

Package Pin Assignments

108-Pin QFN

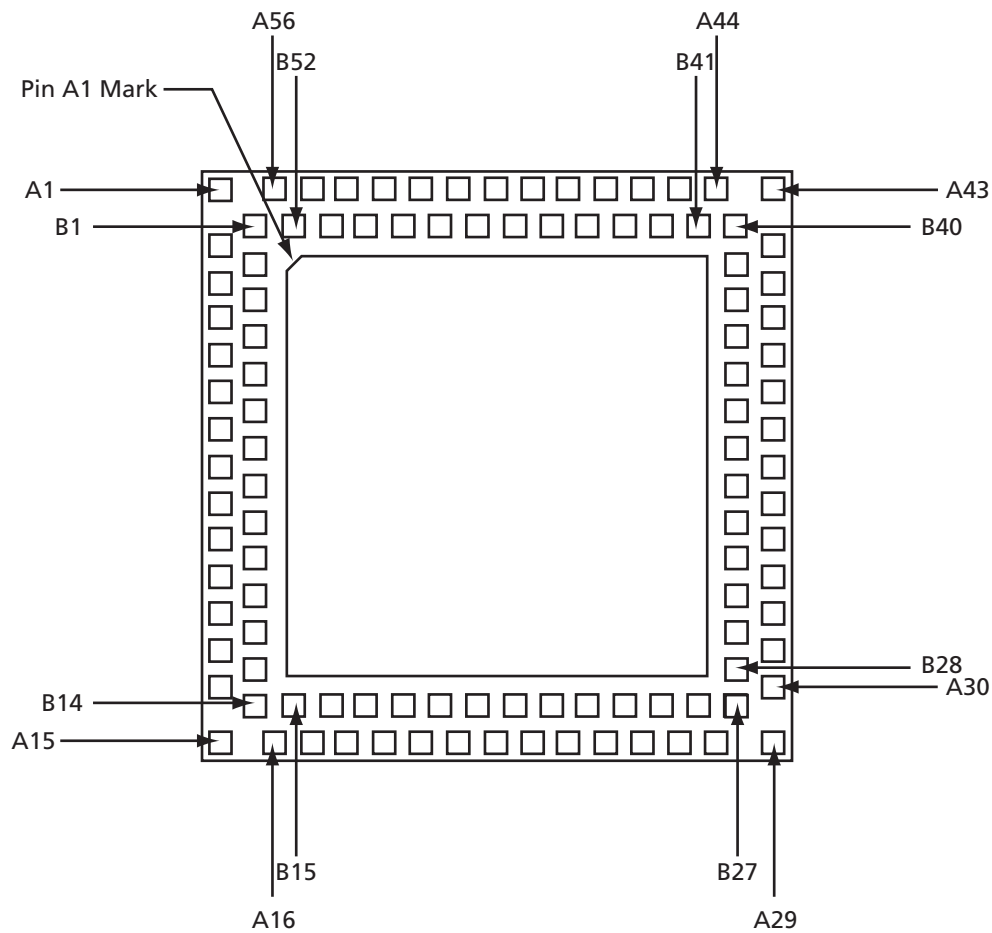


Figure 4-1 • 108-Pin QFN (Top View)

Note

For Package Manufacturing and Environmental information, visit Resource center at <http://www.actel.com/products/rescenter/package/index.html>.

108-Pin QFN	
Pin Number	AFS090 Function
A1	NC
A2	GNDQ
A3	GAA2/IO52PDB3V0
A4	GND
A5	GFA1/IO47PDB3V0
A6	GEB1/IO45PDB3V0
A7	V _{CCOSC}
A8	XTAL2
A9	GEA1/IO44PPB3V0
A10	GEA0/IO44NPB3V0
A11	GEB2/IO42PDB3V0
A12	V _{CCNVM}
A13	V _{CC15A}
A14	PCAP
A15	NC
A16	GND A
A17	AV0
A18	AG0
A19	ATR TN0
A20	AT1
A21	AC1
A22	AV2
A23	AG2
A24	AT2
A25	AT3
A26	AC3
A27	GND A Q
A28	ADCGNDREF
A29	NC
A30	GND A
A31	PTEM
A32	GND NVM
A33	V _{PUMP}
A34	TCK
A35	TMS
A36	TRST
A37	GDB1/IO39PSB1V0
A38	GDC1/IO38PDB1V0

108-Pin QFN	
Pin Number	AFS090 Function
A39	GND
A40	GCB1/IO35PDB1V0
A41	GCB2/IO33PDB1V0
A42	GBA2/IO31PDB1V0
A43	NC
A44	GBA1/IO30RSB0V0
A45	GBB1/IO28RSB0V0
A46	GND
A47	V _{CC}
A48	GBC1/IO26RSB0V0
A49	IO21RSB0V0
A50	IO19RSB0V0
A51	IO09RSB0V0
A52	GAC0/IO04RSB0V0
A53	V _{CC1B0}
A54	GND
A55	GAB0/IO02RSB0V0
A56	GAA0/IO00RSB0V0
B1	V _{COMPLA}
B2	VMV3
B3	GAB2/IO52NDB3V0
B4	V _{CC1B3}
B5	GFA0/IO47NDB3V0
B6	GEB0/IO45NDB3V0
B7	XTAL1
B8	GNDOSC
B9	GEC2/IO43PSB3V0
B10	GEA2/IO42NDB3V0
B11	V _{CC}
B11	V _{CC}
B12	GNDNVM
B13	NCAP
B14	V _{CC33PMP}
B15	V _{CC33N}
B16	GND A Q
B17	AC0
B18	AT0
B19	AG1

108-Pin QFN	
Pin Number	AFS090 Function
B20	AV1
B21	AC2
B22	ATR TN1
B23	AG3
B24	AV3
B25	V _{CC33ACAP}
B26	VAREF
B27	PUB
B28	V _{CC33A}
B29	PTBASE
B30	V _{CCNVM}
B31	V _{CC}
B31	V _{CC}
B32	TDI
B33	TDO
B34	V _{JTAG}
B35	GDC0/IO38NDB1V0
B36	V _{CC1B1}
B37	GCB0/IO35NDB1V0
B38	GCC2/IO33NDB1V0
B39	GBB2/IO31NDB1V0
B40	VMV1
B41	GNDQ
B42	GBA0/IO29RSB0V0
B43	V _{CC1B0}
B44	GBB0/IO27RSB0V0
B45	GBC0/IO25RSB0V0
B46	IO20RSB0V0
B47	IO10RSB0V0
B48	GAC1/IO05RSB0V0
B49	GAB1/IO03RSB0V0
B50	V _{CC}
B51	GAA1/IO01RSB0V0
B52	V _{CCPLA}

180-Pin QFN

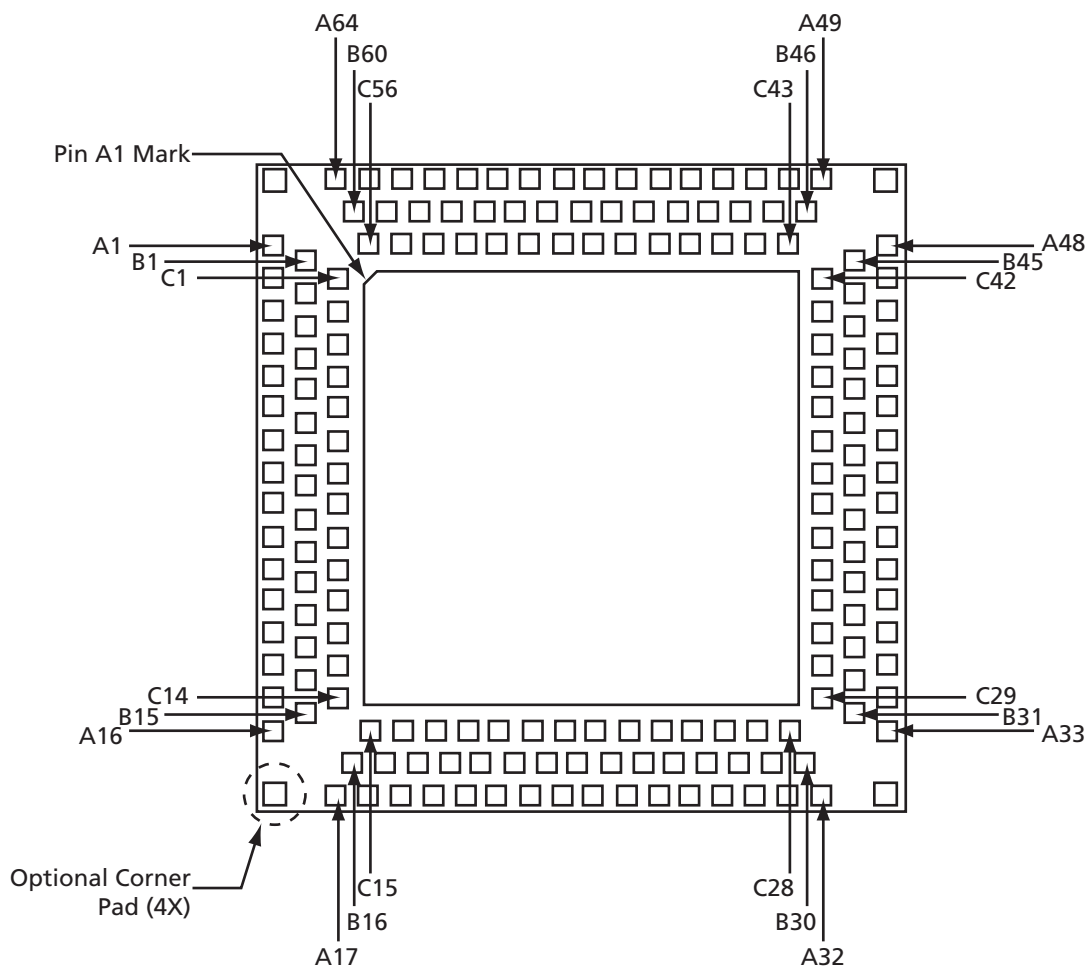


Figure 4-2 • 180-Pin QFN (Top View)

Note

For Package Manufacturing and Environmental information, visit Resource center at <http://www.actel.com/products/rescenter/package/index.html>.

