I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
1	1	I/O	–	B28
1	2	I/O	–	C28
1	3	I/O	–	M20
–	4	VCCIO	VCCIO1	VCCIO1
1	5	I/O	–	P18
1	6	I/O	–	N18
1	7	I/O	–	N19
–	8	VCCINT	VCCINT	VCCINT
–	9	GNDINT	GND	GND
1	10	I/O	–	R17
1	11	I/O	–	N17
1	12	I/O	–	M18
1	13	I/O	–	M19
–	14	GNDIO	GND	GND
8	15	I/O	–	M17
8	16	I/O	F6	P17
8	17	I/O	–	M16
8	18	I/O	–	M15
–	19	VCCINT	VCCINT	VCCINT
–	20	GNDINT	GND	GND
8	21	I/O	–	R16
8	22	I/O	F5	M14
8	23	I/O	–	P16
8	24	I/O	F4	N16
–	25	VCCIO	VCCIO8	VCCIO8
8	26	I/O	–	P15
8	27	I/O	C1	N15
8	28	I/O	–	N14
8	29	I/O	D1	F6
–	30	VCCINT	VCCINT	VCCINT
–	31	GNDINT	GND	GND
8	32	I/O	–	M12
8	33	I/O	E2	R15
8	34	I/O	–	D5
8	35	I/O	G6	M13
–	36	GNDIO	GND	GND
8	37	I/O	–	N13
8	38	I/O	G5	P14
8	39	I/O	–	E6
8	40	I/O	G4	C5
–	41	VCCINT	VCCINT	VCCINT
–	42	GNDINT	GND	GND
8	43	I/O	–	E4
8	44	I/O	G3	G7
8	45	I/O	–	T16
8	46	I/O	F2	E5
–	47	VCCIO	VCCIO8	VCCIO8
8	48	I/O	–	H7

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
8	49	I/O	E1	G6
8	50	I/O	–	F5
8	51	I/O	G2	G5
–	52	VCCINT	VCCINT	VCCINT
–	53	GNDINT	GND	GND
8	54	I/O	–	J8
8	55	I/O	H6	M11
8	56	I/O	–	H6
8	57	I/O	H4	N12
–	58	GNDIO	GND	GND
8	59	I/O	–	K8
8	60	I/O	H3	H5
8	61	I/O	–	J6
8	62	I/O	F1	J7
–	63	VCCINT	VCCINT	VCCINT
–	64	GNDINT	GND	GND
8	65	I/O	–	H4
8	66	I/O	H2	M10
8	67	I/O	–	K7
8	68	I/O	G1	J5
–	69	VCCIO	VCCIO8	VCCIO8
8	70	I/O	–	P13
8	71	I/O	–	–
8	72	I/O	J6	N11
8	73	I/O	–	M9
8	74	I/O	J5	K6
–	75	VCCINT	VCCINT	VCCINT
–	76	GNDINT	GND	GND
8	77	I/O	–	J4
8	78	I/O	–	R14
8	79	I/O	J4	L8
8	80	I/O	–	K5
8	81	I/O	J3	P12
–	82	GNDIO	GND	GND
8	83	I/O	–	L7
8	84	I/O	–	N10
8	85	I/O	J2	M8
8	86	I/O	–	L6
8	87	I/O	J1	M7
–	88	VCCINT	VCCINT	VCCINT
–	89	GNDINT	GND	GND
8	90	I/O	–	L5
8	91	I/O	–	K4
8	92	I/O	K6	N9
8	93	I/O	–	P11
8	94	I/O	K5	M6
–	95	VCCIO	VCCIO8	VCCIO8
8	96	I/O	–	N8

