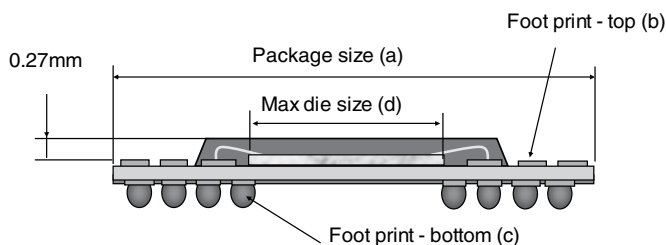


Package on Package (POP)

14x14mm

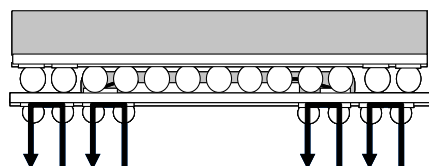
Stacked Daisy Chain

14mm 353 PSvfBGA Bottom Package Design Dimensions

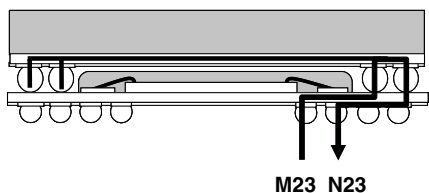


Body (a)	Foot Print-top (b)	Foot Print-bottom (c)	Die (d)	Bond Fingers Available
14 x14 mm	0.65 pitch, 152 ball 21 matrix, 2 row	0.5 pitch, 340 I/Os 26 matrix, 4 row + 12 NC + A1 ball 353 BGA	8.9 mm	328 to 396

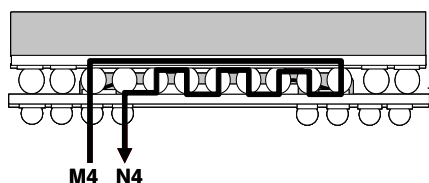
PoP Daisy Chain 3 Net Design



Daisy chain netlist of PSvfBGA, Bottom package balls



Daisy chain netlist of top side (Top PoP to PSvfBGA 12 corner balls reserved for NC or additional supplies as memory combinations may require).



Daisy chain netlist of top side (Top PoP to PSvfBGA 140 pin memory interface)

Bottom package called: Package Stackable very thin fine pitch BGA (PSvfBGA)

* Color diagram of DC Net design available on our website.

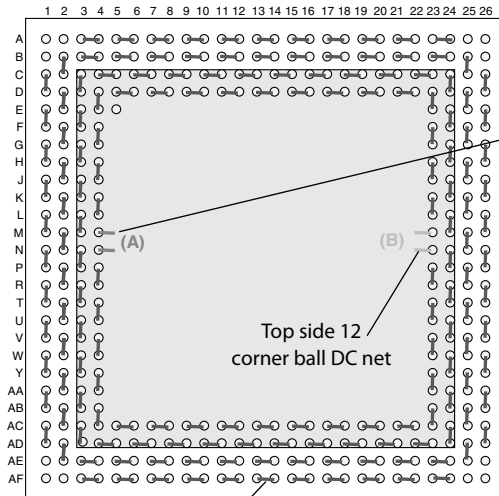
Package on Package (PoP)

14x14mm Stacked Daisy Chain



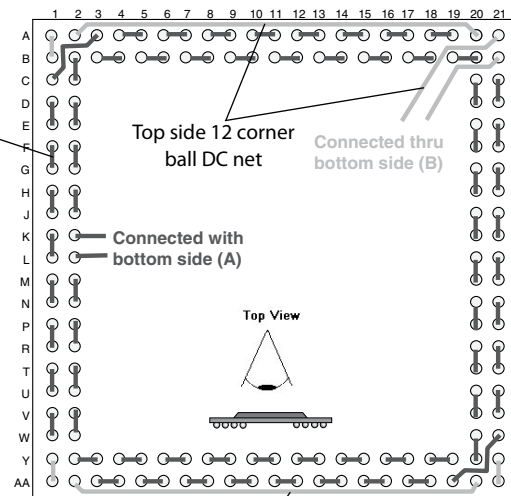
PSvfBGA 353 (Bottom Package) Daisy Chain Nets

Bottom side (top view through package) 14x14mm,
0.5 mm PSvfBGA353, 26x26 ball matrix



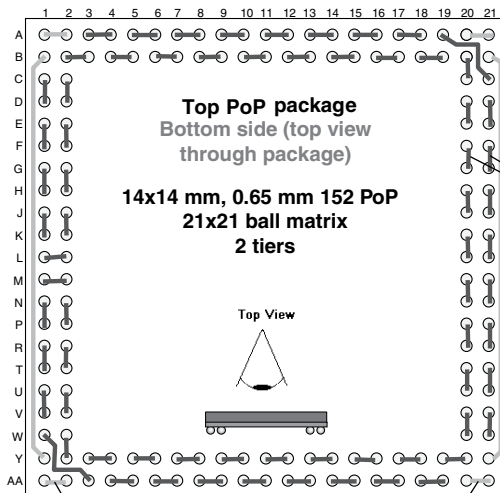
Daisy chain pattern of PSvfBGA—Bottom BGAs