180-Pin QFN	
Pin Number	AFS090 Function
A1	GNDQ
A2	VMV3
A3	GAB2/IO52NDB3V0
A4	GFA2/IO51NDB3V0
A5	GFC2/IO50NDB3V0
A6	V _{CC} I _{B3}
A7	GFA1/IO47PPB3V0
A8	GEB0/IO45NDB3V0
A9	XTAL1
A10	GNDOSC
A11	GEC2/IO43PPB3V0
A12	IO43NPB3V0
A13	NC
A14	GNDNVM
A15	PCAP
A16	V _{CC33PMP}
A17	NC
A18	AV0
A19	AG0
A20	ATR _{TN0}
A21	AG1
A22	AC1
A23	AV2
A24	AT2
A25	AT3
A26	AC3
A27	AV4
A28	AC4
A29	AT4
A30	NC
A31	NC
A32	ADCGNDREF
A33	V _{CC33A}
A34	GNDA
A35	PTBASE
A36	V _{CCNVM}
A37	V _{PUMP}

180-Pin QFN	
Pin Number	AFS090 Function
A38	TDI
A39	TDO
A40	V _{JTAG}
A41	GDB1/IO39PPB1V0
A42	GDC1/IO38PDB1V0
A43	V _{CC}
A44	GCB0/IO35NPB1V0
A45	GCC1/IO34PDB1V0
A46	V _{CC} I _{B1}
A47	GBC2/IO32PPB1V0
A48	VMV1
A49	NC
A50	GBA0/IO29RSB0V0
A51	V _{CC} I _{B0}
A52	GBB0/IO27RSB0V0
A53	GBC1/IO26RSB0V0
A54	IO24RSB0V0
A55	IO21RSB0V0
A56	V _{CC} I _{B0}
A57	IO15RSB0V0
A58	IO10RSB0V0
A59	IO07RSB0V0
A60	GAC0/IO04RSB0V0
A61	GAB1/IO03RSB0V0
A62	V _{CC}
A63	GAA1/IO01RSB0V0
A64	NC
B1	V _{COMPLA}
B2	GAA2/IO52PDB3V0
B3	GAC2/IO51PDB3V0
B4	GFB2/IO50PDB3V0
B5	V _{CC}
B6	GFC0/IO49NDB3V0
B7	GEB1/IO45PDB3V0
B8	V _{CCOSC}
B9	XTAL2
B10	GEO0/IO44NDB3V0

180-Pin QFN	
Pin Number	AFS090 Function
B11	GEB2/IO42PDB3V0
B12	V _{CC}
B12	V _{CC}
B13	V _{CCNVM}
B14	V _{CC15A}
B15	NCAP
B16	V _{CC33N}
B17	GND _{AQ}
B18	AC0
B19	AT0
B20	AT1
B21	AV1
B22	AC2
B23	ATR _{TN1}
B24	AG3
B25	AV3
B26	AG4
B27	ATR _{TN2}
B28	NC
B29	V _{CC33ACAP}
B30	VAREF
B31	PUB
B32	PTEM
B33	GNDNVM
B34	V _{CC}
B34	V _{CC}
B35	TCK
B36	TMS
B37	TRST
B38	GDB2/IO41PSB1V0
B39	GDC0/IO38NDB1V0
B40	V _{CC} I _{B1}
B41	GCA1/IO36PDB1V0
B42	GCC0/IO34NDB1V0
B43	GCB2/IO33PSB1V0
B44	V _{CC}
B45	GBA2/IO31PDB1V0

180-Pin QFN	
Pin Number	AFS090 Function
B46	GNDQ
B47	GBA1/IO30RSB0V0
B48	GBB1/IO28RSB0V0
B49	V _{CC}
B50	GBC0/IO25RSB0V0
B51	IO23RSB0V0
B52	IO20RSB0V0
B53	V _{CC}
B54	IO11RSB0V0
B55	IO08RSB0V0
B56	GAC1/IO05RSB0V0
B57	V _{CCI} B0
B58	GAB0/IO02RSB0V0
B59	GAA0/IO00RSB0V0
B60	V _{CC} PLA
C1	NC
C2	NC
C3	GND
C4	NC
C5	GFC1/IO49PDB3V0
C6	GFA0/IO47NPB3V0
C7	V _{CCI} B3
C8	GND
C9	GEA1/IO44PDB3V0
C10	GEA2/IO42NDB3V0
C11	NC
C12	NC
C13	GND
C14	NC
C15	NC
C16	GNDA
C17	NC
C18	NC
C19	NC
C20	NC
C21	AG2
C22	NC

180-Pin QFN	
Pin Number	AFS090 Function
C23	NC
C24	NC
C25	NC
C26	GNDAQ
C27	NC
C28	NC
C29	NC
C30	NC
C31	GND
C32	NC
C33	NC
C34	NC
C35	GND
C36	GDB0/IO39NPB1V0
C37	GDA1/IO37NSB1V0
C38	GCA0/IO36NDB1V0
C39	GCB1/IO35PPB1V0
C40	GND
C41	GCA2/IO32NPB1V0
C42	GBB2/IO31NDB1V0
C43	NC
C44	NC
C45	NC
C46	GND
C47	NC
C48	IO22RSB0V0
C49	GND
C50	IO13RSB0V0
C51	IO09RSB0V0
C52	IO06RSB0V0
C53	GND
C54	NC
C55	NC
C56	NC

Fusion Family of Mixed-Signal Flash FPGAs

180-Pin QFN	
Pin Number	AFS250 Function
A1	GNDQ
A2	VMV3
A3	IO74NDB3V0
A4	IO71NDB3V0
A5	IO69NPB3V0
A6	V _{CC} B3
A7	GFB1/IO67PPB3V0
A8	NC
A9	XTAL1
A10	GNDOSC
A11	GEA1/IO61PPB3V0
A12	GEA0/IO61NPB3V0
A13	V _{CC} B3
A14	GNDNVM
A15	PCAP
A16	V _{CC} 33PMP
A17	NC
A18	AV0
A19	AG0
A20	ATR TN0
A21	AG1
A22	AC1
A23	AV2
A24	AT2
A25	AT3
A26	AC3
A27	AV4
A28	AC4
A29	AT4
A30	AG5
A31	AV5
A32	ADCGNDREF
A33	V _{CC} 33A
A34	GND A
A35	PTBASE
A36	V _{CC} NVM
A37	V _{PUMP}
A38	TDI

180-Pin QFN	
Pin Number	AFS250 Function
A39	TDO
A40	V _{JTAG}
A41	GDA1/IO54PPB1V0
A42	GDB1/IO53PDB1V0
A43	V _{CC}
A44	GCB0/IO48NPB1V0
A45	GCC1/IO47PDB1V0
A46	V _{CC} B1
A47	GBB2/IO41PPB1V0
A48	VMV1
A49	NC
A50	GBB1/IO37RSB0V0
A51	V _{CC} B0
A52	GBC0/IO34RSB0V0
A53	IO33RSB0V0
A54	IO29RSB0V0
A55	IO26RSB0V0
A56	V _{CC} B0
A57	IO21RSB0V0
A58	IO13RSB0V0
A59	IO10RSB0V0
A60	IO06RSB0V0
A61	GAC1/IO05RSB0V0
A62	V _{CC}
A63	GAB0/IO02RSB0V0
A64	NC
B1	V _{COMPLA}
B2	GAC2/IO74PDB3V0
B3	GFA2/IO71PDB3V0
B4	GFB2/IO70PSB3V0
B5	V _{CC}
B6	GFC0/IO68NDB3V0
B7	NC
B8	V _{CC} OSC
B9	XTAL2
B10	GFA0/IO66NDB3V0
B11	IO60NDB3V0
B12	V _{CC}

180-Pin QFN	
Pin Number	AFS250 Function
B12	V _{CC}
B13	V _{CC} NVM
B14	V _{CC} 15A
B15	NCAP
B16	V _{CC} 33N
B17	GND A Q
B18	AC0
B19	AT0
B20	AT1
B21	AV1
B22	AC2
B23	ATR TN1
B24	AG3
B25	AV3
B26	AG4
B27	ATR TN2
B28	AC5
B29	V _{CC} 33ACAP
B30	VAREF
B31	PUB
B32	PTEM
B33	GNDNVM
B34	V _{CC}
B34	V _{CC}
B35	TCK
B36	TMS
B37	TRST
B38	GDA2/IO55PSB1V0
B39	GDB0/IO53NDB1V0
B40	V _{CC} B1
B41	GCA1/IO49PDB1V0
B42	GCC0/IO47NDB1V0
B43	GBC2/IO42PSB1V0
B44	V _{CC}
B45	GBA2/IO40PDB1V0
B46	GND Q
B47	GBA0/IO38RSB0V0
B48	GBC1/IO35RSB0V0

180-Pin QFN	
Pin Number	AFS250 Function
B49	V _{CC}
B50	IO31RSB0V0
B51	IO28RSB0V0
B52	IO25RSB0V0
B53	V _{CC}
B54	IO14RSB0V0
B55	IO11RSB0V0
B56	IO08RSB0V0
B57	V _{CC} B0
B58	GAC0/IO04RSB0V0
B59	GAA1/IO01RSB0V0
B60	V _{CC} PLA
C1	NC
C2	V _{CC} B3
C3	GND
C4	GFC2/IO69PPB3V0
C5	GFC1/IO68PDB3V0
C6	GFB0/IO67NPB3V0
C7	NC
C8	GND
C9	GFA1/IO66PDB3V0
C10	GEC2/IO60PDB3V0
C11	GEA2/IO58PSB3V0
C12	NC
C13	GND
C14	NC
C15	NC
C16	GNDA
C17	NC
C18	NC
C19	NC
C20	NC
C21	AG2
C22	NC
C23	NC
C24	NC
C25	AT5
C26	GNDAQ

180-Pin QFN	
Pin Number	AFS250 Function
C27	NC
C28	NC
C29	NC
C30	NC
C31	GND
C32	NC
C33	NC
C34	NC
C35	GND
C36	GDA0/IO54NPB1V0
C37	GDC0/IO52NSB1V0
C38	GCA0/IO49NDB1V0
C39	GCB1/IO48PPB1V0
C40	GND
C41	IO41NPB1V0
C42	IO40NDB1V0
C43	NC
C44	GBA1/IO39RSB0V0
C45	GBB0/IO36RSB0V0
C46	GND
C47	IO30RSB0V0
C48	IO27RSB0V0
C49	GND
C50	IO16RSB0V0
C51	IO12RSB0V0
C52	IO09RSB0V0
C53	GND
C54	GAB1/IO03RSB0V0
C55	GAA0/IO00RSB0V0
C56	NC