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
8	97	I/O	–	P10
8	98	I/O	K4	M5
8	99	I/O	–	N7
8	100	I/O	K3	R13
–	101	VCCINT	VCCINT	VCCINT
–	102	GNDINT	GND	GND
8	103	I/O	–	R12
8	104	I/O	–	N6
8	105	I/O	K2	P8
8	106	I/O	–	N5
8	107	I/O	K1	N4
–	108	GNDIO	GND	GND
8	109	I/O	–	T15
8	110	I/O	–	P7
8	111	I/O, DATA6 (1)	L6	A4
8	112	I/O	L5	P6
8	113	I/O	L4	R11
–	114	VCCINT	VCCINT	VCCINT
–	115	GNDINT	GND	GND
8	116	I/O	L2	P4
8	117	I/O	L1	R10
8	118	I/O, DATA7 (1)	M6	B4
8	119	I/O	M5	T14
8	120	I/O	M4	P5
–	121	VCCIO	VCCIO8	VCCIO8
8	122	I/O	M3	R9
8	123	I/O	M2	R8
8	124	I/O, nWS (1)	M1	C4
8	125	I/O	N6	R7
8	126	I/O	N5	R6
–	127	VCCINT	VCCINT	VCCINT
–	128	GNDINT	GND	GND
8	129	I/O	N3	R4
8	130	I/O	N2	T13
8	131	I/O, nRS (1)	N1	D4
8	132	I/O	P6	R5
8	133	I/O	P5	T12
–	134	GNDIO	GND	GND
8	135	I/O	P4	T10
8	136	I/O	P3	T4
8	137	I/O, nCS (1)	P2	D3
8	138	I/O	P1	T8
8	139	I/O	R6	T11
–	140	VCCINT	VCCINT	VCCINT
–	141	GNDINT	GND	GND
–	142	VCC_CKLK4 (2)	R4	P9
–	143	GND_CKLK4 (2)	R3	T9
–	144	GND_CKLK4 (2)	R3	T9

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
8	145	I/O, CS (1)	R2	E3
8	146	I/O	R1	T7
8	147	I/O, DEV_CLRn (3)	T6	H3
–	148	VCCIO	VCCIO8	VCCIO8
8	149	I/O, CLKLK_FB2n (4)	T5	J3
8	150	CLKLK_FB2p	T4	K3
8	151	I/O, CLK4n (4)	T3	N3
8	152	CLK4p	T2	P3
8	153	I/O, CLK2n (4)	T1	R3
–	154	VCCINT	VCCINT	VCCINT
–	155	GNDINT	GND	GND
–	156	VCCINT	VCCINT	VCCINT
–	157	GNDINT	GND	GND
–	158	DATA0 (5), (6)	U4	V3
–	159	DCLK (5)	U3	W3
8	160	CLK2p	U2	Y3
–	161	nCE (5)	U1	AC3
–	162	TDI (5)	W1	AD3
–	163	GND_CKLK2 (2)	W2	V9
–	164	GND_CKLK2 (2)	W2	V9
–	165	GNDINT	GND	GND
–	166	VCCINT	VCCINT	VCCINT
–	167	VCC_CKLK2 (2)	W4	Y9
–	168	GNDINT	GND	GND
–	169	VCCINT	VCCINT	VCCINT
–	170	VCCIO	VCCIO7	VCCIO7
7	171	I/O, DEV_OE (3)	Y5	AE3
–	172	VCC_CKOUT2 (7)	Y1	AA9
–	173	GND_CKOUT2 (7)	Y2	W9
–	174	CLKLK_OUT2p (8)	Y3	AH3
7	175	I/O, CLKLK_OUT2n (4)	Y4	AJ3
–	176	GNDIO	GND	GND
7	177	I/O, LVDSTXINCLK1p	W5	AM5
7	178	I/O, LVDSTXINCLK1n (4)	Y6	AL5
7	179	I/O, LOCK2 (9)	AB6	AK4
7	180	I/O, LVDSTXOUTCLK1n	AA2	AM4
7	181	I/O, LVDSTXOUTCLK1p	AA3	AL4
–	182	GNDINT	GND	GND
–	183	VCCINT	VCCINT	VCCINT
7	184	I/O, LVDSTX01p	AA5	D1
7	185	I/O, LVDSTX01n (4)	AA6	D2
7	186	I/O	AA1	T6
7	187	I/O, LVDSTX02n (4)	AB2	E1
7	188	I/O, LVDSTX02p	AB3	E2
–	189	VCCIO	VCCIO7	VCCIO7
7	190	I/O, LVDSTX03p	AB4	H1

