performance, Column terminations offer a streamlined, reliable path forward for high-density, high-speed interconnects. For technical support or design guidance, contact Samtec's Interconnect Processing Group at [IPG@samtec.com](mailto:IPG@samtec.com).