208-Pin PQFP

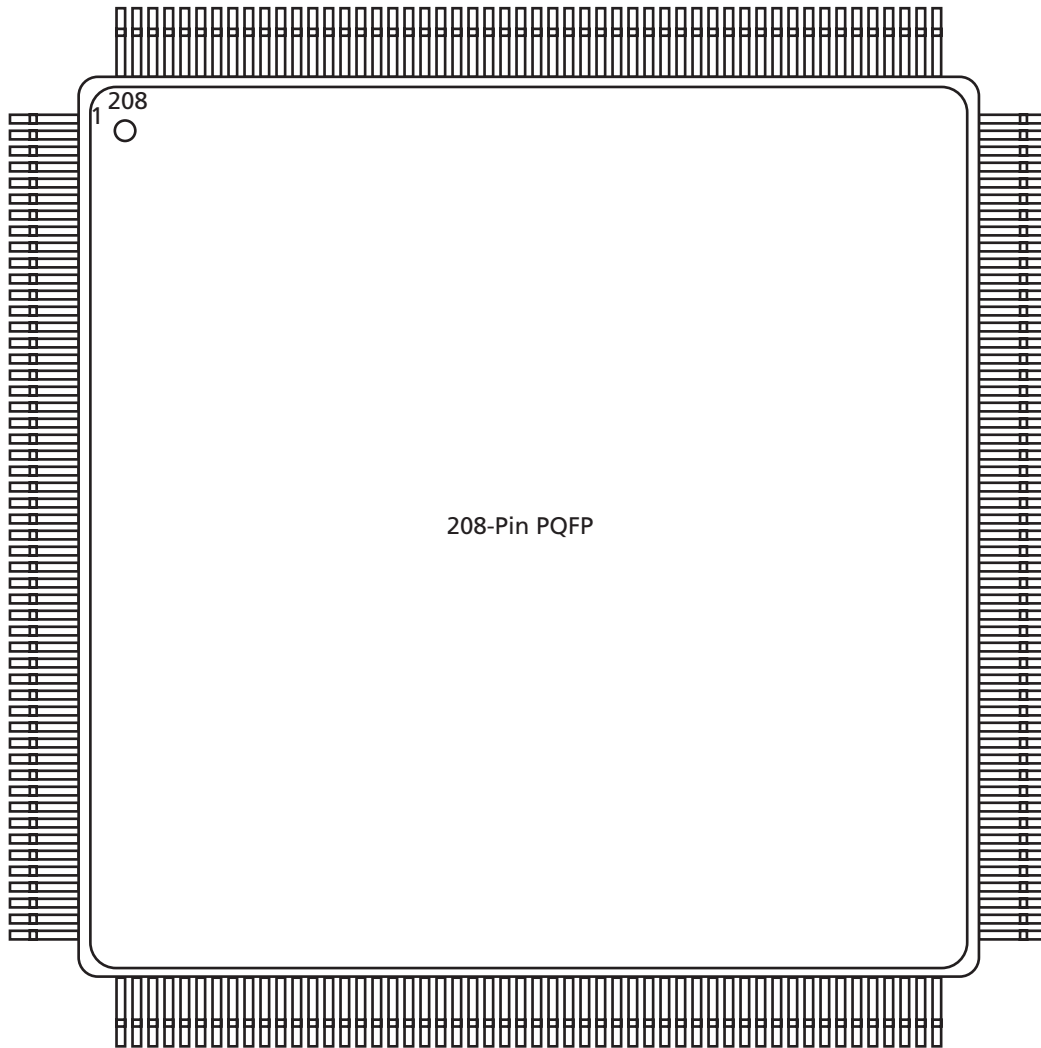


Figure 4-3 • 208-Pin PQFP (Top View)

Note

For Package Manufacturing and Environmental information, visit Resource center at <http://www.actel.com/products/rescenter/package/index.html>.

208-Pin PQFP	
Pin Number	AFS250 Function
1	V _{CC} PLA
2	V _{COM} PLA
3	GNDQ
4	VMV3
5	GAA2/IO76PDB3V0
6	IO76NDB3V0
7	GAB2/IO75PDB3V0
8	IO75NDB3V0
9	NC
10	NC
11	V _{CC}
12	GND
13	V _{CC} B3
14	IO72PDB3V0
15	IO72NDB3V0
16	GFA2/IO71PDB3V0
17	IO71NDB3V0
18	GFB2/IO70PDB3V0
19	IO70NDB3V0
20	GFC2/IO69PDB3V0
21	IO69NDB3V0
22	V _{CC}
23	GND
24	V _{CC} B3
25	GFC1/IO68PDB3V0
26	GFC0/IO68NDB3V0
27	GFB1/IO67PDB3V0
28	GFB0/IO67NDB3V0
29	V _{CC} OSC
30	XTAL1
31	XTAL2
32	GNDOSC
33	GEB1/IO62PDB3V0
34	GEB0/IO62NDB3V0
35	GEA1/IO61PDB3V0
36	GEA0/IO61NDB3V0

208-Pin PQFP	
Pin Number	AFS250 Function
37	GEC2/IO60PDB3V0
38	IO60NDB3V0
39	GND
40	V _{CC} B3
41	GEB2/IO59PDB3V0
42	IO59NDB3V0
43	GEA2/IO58PDB3V0
44	IO58NDB3V0
45	V _{CC}
46	V _{CC} NVM
47	GNDNVM
48	GND
49	V _{CC} 15A
50	PCAP
51	NCAP
52	V _{CC} 33PMP
53	V _{CC} 33N
54	GND A
55	GND A Q
56	NC
57	NC
58	NC
59	NC
60	NC
61	NC
62	NC
63	NC
64	NC
65	AV0
66	AC0
67	AG0
68	AT0
69	ATR TN0
70	AT1
71	AG1
72	AC1

208-Pin PQFP	
Pin Number	AFS250 Function
73	AV1
74	AV2
75	AC2
76	AG2
77	AT2
78	ATR TN1
79	AT3
80	AG3
81	AC3
82	AV3
83	AV4
84	AC4
85	AG4
86	AT4
87	ATR TN2
88	AT5
89	AG5
90	AC5
91	AV5
92	NC
93	NC
94	NC
95	NC
96	NC
97	NC
98	NC
99	NC
100	NC
101	GND A Q
102	V _{CC} 33ACAP
103	ADCGNDREF
104	V _{AREF}
105	PUB
106	V _{CC} 33A
107	GND A
108	PTEM

208-Pin PQFP	
Pin Number	AFS250 Function
109	PTBASE
110	GNDNVM
111	V _{CCNVM}
112	V _{CC}
113	V _{PUMP}
114	GNDQ
115	VMV1
116	TCK
117	TDI
118	TMS
119	TDO
120	TRST
121	V _{JTAG}
122	IO57NDB1V0
123	GDC2/IO57PDB1V0
124	IO56NDB1V0
125	GDB2/IO56PDB1V0
126	V _{CCIB1}
127	GND
128	IO55NDB1V0
129	GDA2/IO55PDB1V0
130	GDA0/IO54NDB1V0
131	GDA1/IO54PDB1V0
132	GDB0/IO53NDB1V0
133	GDB1/IO53PDB1V0
134	GDC0/IO52NDB1V0
135	GDC1/IO52PDB1V0
136	IO51NSB1V0
137	V _{CCIB1}
138	GND
139	V _{CC}
140	IO50NDB1V0
141	IO50PDB1V0
142	GCA0/IO49NDB1V0
143	GCA1/IO49PDB1V0
144	GCB0/IO48NDB1V0

208-Pin PQFP	
Pin Number	AFS250 Function
145	GCB1/IO48PDB1V0
146	GCC0/IO47NDB1V0
147	GCC1/IO47PDB1V0
148	IO42NDB1V0
149	GBC2/IO42PDB1V0
150	V _{CCIB1}
151	GND
152	V _{CC}
153	IO41NDB1V0
154	GBB2/IO41PDB1V0
155	IO40NDB1V0
156	GBA2/IO40PDB1V0
157	GBA1/IO39RSB0V0
158	GBA0/IO38RSB0V0
159	GBB1/IO37RSB0V0
160	GBB0/IO36RSB0V0
161	GBC1/IO35RSB0V0
162	V _{CCIB0}
163	GND
164	V _{CC}
165	GBC0/IO34RSB0V0
166	IO33RSB0V0
167	IO32RSB0V0
168	IO31RSB0V0
169	IO30RSB0V0
170	IO29RSB0V0
171	IO28RSB0V0
172	IO27RSB0V0
173	IO26RSB0V0
174	IO25RSB0V0
175	V _{CCIB0}
176	GND
177	V _{CC}
178	IO24RSB0V0
179	IO23RSB0V0
180	IO22RSB0V0

208-Pin PQFP	
Pin Number	AFS250 Function
181	IO21RSB0V0
182	IO20RSB0V0
183	IO19RSB0V0
184	IO18RSB0V0
185	IO17RSB0V0
186	IO16RSB0V0
187	IO15RSB0V0
188	V _{CCIB0}
189	GND
190	V _{CC}
191	IO14RSB0V0
192	IO13RSB0V0
193	IO12RSB0V0
194	IO11RSB0V0
195	IO10RSB0V0
196	IO09RSB0V0
197	IO08RSB0V0
198	IO07RSB0V0
199	IO06RSB0V0
200	GAC1/IO05RSB0V0
201	V _{CCIB0}
202	GND
203	V _{CC}
204	GAC0/IO04RSB0V0
205	GAB1/IO03RSB0V0
206	GAB0/IO02RSB0V0
207	GAA1/IO01RSB0V0
208	GAA0/IO00RSB0V0