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
7	191	I/O, LVDSTX03n (4)	AB5	H2
7	192	I/O	AB1	T5
7	193	I/O, LVDSTX04n (4)	AC1	J1
7	194	I/O, LVDSTX04p	AC2	J2
–	195	GNDINT	GND	GND
–	196	VCCINT	VCCINT	VCCINT
7	197	I/O, LVDSTX05p	AC4	K1
7	198	I/O, LVDSTX05n (4)	AC5	K2
7	199	I/O, LOCK4 (9)	AC6	AK5
7	200	I/O, LVDSTX06n (4)	AD1	N1
7	201	I/O, LVDSTX06p	AD2	N2
–	202	GNDIO	GND	GND
7	203	I/O, LVDSTX07p	AD3	P1
7	204	I/O, LVDSTX07n (4)	AD4	P2
7	205	I/O	AD5	U4
7	206	I/O, LVDSTX08n (4)	AD6	R1
7	207	I/O, LVDSTX08p	AE1	R2
–	208	GNDINT	GND	GND
–	209	VCCINT	VCCINT	VCCINT
7	210	I/O, LVDSTX09p	AE3	V1
7	211	I/O, LVDSTX09n (4)	AE4	V2
7	212	I/O	AE5	U6
7	213	I/O, LVDSTX10n (4)	AE6	W1
7	214	I/O, LVDSTX10p	AF1	W2
–	215	VCCIO	VCCIO7	VCCIO7
7	216	I/O, LVDSTX11p	AF2	Y1
7	217	I/O, LVDSTX11n (4)	AF3	Y2
7	218	I/O	AF4	U5
7	219	I/O, LVDSTX12n (4)	AF5	AC1
7	220	I/O, LVDSTX12p	AF6	AC2
–	221	GNDINT	GND	GND
–	222	VCCINT	VCCINT	VCCINT
7	223	I/O, LVDSTX13p	AH1	AD1
7	224	I/O, LVDSTX13n (4)	AG2	AD2
7	225	I/O	AG3	U8
7	226	I/O, LVDSTX14n (4)	AG4	AE1
7	227	I/O, LVDSTX14p	AG5	AE2
–	228	GNDIO	GND	GND
7	229	I/O, LVDSTX15p	AG6	AH1
7	230	I/O, LVDSTX15n (4)	AJ1	AH2
7	231	I/O	AH2	U7
7	232	I/O, LVDSTX16n (4)	AK1	AJ1
7	233	I/O, LVDSTX16p	AH3	AJ2
–	234	GNDINT	GND	GND
–	235	VCCINT	VCCINT	VCCINT
7	236	I/O	AH5	U9
7	237	I/O	–	V6
7	238	I/O	AH6	V4

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
7	239	I/O	–	U11
7	240	I/O	–	U10
–	241	VCCIO	VCCIO7	VCCIO7
7	242	I/O	–	V8
7	243	I/O	–	U13
7	244	I/O	AJ2	V5
7	245	I/O	–	U12
7	246	I/O	–	W4
–	247	GNDINT	GND	GND
–	248	VCCINT	VCCINT	VCCINT
7	249	I/O	–	V7
7	250	I/O	–	–
7	251	I/O	AL1	W6
7	252	I/O	–	–
7	253	I/O	–	U14
–	254	GNDIO	GND	GND
7	255	I/O	–	W8
7	256	I/O	–	W7
7	257	I/O	AK2	V10
7	258	I/O	–	W5
–	259	GNDINT	GND	GND
–	260	VCCINT	VCCINT	VCCINT
7	261	I/O	–	Y4
7	262	I/O	–	V11
7	263	I/O	AJ3	V12
7	264	I/O	–	Y5
–	265	VCCIO	VCCIO7	VCCIO7
7	266	I/O	–	Y7
7	267	I/O	–	W10
7	268	I/O	AJ4	U15
7	269	I/O	–	Y6
–	270	GNDINT	GND	GND
–	271	VCCINT	VCCINT	VCCINT
7	272	I/O	–	Y8
7	273	I/O	–	V13
7	274	I/O	AJ5	AA6
7	275	I/O	–	AA5
–	276	GNDIO	GND	GND
7	277	I/O	–	AB5
7	278	I/O	–	AA8
7	279	I/O	AJ6	AA7
7	280	I/O	–	W11
–	281	GNDINT	GND	GND
–	282	VCCINT	VCCINT	VCCINT
7	283	I/O	–	V14
7	284	I/O	–	AC5
7	285	I/O	AM1	Y10
7	286	I/O	–	AC4