Top side—Top package interface (top view) 0.65 mm pitch,
152 pads, 21x21 ball matrix



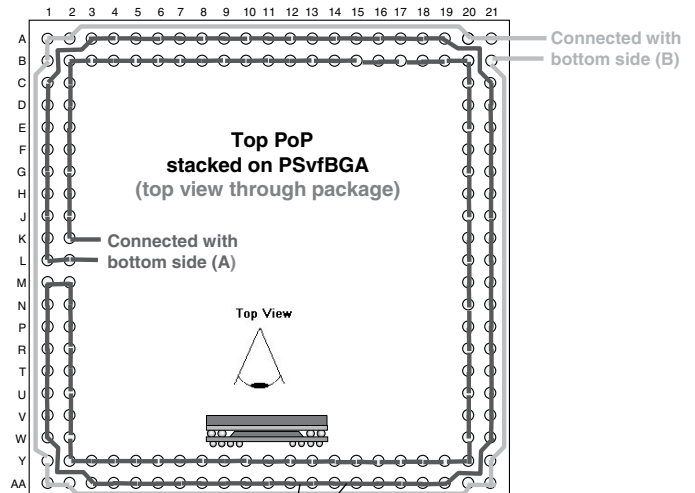
Top side 12 corner ball DC net

152 PoP (Top Package) Daisy Chain Netlist



Daisy chain pattern for 12 corner balls
(typically reserved as NC for applications with no underfill, or option to add additional I/O or memory supplies as required for high density combinations).

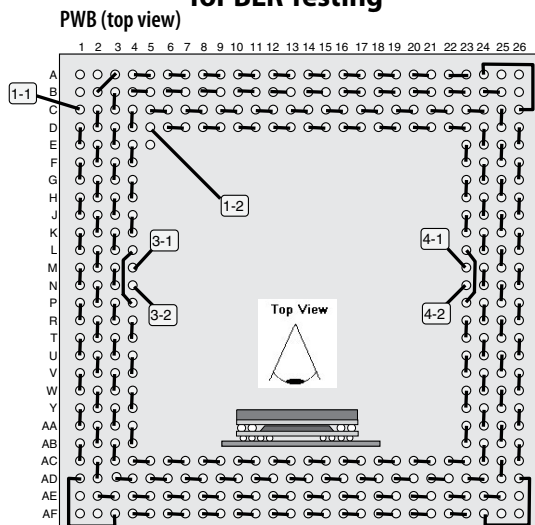
Top PoP + PSvfBGA Daisy Chain Netlist



Daisy chain netlist of Top FBGA and PSvfBGA

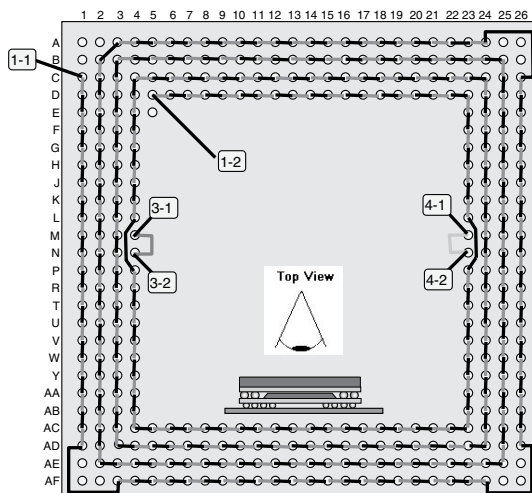
* Color diagram of DC Net design available on our website.

**PWB Netlist Pattern
for BLR Testing**



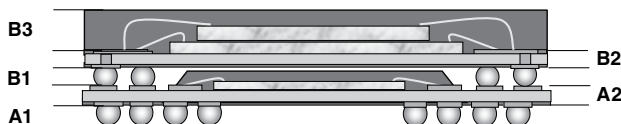
Black line: PWB pattern
In: 1-1, 3-1, 4-1
Common: 1-2, 3-2, 4-2

**Stacked View of 3 DC Nets
For BLR Testing**



Black line: PWB pattern
In: 1-1, 3-1, 4-1
Common: 1-2, 3-2, 4-2

PoP Overall Stack Up Example



Symbol	Unit	PoP + PSvfBGA		
		Min	Max	Nom
A1 (Ball, 0.5 pitch)	mm	0.150	0.250	0.200
A2 (4L laminate)	mm	0.260	0.340	0.300
B1 (Ball, 0.65 pitch)	mm	0.270	0.330	0.300
B2 (2L laminate)	mm	0.180	0.240	0.210
B3 (Mold cap)	mm	0.420	0.480	0.450
Overall Package Height	mm	1.378	1.542	1.460

B2 and B3 may vary depending on top memory PoP (MCP) design rules.

Overall Stack up to be finalized based on top PoP rules.

* Color diagram of DC Net design available on our website.