208-Pin PQFP	
Pin Number	AFS600 Function
1	V _{CC} PLA
2	V _{COM} PLA
3	GAA2/IO85PDB4V0
4	IO85NDB4V0
5	GAB2/IO84PDB4V0
6	IO84NDB4V0
7	GAC2/IO83PDB4V0
8	IO83NDB4V0
9	IO77PDB4V0
10	IO77NDB4V0
11	IO76PDB4V0
12	IO76NDB4V0
13	V _{CC}
14	GND
15	V _{CC} B4
16	GFA2/IO75PDB4V0
17	IO75NDB4V0
18	GFC2/IO73PDB4V0
19	IO73NDB4V0
20	V _{CC} OSC
21	XTAL1
22	XTAL2
23	GNDOSC
24	GFC1/IO72PDB4V0
25	GFC0/IO72NDB4V0
26	GFB1/IO71PDB4V0
27	GFB0/IO71NDB4V0
28	GFA1/IO70PDB4V0
29	GFA0/IO70NDB4V0
30	IO69PDB4V0
31	IO69NDB4V0
32	V _{CC}
33	GND
34	V _{CC} B4
35	GEC1/IO63PDB4V0
36	GEC0/IO63NDB4V0

208-Pin PQFP	
Pin Number	AFS600 Function
37	GEB1/IO62PDB4V0
38	GEB0/IO62NDB4V0
39	GEA1/IO61PDB4V0
40	GEA0/IO61NDB4V0
41	GEC2/IO60PDB4V0
42	IO60NDB4V0
43	VMV4
44	GNDQ
45	V _{CC}
46	V _{CC} NVM
47	GNDNVM
48	GND
49	V _{CC} 15A
50	PCAP
51	NCAP
52	V _{CC} 33PMP
53	V _{CC} 33N
54	GND A
55	GND A Q
56	AV0
57	AC0
58	AG0
59	AT0
60	ATR TN0
61	AT1
62	AG1
63	AC1
64	AV1
65	AV2
66	AC2
67	AG2
68	AT2
69	ATR TN1
70	AT3
71	AG3
72	AC3

208-Pin PQFP	
Pin Number	AFS600 Function
73	AV3
74	AV4
75	AC4
76	AG4
77	AT4
78	ATR TN2
79	AT5
80	AG5
81	AC5
82	AV5
83	AV6
84	AC6
85	AG6
86	AT6
87	ATR TN3
88	AT7
89	AG7
90	AC7
91	AV7
92	AV8
93	AC8
94	AG8
95	AT8
96	ATR TN4
97	AT9
98	AG9
99	AC9
100	AV9
101	GND A Q
102	V _{CC} 33ACAP
103	ADCGNDREF
104	VAREF
105	PUB
106	V _{CC} 33A
107	GND A
108	PTEM

208-Pin PQFP	
Pin Number	AFS600 Function
109	PTBASE
110	GNDNVM
111	V _{CCNVM}
112	V _{CC}
113	V _{PUMP}
114	NC
115	TCK
116	TDI
117	TMS
118	TDO
119	TRST
120	V _{JTAG}
121	IO57NDB2V0
122	GDC2/IO57PDB2V0
123	IO56NDB2V0
124	GDB2/IO56PDB2V0
125	IO55NDB2V0
126	GDA2/IO55PDB2V0
127	GDA0/IO54NDB2V0
128	GDA1/IO54PDB2V0
129	V _{CC} B2
130	GND
131	V _{CC}
132	GCA0/IO45NDB2V0
133	GCA1/IO45PDB2V0
134	GCB0/IO44NDB2V0
135	GCB1/IO44PDB2V0
136	GCC0/IO43NDB2V0
137	GCC1/IO43PDB2V0
138	IO42NDB2V0
139	IO42PDB2V0
140	IO41NDB2V0
141	GCC2/IO41PDB2V0
142	V _{CC} B2
143	GND
144	V _{CC}

208-Pin PQFP	
Pin Number	AFS600 Function
145	IO40NDB2V0
146	GCB2/IO40PDB2V0
147	IO39NDB2V0
148	GCA2/IO39PDB2V0
149	IO31NDB2V0
150	GBB2/IO31PDB2V0
151	IO30NDB2V0
152	GBA2/IO30PDB2V0
153	VMV2
154	GNDQ
155	V _{COMPLB}
156	V _{CCPLB}
157	VMV1
158	GNDQ
159	GBB1/IO27PPB1V1
160	GBA1/IO28PPB1V1
161	GBB0/IO27NPB1V1
162	GBA0/IO28NPB1V1
163	V _{CC} B1
164	GND
165	V _{CC}
166	GBC1/IO26PDB1V1
167	GBC0/IO26NDB1V1
168	IO24PPB1V1
169	IO23PPB1V1
170	IO24NPB1V1
171	IO23NPB1V1
172	IO22PPB1V0
173	IO21PPB1V0
174	IO22NPB1V0
175	IO21NPB1V0
176	IO20PSB1V0
177	IO19PSB1V0
178	IO14NSB0V1
179	IO12PDB0V1
180	IO12NDB0V1

208-Pin PQFP	
Pin Number	AFS600 Function
181	V _{CC} B0
182	GND
183	V _{CC}
184	IO10PPB0V1
185	IO09PPB0V1
186	IO10NPB0V1
187	IO09NPB0V1
188	IO08PPB0V1
189	IO07PPB0V1
190	IO08NPB0V1
191	IO07NPB0V1
192	IO06PPB0V0
193	IO05PPB0V0
194	IO06NPB0V0
195	IO04PPB0V0
196	IO05NPB0V0
197	IO04NPB0V0
198	GAC1/IO03PDB0V0
199	GAC0/IO03NDB0V0
200	V _{CC} B0
201	GND
202	V _{CC}
203	GAB1/IO02PDB0V0
204	GAB0/IO02NDB0V0
205	GAA1/IO01PDB0V0
206	GAA0/IO01NDB0V0
207	GNDQ
208	VMV0

256-Pin FBGA

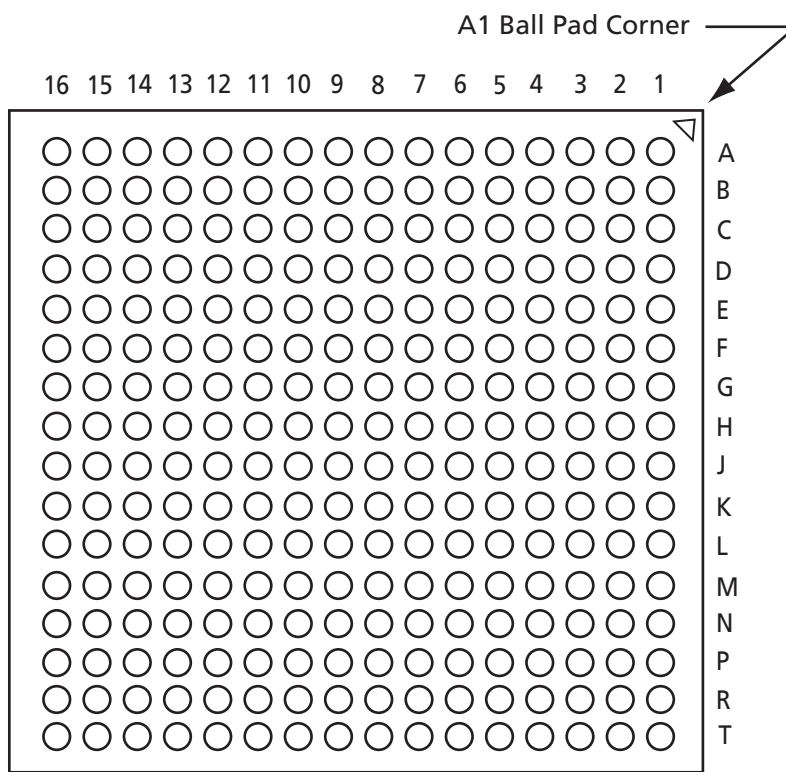


Figure 4-4 • 256-Pin FBGA (Bottom View)

Note

For Package Manufacturing and Environmental information, visit Resource center at <http://www.actel.com/products/rescenter/package/index.html>.

Fusion Family of Mixed-Signal Flash FPGAs

256-Pin FBGA	
Pin Number	AFS090 Function
A1	GND
A2	V _{CC} I _{B0}
A3	GAB0/IO02RSB0V0
A4	GAB1/IO03RSB0V0
A5	GND
A6	IO07RSB0V0
A7	IO10RSB0V0
A8	IO11RSB0V0
A9	IO16RSB0V0
A10	IO17RSB0V0
A11	IO18RSB0V0
A12	GND
A13	GBC0/IO25RSB0V0
A14	GBA0/IO29RSB0V0
A15	V _{CC} I _{B0}
A16	GND
B1	V _{COMPLA}
B2	V _{CC} PLA
B3	GAA0/IO00RSB0V0
B4	GAA1/IO01RSB0V0
B5	NC
B6	IO06RSB0V0
B7	V _{CC} I _{B0}
B8	IO12RSB0V0
B9	IO13RSB0V0
B10	V _{CC} I _{B0}
B11	IO19RSB0V0
B12	GBB0/IO27RSB0V0
B13	GBC1/IO26RSB0V0
B14	GBA1/IO30RSB0V0
B15	NC
B16	NC
C1	V _{CC} I _{B3}
C2	GND
C3	VMV3
C4	NC

256-Pin FBGA	
Pin Number	AFS090 Function
C5	V _{CC} I _{B0}
C6	GAC1/IO05RSB0V0
C7	IO09RSB0V0
C8	IO14RSB0V0
C9	IO15RSB0V0
C10	NC
C11	IO20RSB0V0
C12	V _{CC} I _{B0}
C13	GBB1/IO28RSB0V0
C14	VMV1
C15	GND
C16	V _{CC} I _{B1}
D1	GFA2/IO51NDB3V0
D2	GAC2/IO51PDB3V0
D3	GAB2/IO52NDB3V0
D4	GAA2/IO52PDB3V0
D5	NC
D6	GAC0/IO04RSB0V0
D7	IO08RSB0V0
D8	NC
D9	NC
D10	IO21RSB0V0
D11	IO23RSB0V0
D12	NC
D13	GBA2/IO31PDB1V0
D14	GBB2/IO31NDB1V0
D15	GBC2/IO32PDB1V0
D16	GCA2/IO32NDB1V0
E1	GND
E2	GFC2/IO50NDB3V0
E3	GFB2/IO50PDB3V0
E4	V _{CC} I _{B3}
E5	NC
E6	NC
E7	GND
E8	NC