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
–	287	VCCIO	VCCIO7	VCCIO7
7	288	I/O	–	Y11
7	289	I/O	–	AB7
7	290	I/O	AK3	AB6
7	291	I/O	–	W12
–	292	GNDINT	GND	GND
–	293	VCCINT	VCCINT	VCCINT
7	294	I/O	–	AD4
7	295	I/O	–	AC6
7	296	I/O	AK4	AC7
7	297	I/O	–	AE4
–	298	GNDIO	GND	GND
7	299	I/O	–	Y12
7	300	I/O	–	W13
7	301	I/O	AK5	AD5
7	302	I/O	–	AA10
–	303	GNDINT	GND	GND
–	304	VCCINT	VCCINT	VCCINT
7	305	I/O	–	AD6
7	306	I/O	–	AE5
7	307	I/O	AK6	AE6
7	308	I/O	–	AD7
–	309	VCCIO	VCCIO7	VCCIO7
–	310	VCCIO	VCCIO6	VCCIO6
6	311	I/O	–	AA11
6	312	I/O	–	AE7
6	313	I/O	–	AH4
6	314	I/O	–	AF5
–	315	GNDINT	GND	GND
–	316	VCCINT	VCCINT	VCCINT
6	317	I/O	–	AF6
6	318	I/O	–	AG5
6	319	I/O	–	AG6
–	320	GNDIO	GND	GND
6	321	I/O	–	AA12
6	322	I/O	–	W14
6	323	I/O	–	U16
6	324	I/O	AL7	AJ4
6	325	I/O	–	AJ5
6	326	I/O	AM6	AH6
6	327	I/O	–	AF7
6	328	I/O	AP3	AG7
–	329	VCCIO	VCCIO6	VCCIO6
6	330	I/O	AN5	AH7
6	331	I/O	AR2	AB8
6	332	I/O	AP4	AC8
6	333	I/O	AL8	AD8
6	334	I/O	AM7	AE8

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
6	335	I/O	–	AF8
6	336	I/O	AN6	AG8
6	337	I/O	–	AH8
6	338	I/O	AR3	AJ8
6	339	I/O	–	AK8
–	340	GNDIO	GND	GND
6	341	I/O	–	AL8
6	342	I/O	AP5	AM8
6	343	I/O	–	AB9
6	344	I/O	AL9	AC9
6	345	I/O	–	AD9
6	346	I/O	AR4	AE9
6	347	I/O	AM8	AF9
6	348	I/O	AN7	AG9
6	349	I/O	AP6	AH9
6	350	I/O	AR5	AJ9
–	351	VCCIO	VCCIO6	VCCIO6
6	352	I/O	AM9	AK9
6	353	I/O	–	AL9
6	354	I/O	AL10	AM9
6	355	I/O	–	AB10
6	356	I/O	AN8	AC10
6	357	I/O	–	AD10
6	358	I/O	–	AE10
6	359	I/O	AP7	AF10
6	360	I/O	–	AG10
6	361	I/O	AR6	AH10
–	362	GNDIO	GND	GND
6	363	I/O	–	AJ10
6	364	I/O	AM10	AK10
6	365	I/O	AN9	AL10
6	366	I/O	AL11	AB11
6	367	I/O	AP8	AC11
6	368	I/O	AR7	AD11
6	369	I/O	AM11	AE11
6	370	I/O	–	AF11
6	371	I/O	AN10	AG11
6	372	I/O	–	–
6	373	I/O	AP9	AH11
–	374	VCCIO	VCCIO6	VCCIO6
–	375	VCCINT	VCCINT	VCCINT
–	376	VCCINT	VCCINT	VCCINT
–	377	GNDINT	GND	GND
–	378	GNDINT	GND	GND
6	379	I/O	AR8	AB12
6	380	I/O	–	–
6	381	I/O	AN11	AC12
6	382	I/O	–	AD12