256-Pin FBGA	
Pin Number	AFS090 Function
E9	IO22RSB0V0
E10	GND
E11	IO24RSB0V0
E12	NC
E13	V _{CC} I _{B1}
E14	GCC2/IO33NDB1V0
E15	GCB2/IO33PDB1V0
E16	GND
F1	GFB0/IO48NDB3V0
F2	GFB1/IO48PDB3V0
F3	GFC0/IO49NDB3V0
F4	NC
F5	GFC1/IO49PDB3V0
F6	NC
F7	NC
F8	NC
F9	NC
F10	NC
F11	NC
F12	NC
F13	NC
F14	NC
F15	GCC1/IO34PDB1V0
F16	GCC0/IO34NDB1V0
G1	GEC0/IO46NPB3V0
G2	V _{CC} I _{B3}
G3	GEC1/IO46PPB3V0
G4	GFA1/IO47PDB3V0
G5	GND
G6	GFA0/IO47NDB3V0
G7	GND
G8	V _{CC}
G9	GND
G10	V _{CC}
G11	GDA1/IO37NDB1V0
G12	GND

256-Pin FBGA	
Pin Number	AFS090 Function
G13	IO37PDB1V0
G14	GCB0/IO35NPB1V0
G15	V _{CC} B1
G16	GCB1/IO35PPB1V0
H1	GEB1/IO45PDB3V0
H2	GEB0/IO45NDB3V0
H3	XTAL2
H4	XTAL1
H5	GNDOSC
H6	V _{CC} osc
H7	V _{CC}
H8	GND
H9	V _{CC}
H10	GND
H11	GDC0/IO38NDB1V0
H12	GDC1/IO38PDB1V0
H13	GDB1/IO39PDB1V0
H14	GDB0/IO39NDB1V0
H15	GCA0/IO36NDB1V0
H16	GCA1/IO36PDB1V0
J1	GEA0/IO44NDB3V0
J2	GEA1/IO44PDB3V0
J3	IO43NDB3V0
J4	GEC2/IO43PDB3V0
J5	NC
J6	NC
J7	GND
J8	V _{CC}
J9	GND
J10	V _{CC}
J11	GDC2/IO41NPB1V0
J12	NC
J13	NC
J14	GDA0/IO40PDB1V0
J15	NC
J16	GDA2/IO40NDB1V0

256-Pin FBGA	
Pin Number	AFS090 Function
K1	NC
K2	V _{CC} B3
K3	NC
K4	NC
K5	GND
K6	NC
K7	V _{CC}
K8	GND
K9	V _{CC}
K10	GND
K11	NC
K12	GND
K13	NC
K14	NC
K15	V _{CC} B1
K16	NC
L1	NC
L2	NC
L3	NC
L4	NC
L5	NC
L6	NC
L7	GNDA
L8	AC0
L9	NC
L10	NC
L11	PTEM
L12	TDO
L13	V _{JTAG}
L14	NC
L15	GDB2/IO41PPB1V0
L16	NC
M1	GND
M2	NC
M3	NC
M4	V _{CC} B3

256-Pin FBGA	
Pin Number	AFS090 Function
M5	NC
M6	NC
M7	NC
M8	AG1
M9	NC
M10	AC2
M11	AG3
M12	V _{PUMP}
M13	V _{CC} B1
M14	TMS
M15	TRST
M16	GND
N1	GEB2/IO42PDB3V0
N2	GEA2/IO42NDB3V0
N3	NC
N4	V _{CC} 33PMP
N5	V _{CC} 15A
N6	NC
N7	AC1
N8	NC
N9	NC
N10	AG2
N11	AC4
N12	GNDA
N13	V _{CC} 33A
N14	V _{CC} NVM
N15	TCK
N16	TDI
P1	V _{CC} NVM
P2	GNDNVM
P3	GNDA
P4	NC
P5	NC
P6	NC
P7	AG0
P8	NC

256-Pin FBGA	
Pin Number	AFS090 Function
P9	GND
P10	AC3
P11	AV4
P12	AG4
P13	NC
P14	ADCGNDREF
P15	PTBASE
P16	GNDNVM
R1	V _{CC} I _{B3}
R2	PCAP
R3	NC
R4	NC
R5	AV0
R6	AT0
R7	AV1
R8	NC
R9	AV2
R10	AT3
R11	AV3
R12	NC
R13	NC
R14	NC
R15	PUB
R16	V _{CC} I _{B1}
T1	GND
T2	NCAP
T3	V _{CC} 33N
T4	NC
T5	AT1
T6	ATR _{TN0}
T7	NC
T8	NC
T9	AT2
T10	ATR _{TN1}
T11	AT4
T12	ATR _{TN2}

256-Pin FBGA	
Pin Number	AFS090 Function
T13	GND
T14	V _{CC} 33ACAP
T15	VAREF
T16	GND

256-Pin FBGA	
Pin Number	AFS250 Function
A1	GND
A2	V _{CC} I _{B0}
A3	GAA0/IO00RSB0V0
A4	GAA1/IO01RSB0V0
A5	GND
A6	IO11RSB0V0
A7	IO14RSB0V0
A8	IO15RSB0V0
A9	IO24RSB0V0
A10	IO25RSB0V0
A11	IO26RSB0V0
A12	GND
A13	GBA0/IO38RSB0V0
A14	IO32RSB0V0
A15	V _{CC} I _{B0}
A16	GND
B1	V _{COMPLA}
B2	V _{CC} PLA
B3	IO07RSB0V0
B4	IO06RSB0V0
B5	GAB1/IO03RSB0V0
B6	IO10RSB0V0
B7	V _{CC} I _{B0}
B8	IO16RSB0V0
B9	IO17RSB0V0
B10	V _{CC} I _{B0}
B11	IO27RSB0V0
B12	GBC0/IO34RSB0V0
B13	GBA1/IO39RSB0V0
B14	IO33RSB0V0
B15	NC
B16	NC
C1	V _{CC} I _{B3}
C2	GND
C3	VMV3
C4	NC

256-Pin FBGA	
Pin Number	AFS250 Function
C5	V _{CC} I _{B0}
C6	GAC1/IO05RSB0V0
C7	IO12RSB0V0
C8	IO22RSB0V0
C9	IO23RSB0V0
C10	IO30RSB0V0
C11	IO31RSB0V0
C12	V _{CC} I _{B0}
C13	GBC1/IO35RSB0V0
C14	VMV1
C15	GND
C16	V _{CC} I _{B1}
D1	IO75NDB3V0
D2	GAB2/IO75PDB3V0
D3	IO76NDB3V0
D4	GAA2/IO76PDB3V0
D5	GAB0/IO02RSB0V0
D6	GAC0/IO04RSB0V0
D7	IO13RSB0V0
D8	IO20RSB0V0
D9	IO21RSB0V0
D10	IO28RSB0V0
D11	GBB0/IO36RSB0V0
D12	NC
D13	GBA2/IO40PDB1V0
D14	IO40NDB1V0
D15	GBB2/IO41PDB1V0
D16	IO41NDB1V0
E1	GND
E2	IO73NDB3V0
E3	IO73PDB3V0
E4	V _{CC} I _{B3}
E5	IO74NPB3V0
E6	IO08RSB0V0
E7	GND
E8	IO18RSB0V0

256-Pin FBGA	
Pin Number	AFS250 Function
E9	NC
E10	GND
E11	GGB1/IO37RSB0V0
E12	IO50PPB1V0
E13	V _{CC} I _{B1}
E14	IO42NDB1V0
E15	GBC2/IO42PDB1V0
E16	GND
F1	NC
F2	NC
F3	IO72NDB3V0
F4	IO72PDB3V0
F5	NC
F6	GAC2/IO74PPB3V0
F7	IO09RSB0V0
F8	IO19RSB0V0
F9	NC
F10	IO29RSB0V0
F11	IO43NDB1V0
F12	IO43PDB1V0
F13	IO44NDB1V0
F14	GCA2/IO44PDB1V0
F15	GCB2/IO45PDB1V0
F16	IO45NDB1V0
G1	IO70NPB3V0
G2	V _{CC} I _{B3}
G3	GFB2/IO70PPB3V0
G4	GFA2/IO71PDB3V0
G5	GND
G6	IO71NDB3V0
G7	GND
G8	V _{CC}
G9	GND
G10	V _{CC}
G11	GCC0/IO47NDB1V0
G12	GND

256-Pin FBGA	
Pin Number	AFS250 Function
G13	GCC1/IO47PDB1V0
G14	IO46NPB1V0
G15	V _{CC} B1
G16	GCC2/IO46PPB1V0
H1	GFC2/IO69PDB3V0
H2	IO69NDB3V0
H3	XTAL2
H4	XTAL1
H5	GNDOSC
H6	V _{CC} osc
H7	V _{CC}
H8	GND
H9	V _{CC}
H10	GND
H11	IO51NDB1V0
H12	IO51PDB1V0
H13	GCA1/IO49PDB1V0
H14	GCA0/IO49NDB1V0
H15	GCB0/IO48NDB1V0
H16	GCB1/IO48PDB1V0
J1	GFA0/IO66NDB3V0
J2	GFA1/IO66PDB3V0
J3	GFB0/IO67NDB3V0
J4	GFB1/IO67PDB3V0
J5	GFC0/IO68NDB3V0
J6	GFC1/IO68PDB3V0
J7	GND
J8	V _{CC}
J9	GND
J10	V _{CC}
J11	IO56NPB1V0
J12	GDB0/IO53NPB1V0
J13	GDA1/IO54PDB1V0
J14	GDC1/IO52PPB1V0
J15	IO50NPB1V0
J16	GDC0/IO52NPB1V0

256-Pin FBGA	
Pin Number	AFS250 Function
K1	IO65NPB3V0
K2	V _{CC} B3
K3	IO65PPB3V0
K4	IO64PDB3V0
K5	GND
K6	IO64NDB3V0
K7	V _{CC}
K8	GND
K9	V _{CC}
K10	GND
K11	GDC2/IO57PPB1V0
K12	GND
K13	GDA0/IO54NDB1V0
K14	GDA2/IO55PPB1V0
K15	V _{CC} B1
K16	GDB1/IO53PPB1V0
L1	GEC1/IO63PDB3V0
L2	GEC0/IO63NDB3V0
L3	GEB1/IO62PDB3V0
L4	GEB0/IO62NDB3V0
L5	IO60NDB3V0
L6	GEC2/IO60PDB3V0
L7	GNDA
L8	AC0
L9	AV2
L10	AC3
L11	PTEM
L12	TDO
L13	V _{JTAG}
L14	IO57NPB1V0
L15	GDB2/IO56PPB1V0
L16	IO55NPB1V0
M1	GND
M2	GEA1/IO61PDB3V0
M3	GEA0/IO61NDB3V0
M4	V _{CC} B3

256-Pin FBGA	
Pin Number	AFS250 Function
M5	IO58NPB3V0
M6	NC
M7	NC
M8	AG1
M9	AC2
M10	AC4
M11	AG5
M12	V _{PUMP}
M13	V _{CC} B1
M14	TMS
M15	TRST
M16	GND
N1	GEB2/IO59PDB3V0
N2	IO59NDB3V0
N3	GEA2/IO58PPB3V0
N4	V _{CC} 33PMP
N5	V _{CC} 15A
N6	NC
N7	AC1
N8	AG3
N9	AV3
N10	AG4
N11	NC
N12	GNDA
N13	V _{CC} 33A
N14	V _{CC} NVM
N15	TCK
N16	TDI
P1	V _{CC} NVM
P2	GNDNVM
P3	GNDA
P4	NC
P5	NC
P6	NC
P7	AG0
P8	AG2

256-Pin FBGA	
Pin Number	AFS250 Function
P9	GNDA
P10	AC5
P11	NC
P12	NC
P13	NC
P14	ADCGNDREF
P15	PTBASE
P16	GNDNVM
R1	V _{CC} B3
R2	PCAP
R3	NC
R4	NC
R5	AV0
R6	AT0
R7	AV1
R8	AT3
R9	AV4
R10	AT5
R11	AV5
R12	NC
R13	NC
R14	NC
R15	PUB
R16	V _{CC} B1
T1	GND
T2	NCAP
T3	V _{CC} 33N
T4	NC
T5	AT1
T6	ATRTN0
T7	AT2
T8	ATRTN1
T9	AT4
T10	ATRTN2
T11	NC
T12	NC

256-Pin FBGA	
Pin Number	AFS250 Function
T13	GNDA
T14	V _{CC} 33ACAP
T15	VAREF
T16	GND

256-Pin FBGA	
Pin Number	AFS600 Function
A1	GND
A2	V _{CC} B0
A3	GAA0/IO01NDB0V0
A4	GAA1/IO01PDB0V0
A5	GND
A6	IO10PDB0V1
A7	IO12PDB0V1
A8	IO12NDB0V1
A9	IO22NDB1V0
A10	IO22PDB1V0
A11	IO24NDB1V1
A12	GND
A13	GBA0/IO28NDB1V1
A14	IO29NDB1V1
A15	V _{CC} B1
A16	GND
B1	V _{COMPLA}
B2	V _{CCPLA}
B3	IO00NDB0V0
B4	IO00PDB0V0
B5	GAB1/IO02PPB0V0
B6	IO10NDB0V1
B7	V _{CC} B0
B8	IO18NDB1V0
B9	IO18PDB1V0
B10	V _{CC} B1
B11	IO24PDB1V1
B12	GBC0/IO26NPB1V1
B13	GBA1/IO28PDB1V1
B14	IO29PDB1V1
B15	V _{CCPLB}
B16	V _{COMPLB}
C1	V _{CC} B4
C2	GND
C3	VMV4
C4	VMV0

256-Pin FBGA	
Pin Number	AFS600 Function
C5	V _{CC} B0
C6	GAC1/IO03PDB0V0
C7	IO06NDB0V0
C8	IO16PDB1V0
C9	IO16NDB1V0
C10	IO25NDB1V1
C11	IO25PDB1V1
C12	V _{CC} B1
C13	GBC1/IO26PPB1V1
C14	VMV2
C15	GND
C16	V _{CC} B2
D1	IO84NDB4V0
D2	GAB2/IO84PDB4V0
D3	IO85NDB4V0
D4	GAA2/IO85PDB4V0
D5	GAB0/IO02NPB0V0
D6	GAC0/IO03NDB0V0
D7	IO06PDB0V0
D8	IO14NDB0V1
D9	IO14PDB0V1
D10	IO23PDB1V1
D11	GBB0/IO27NDB1V1
D12	VMV1
D13	GBA2/IO30PDB2V0
D14	IO30NDB2V0
D15	GBB2/IO31PDB2V0
D16	IO31NDB2V0
E1	GND
E2	IO81NDB4V0
E3	IO81PDB4V0
E4	V _{CC} B4
E5	IO83NPB4V0
E6	IO04NPB0V0
E7	GND
E8	IO08PDB0V1

256-Pin FBGA	
Pin Number	AFS600 Function
E9	IO20NDB1V0
E10	GND
E11	GBB1/IO27PDB1V1
E12	IO33PSB2V0
E13	V _{CC} B2
E14	IO32NDB2V0
E15	GBC2/IO32PDB2V0
E16	GND
F1	IO79NDB4V0
F2	IO79PDB4V0
F3	IO76NDB4V0
F4	IO76PDB4V0
F5	IO82PSB4V0
F6	GAC2/IO83PPB4V0
F7	IO04PPB0V0
F8	IO08NDB0V1
F9	IO20PDB1V0
F10	IO23NDB1V1
F11	IO36NDB2V0
F12	IO36PDB2V0
F13	IO39NDB2V0
F14	GCA2/IO39PDB2V0
F15	GCB2/IO40PDB2V0
F16	IO40NDB2V0
G1	IO74NPB4V0
G2	V _{CC} B4
G3	GFB2/IO74PPB4V0
G4	GFA2/IO75PDB4V0
G5	GND
G6	IO75NDB4V0
G7	GND
G8	V _{CC}
G9	GND
G10	V _{CC}
G11	GCC0/IO43NDB2V0
G12	GND

256-Pin FBGA	
Pin Number	AFS600 Function
G13	GCC1/IO43PDB2V0
G14	IO41NPB2V0
G15	V _{CC} B2
G16	GCC2/IO41PPB2V0
H1	GFC2/IO73PDB4V0
H2	IO73NDB4V0
H3	XTAL2
H4	XTAL1
H5	GNDOSC
H6	V _{CC} osc
H7	V _{CC}
H8	GND
H9	V _{CC}
H10	GND
H11	IO47NDB2V0
H12	IO47PDB2V0
H13	GCA1/IO45PDB2V0
H14	GCA0/IO45NDB2V0
H15	GCB0/IO44NDB2V0
H16	GCB1/IO44PDB2V0
J1	GFA0/IO70NDB4V0
J2	GFA1/IO70PDB4V0
J3	GFB0/IO71NDB4V0
J4	GFB1/IO71PDB4V0
J5	GFC0/IO72NDB4V0
J6	GFC1/IO72PDB4V0
J7	GND
J8	V _{CC}
J9	GND
J10	V _{CC}
J11	IO56NPB2V0
J12	GDB0/IO53NPB2V0
J13	GDA1/IO54PDB2V0
J14	GDC1/IO52PPB2V0
J15	IO51NSB2V0
J16	GDC0/IO52NPB2V0

256-Pin FBGA	
Pin Number	AFS600 Function
K1	IO67NPB4V0
K2	V _{CC} B4
K3	IO67PPB4V0
K4	IO65PDB4V0
K5	GND
K6	IO65NDB4V0
K7	V _{CC}
K8	GND
K9	V _{CC}
K10	GND
K11	GDC2/IO57PPB2V0
K12	GND
K13	GDA0/IO54NDB2V0
K14	GDA2/IO55PPB2V0
K15	V _{CC} B2
K16	GDB1/IO53PPB2V0
L1	GEC1/IO63PDB4V0
L2	GEC0/IO63NDB4V0
L3	GEB1/IO62PDB4V0
L4	GEB0/IO62NDB4V0
L5	IO60NDB4V0
L6	GEC2/IO60PDB4V0
L7	GNDA
L8	AC2
L9	AV4
L10	AC5
L11	PTEM
L12	TDO
L13	V _{JTAG}
L14	IO57NPB2V0
L15	GDB2/IO56PPB2V0
L16	IO55NPB2V0
M1	GND
M2	GEA1/IO61PDB4V0
M3	GEA0/IO61NDB4V0
M4	V _{CC} B4

256-Pin FBGA	
Pin Number	AFS600 Function
M5	IO58NPB4V0
M6	AV0
M7	AC1
M8	AG3
M9	AC4
M10	AC6
M11	AG7
M12	V _{PUMP}
M13	V _{CC} B2
M14	TMS
M15	TRST
M16	GND
N1	GEB2/IO59PDB4V0
N2	IO59NDB4V0
N3	GEA2/IO58PPB4V0
N4	V _{CC} 33PMP
N5	V _{CC} 15A
N6	AG0
N7	AC3
N8	AG5
N9	AV5
N10	AG6
N11	AC8
N12	GNDA
N13	V _{CC} 33A
N14	V _{CC} NVM
N15	TCK
N16	TDI
P1	V _{CC} NVM
P2	GNDNVM
P3	GNDA
P4	AC0
P5	AG1
P6	AV1
P7	AG2
P8	AG4

256-Pin FBGA	
Pin Number	AFS600 Function
P9	GND A
P10	AC7
P11	AV8
P12	AG8
P13	AV9
P14	ADCGNDREF
P15	PTBASE
P16	GNDNVM
R1	V _{CC} B4
R2	PCAP
R3	AT1
R4	AT0
R5	AV2
R6	AT2
R7	AV3
R8	AT5
R9	AV6
R10	AT7
R11	AV7
R12	AT9
R13	AG9
R14	AC9
R15	PUB
R16	V _{CC} B2
T1	GND
T2	NCAP
T3	V _{CC} 33N
T4	ATR TN0
T5	AT3
T6	ATR TN1
T7	AT4
T8	ATR TN2
T9	AT6
T10	ATR TN3
T11	AT8
T12	ATR TN4

256-Pin FBGA	
Pin Number	AFS600 Function
T13	GND A
T14	V _{CC} 33ACAP
T15	VAREF
T16	GND

484-Pin FBGA

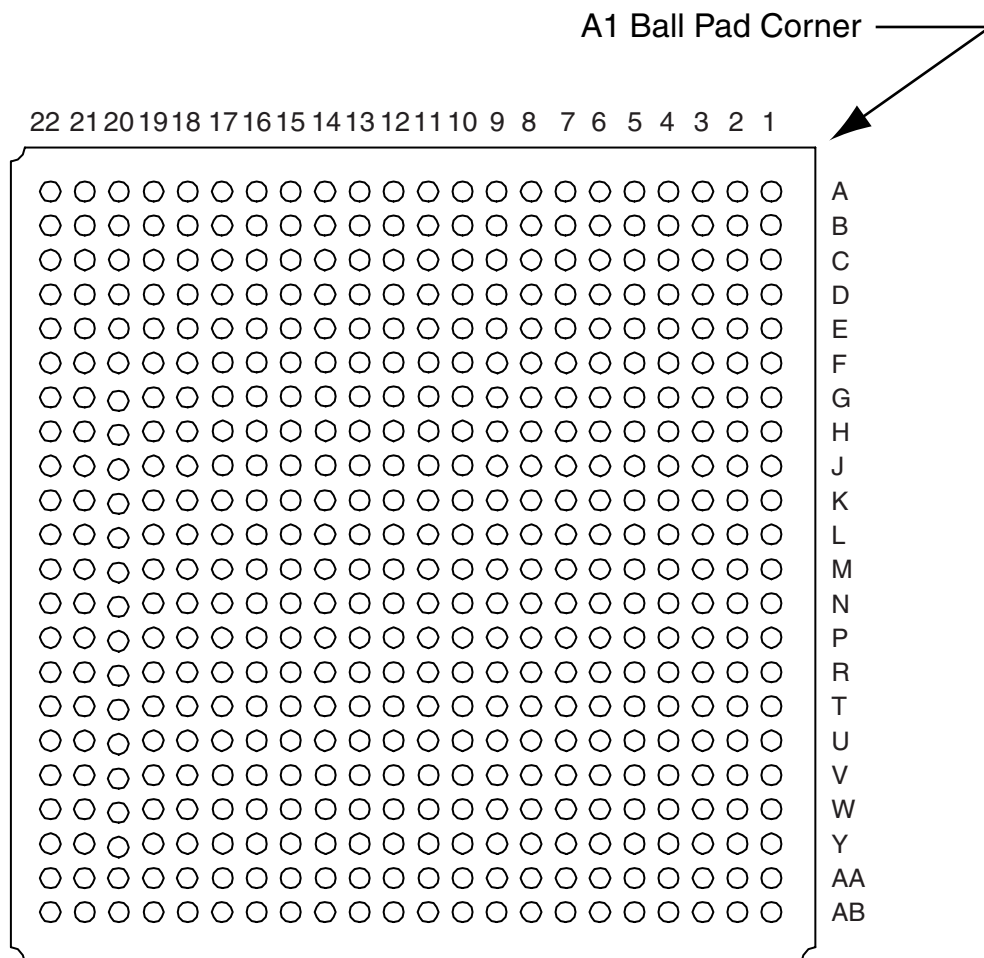


Figure 4-5 • 484-Pin FBGA (Bottom View)

Note

For Package Manufacturing and Environmental information, visit Resource center at <http://www.actel.com/products/rescenter/package/index.html>.

Fusion Family of Mixed-Signal Flash FPGAs

484-Pin FBGA	
Pin Number	AFS600 Function
A1	GND
A2	V _{CC}
A3	GAA1/IO01PDB0V0
A4	GAB0/IO02NDB0V0
A5	GAB1/IO02PDB0V0
A6	IO07NDB0V1
A7	IO07PDB0V1
A8	IO10PDB0V1
A9	IO14NDB0V1
A10	IO14PDB0V1
A11	IO17PDB1V0
A12	IO18PDB1V0
A13	IO19NDB1V0
A14	IO19PDB1V0
A15	IO24NDB1V1
A16	IO24PDB1V1
A17	GBC0/IO26NDB1V1
A18	GBA0/IO28NDB1V1
A19	IO29NDB1V1
A20	IO29PDB1V1
A21	V _{CC}
A22	GND
AA1	V _{CC}
AA2	GND
AA3	VMV4
AA4	V _{CCI} B4
AA5	PCAP
AA6	AG0
AA7	GND
AA8	AG1
AA9	AG2
AA10	GND
AA11	AG3
AA12	AG6
AA13	GND
AA14	AG7

484-Pin FBGA	
Pin Number	AFS600 Function
AA15	AG8
AA16	GND
AA17	AG9
AA18	VAREF
AA19	V _{CCI} B2
AA20	PTEM
AA21	GND
AA22	V _{CC}
AB1	GND
AB2	V _{CC}
AB3	NC
AB4	GND
AB5	V _{CC33N}
AB6	AT0
AB7	ATRTN0
AB8	AT1
AB9	AT2
AB10	ATRTN1
AB11	AT3
AB12	AT6
AB13	ATRTN3
AB14	AT7
AB15	AT8
AB16	ATRTN4
AB17	AT9
AB18	V _{CC33ACAP}
AB19	GND
AB20	NC
AB21	V _{CC}
AB22	GND
B1	V _{CC}
B2	GND
B3	GAA0/IO01NDB0V0
B4	GND
B5	IO05NDB0V0
B6	IO05PDB0V0

484-Pin FBGA	
Pin Number	AFS600 Function
B7	GND
B8	IO10NDB0V1
B9	IO13PDB0V1
B10	GND
B11	IO17NDB1V0
B12	IO18NDB1V0
B13	GND
B14	IO21NDB1V0
B15	IO21PDB1V0
B16	GND
B17	GBC1/IO26PDB1V1
B18	GBA1/IO28PDB1V1
B19	GND
B20	V _{CCPLB}
B21	GND
B22	V _{CC}
C1	IO82PDB4V0
C2	NC
C3	IO00NDB0V0
C4	IO00PDB0V0
C5	V _{CCI} B0
C6	IO06NDB0V0
C7	IO06PDB0V0
C8	V _{CCI} B0
C9	IO13NDB0V1
C10	IO11PDB0V1
C11	V _{CCI} B0
C12	V _{CCI} B1
C13	IO20NDB1V0
C14	IO20PDB1V0
C15	V _{CCI} B1
C16	IO25NDB1V1
C17	GBB0/IO27NDB1V1
C18	V _{CCI} B1
C19	V _{COMPLB}
C20	GBA2/IO30PDB2V0

484-Pin FBGA	
Pin Number	AFS600 Function
C21	NC
C22	GBB2/IO31PDB2V0
D1	IO82NDB4V0
D2	GND
D3	IO83NDB4V0
D4	GAC2/IO83PDB4V0
D5	GAA2/IO85PDB4V0
D6	GAC0/IO03NDB0V0
D7	GAC1/IO03PDB0V0
D8	IO09NDB0V1
D9	IO09PDB0V1
D10	IO11NDB0V1
D11	IO16NDB1V0
D12	IO16PDB1V0
D13	NC
D14	IO23NDB1V1
D15	IO23PDB1V1
D16	IO25PDB1V1
D17	GBB1/IO27PDB1V1
D18	VMV2
D19	NC
D20	IO30NDB2V0
D21	GND
D22	IO31NDB2V0
E1	IO81NDB4V0
E2	IO81PDB4V0
E3	V _{CC} B4
E4	GAB2/IO84PDB4V0
E5	IO85NDB4V0
E6	GND
E7	V _{CC} B0
E8	NC
E9	NC
E10	GND
E11	IO15NDB1V0
E12	IO15PDB1V0

484-Pin FBGA	
Pin Number	AFS600 Function
E13	GND
E14	NC
E15	NC
E16	V _{CC} B1
E17	GND
E18	NC
E19	IO33PDB2V0
E20	V _{CC} B2
E21	IO32NDB2V0
E22	GBC2/IO32PDB2V0
F1	IO80NDB4V0
F2	IO80PDB4V0
F3	NC
F4	IO84NDB4V0
F5	GND
F6	V _{COMPLA}
F7	V _{CC} PLA
F8	VMV0
F9	IO08NDB0V1
F10	IO08PDB0V1
F11	V _{CC} B0
F12	V _{CC} B1
F13	IO22NDB1V0
F14	IO22PDB1V0
F15	VMV1
F16	NC
F17	NC
F18	GND
F19	IO33NDB2V0
F20	IO34PDB2V0
F21	IO34NDB2V0
F22	IO35PDB2V0
G1	IO77PDB4V0
G2	GND
G3	IO78NDB4V0
G4	IO78PDB4V0

484-Pin FBGA	
Pin Number	AFS600 Function
G5	V _{CC} B4
G6	NC
G7	VMV4
G8	GND
G9	IO04NDB0V0
G10	IO04PDB0V0
G11	IO12NDB0V1
G12	IO12PDB0V1
G13	NC
G14	NC
G15	GND
G16	NC
G17	NC
G18	V _{CC} B2
G19	IO36PDB2V0
G20	IO36NDB2V0
G21	GND
G22	IO35NDB2V0
H1	IO77NDB4V0
H2	IO76PDB4V0
H3	V _{CC} B4
H4	IO79NDB4V0
H5	IO79PDB4V0
H6	NC
H7	GND
H8	V _{CC}
H9	V _{CC} B0
H10	GND
H11	V _{CC} B0
H12	V _{CC} B1
H13	GND
H14	V _{CC} B1
H15	GND
H16	GND
H17	NC
H18	IO38PDB2V0

484-Pin FBGA	
Pin Number	AFS600 Function
H19	GCA2/IO39PDB2V0
H20	V _{CC} B2
H21	IO37NDB2V0
H22	IO37PDB2V0
J1	NC
J2	IO76NDB4V0
J3	GFB2/IO74PDB4V0
J4	GFA2/IO75PDB4V0
J5	NC
J6	NC
J7	NC
J8	V _{CC} B4
J9	GND
J10	V _{CC}
J11	GND
J12	V _{CC}
J13	GND
J14	V _{CC}
J15	V _{CC} B2
J16	GCB2/IO40PDB2V0
J17	NC
J18	IO38NDB2V0
J19	IO39NDB2V0
J20	GCC2/IO41PDB2V0
J21	NC
J22	IO42PDB2V0
K1	GFC2/IO73PDB4V0
K2	GND
K3	IO74NDB4V0
K4	IO75NDB4V0
K5	GND
K6	NC
K7	NC
K8	GND
K9	V _{CC}
K10	GND

484-Pin FBGA	
Pin Number	AFS600 Function
K11	V _{CC}
K12	GND
K13	V _{CC}
K14	GND
K15	GND
K16	IO40NDB2V0
K17	NC
K18	GND
K19	NC
K20	IO41NDB2V0
K21	GND
K22	IO42NDB2V0
L1	IO73NDB4V0
L2	V _{CC} osc
L3	V _{CC} B4
L4	XTAL2
L5	GFC1/IO72PDB4V0
L6	V _{CC} B4
L7	GFB1/IO71PDB4V0
L8	V _{CC} B4
L9	GND
L10	V _{CC}
L11	GND
L12	V _{CC}
L13	GND
L14	V _{CC}
L15	V _{CC} B2
L16	IO48PDB2V0
L17	V _{CC} B2
L18	IO46PDB2V0
L19	GCA1/IO45PDB2V0
L20	V _{CC} B2
L21	GCC0/IO43NDB2V0
L22	GCC1/IO43PDB2V0
M1	NC
M2	XTAL1

484-Pin FBGA	
Pin Number	AFS600 Function
M3	V _{CC} B4
M4	GNDOSC
M5	GFC0/IO72NDB4V0
M6	V _{CC} B4
M7	GFB0/IO71NDB4V0
M8	V _{CC} B4
M9	V _{CC}
M10	GND
M11	V _{CC}
M12	GND
M13	V _{CC}
M14	GND
M15	V _{CC} B2
M16	IO48NDB2V0
M17	V _{CC} B2
M18	IO46NDB2V0
M19	GCA0/IO45NDB2V0
M20	V _{CC} B2
M21	GCB0/IO44NDB2V0
M22	GCB1/IO44PDB2V0
N1	NC
N2	GND
N3	IO68PDB4V0
N4	NC
N5	GND
N6	NC
N7	NC
N8	GND
N9	GND
N10	V _{CC}
N11	GND
N12	V _{CC}
N13	GND
N14	V _{CC}
N15	GND
N16	GDB2/IO56PDB2V0

484-Pin FBGA	
Pin Number	AFS600 Function
N17	NC
N18	GND
N19	IO47NDB2V0
N20	IO47PDB2V0
N21	GND
N22	IO49PDB2V0
P1	GFA1/IO70PDB4V0
P2	GFA0/IO70NDB4V0
P3	IO68NDB4V0
P4	IO65PDB4V0
P5	IO65NDB4V0
P6	NC
P7	NC
P8	V _{CCI} B4
P9	V _{CC}
P10	GND
P11	V _{CC}
P12	GND
P13	V _{CC}
P14	GND
P15	V _{CCI} B2
P16	IO56NDB2V0
P17	NC
P18	GDA1/IO54PDB2V0
P19	GDB1/IO53PDB2V0
P20	IO51NDB2V0
P21	IO51PDB2V0
P22	IO49NDB2V0
R1	IO69PDB4V0
R2	IO69NDB4V0
R3	V _{CCI} B4
R4	IO64PDB4V0
R5	IO64NDB4V0
R6	NC
R7	GND
R8	GND

484-Pin FBGA	
Pin Number	AFS600 Function
R9	V _{CC33A}
R10	GND
R11	V _{CC33A}
R12	GND
R13	V _{CC33A}
R14	GND
R15	V _{CC}
R16	GND
R17	NC
R18	GDA0/IO54NDB2V0
R19	GDB0/IO53NDB2V0
R20	V _{CCI} B2
R21	IO50NDB2V0
R22	IO50PDB2V0
T1	NC
T2	GND
T3	IO66PDB4V0
T4	IO66NDB4V0
T5	V _{CCI} B4
T6	NC
T7	GNDNVM
T8	GND
T9	NC
T10	AV4
T11	NC
T12	AV5
T13	AC5
T14	NC
T15	GND
T16	NC
T17	NC
T18	V _{CCI} B2
T19	IO55NDB2V0
T20	GDA2/IO55PDB2V0
T21	GND
T22	GDC1/IO52PDB2V0

484-Pin FBGA	
Pin Number	AFS600 Function
U1	IO67PDB4V0
U2	IO67NDB4V0
U3	GEC1/IO63PDB4V0
U4	GEC0/IO63NDB4V0
U5	GND
U6	V _{CCNVM}
U7	V _{CCI} B4
U8	V _{CC15A}
U9	GND
U10	AC4
U11	V _{CC33A}
U12	GND
U13	AG5
U14	GND
U15	PUB
U16	V _{CCI} B2
U17	TDI
U18	GND
U19	IO57NDB2V0
U20	GDC2/IO57PDB2V0
U21	NC
U22	GDC0/IO52NDB2V0
V1	GEB1/IO62PDB4V0
V2	GEB0/IO62NDB4V0
V3	V _{CCI} B4
V4	GEA1/IO61PDB4V0
V5	GEA0/IO61NDB4V0
V6	GND
V7	V _{CC33PMP}
V8	NC
V9	V _{CC33A}
V10	AG4
V11	AT4
V12	ATRTRN2
V13	AT5
V14	V _{CC33A}

Fusion Family of Mixed-Signal Flash FPGAs

484-Pin FBGA	
Pin Number	AFS600 Function
V15	NC
V16	V _{CC33A}
V17	GND
V18	TMS
V19	V _{JTAG}
V20	V _{CCIB2}
V21	TRST
V22	TDO
W1	NC
W2	GND
W3	NC
W4	GEB2/IO59PDB4V0
W5	IO59NDB4V0
W6	AV0
W7	GND A
W8	AV1
W9	AV2
W10	GND A
W11	AV3
W12	AV6
W13	GND A
W14	AV7
W15	AV8
W16	GND A
W17	AV9
W18	VMV2
W19	NC
W20	TCK
W21	GND
W22	NC
Y1	GEC2/IO60PDB4V0
Y2	IO60NDB4V0
Y3	GEA2/IO58PDB4V0
Y4	IO58NDB4V0
Y5	NCAP
Y6	AC0

484-Pin FBGA	
Pin Number	AFS600 Function
Y7	V _{CC33A}
Y8	AC1
Y9	AC2
Y10	V _{CC33A}
Y11	AC3
Y12	AC6
Y13	V _{CC33A}
Y14	AC7
Y15	AC8
Y16	V _{CC33A}
Y17	AC9
Y18	ADCGNDREF
Y19	PTBASE
Y20	GNDNVM
Y21	V _{CCNVM}
Y22	V _{PUMP}

676-Pin FBGA

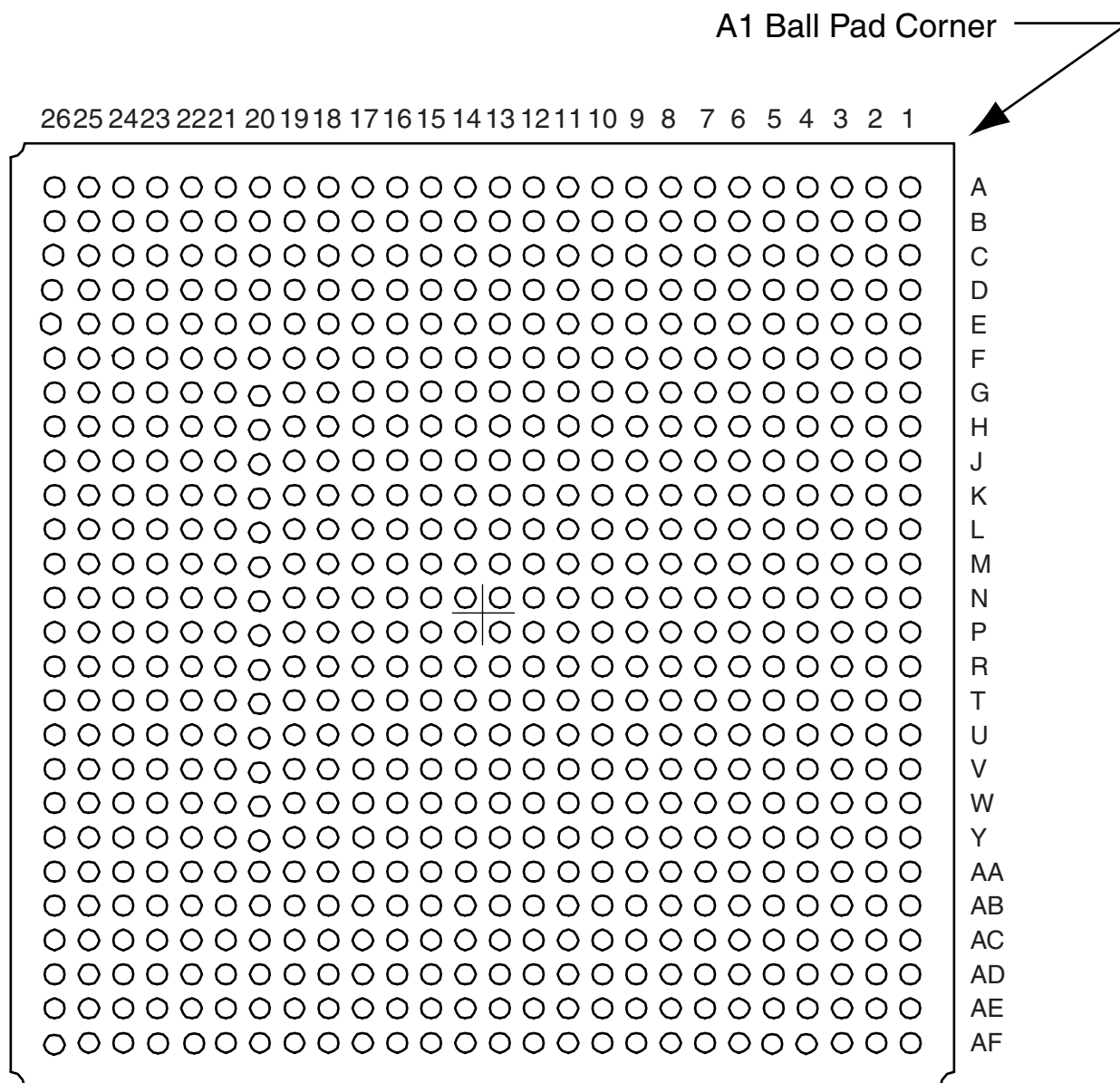


Figure 4-6 • 676-Pin FBGA (Bottom View)

Note

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