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
6	383	I/O	AP10	AE12
6	384	I/O	AR9	AF12
6	385	I/O	AL13	AG12
6	386	I/O	AM13	AH12
6	387	I/O	AN12	AB13
6	388	I/O	AP11	AC13
6	389	I/O	–	AD13
–	390	GNDIO	GND	GND
6	391	I/O	AL14	AE13
6	392	I/O	–	AF13
6	393	I/O	AR10	AG13
6	394	I/O	–	AH13
6	395	I/O	–	AJ13
6	396	I/O	AN13	AK13
6	397	I/O	–	AL13
6	398	I/O	AP12	AB14
6	399	I/O	–	AC14
6	400	I/O	AM14	AD14
–	401	VCCIO	VCCIO6	VCCIO6
6	402	I/O	AR11	AE14
6	403	I/O	AL15	AF14
6	404	I/O	AN14	AG14
6	405	I/O	AP13	AH14
6	406	I/O	AR12	AJ14
6	407	I/O	–	AK14
6	408	I/O	AR13	AL14
6	409	I/O	–	AB15
6	410	I/O	AM15	AC15
6	411	I/O	–	AD15
–	412	GNDIO	GND	GND
6	413	I/O	–	AE15
6	414	I/O	AN15	AF15
6	415	I/O	–	AG15
6	416	I/O	AL16	AH15
6	417	I/O	–	AJ15
6	418	I/O	AP14	AK15
6	419	I/O	AR14	AL15
6	420	I/O	AP15	AB16
6	421	I/O	AR15	AC16
6	422	I/O, LVDSDESKEW	AM16	AM10
–	423	VCCIO	VCCIO6	VCCIO6
6	424	I/O	AN16	AD16
6	425	I/O	–	AE16
6	426	I/O	AP16	AF16
6	427	I/O	–	AG16
6	428	I/O	AR16	AH16
–	429	CONF_DONE (5)	AM17	AM13
–	430	nSTATUS (5)	AN17	AM14

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
5	431	FAST4	AP17	AM15
–	432	VCCINT	VCCINT	VCCINT
–	433	VCCINT	VCCINT	VCCINT
–	434	GNDINT	GND	GND
–	435	GNDINT	GND	GND
–	436	GNDIO	GND	GND
5	437	FAST3	AP19	AM18
–	438	TCK (5)	AN19	AM19
–	439	TMS (5)	AM19	AM20
5	440	I/O	AR20	AJ16
5	441	I/O	–	AK16
5	442	I/O	AP20	AK17
5	443	I/O	–	AJ17
5	444	I/O	AN20	AH17
–	445	VCCIO	VCCIO5	VCCIO5
5	446	I/O	AM20	AG17
5	447	I/O	AR21	AF17
5	448	I/O	AP21	AE17
5	449	I/O	AR22	AD17
5	450	I/O	AP22	AC17
5	451	I/O	–	AB17
5	452	I/O	AL20	AL18
5	453	I/O	–	AK18
5	454	I/O	AN21	AJ18
5	455	I/O	–	AH18
–	456	GNDIO	GND	GND
5	457	I/O	–	AG18
5	458	I/O	AM21	AF18
5	459	I/O	–	AE18
5	460	I/O	AR23	AD18
5	461	I/O	–	AC18
5	462	I/O	AR24	AB18
5	463	I/O	AP23	AL19
5	464	I/O	AN22	AK19
5	465	I/O	AL21	AJ19
5	466	I/O	AR25	AH19
–	467	VCCIO	VCCIO5	VCCIO5
5	468	I/O	AM22	AG19
5	469	I/O	–	AF19
5	470	I/O	AP24	AE19
5	471	I/O	–	AD19
5	472	I/O	AN23	AC19
5	473	I/O	–	AB19
5	474	I/O	–	AL20
5	475	I/O	AR26	AK20
5	476	I/O	–	AJ20
5	477	I/O	AL22	AH20
–	478	GNDIO	GND	GND

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
5	479	I/O	–	AG20
5	480	I/O	AP25	AF20
5	481	I/O	AN24	AE20
5	482	I/O	AM23	AD20
5	483	I/O	AL23	AC20
5	484	I/O	AR27	AB20
5	485	I/O	AP26	AH21
5	486	I/O	–	AG21
5	487	I/O	AN25	AF21
5	488	I/O	–	–
5	489	I/O	AR28	AE21
–	490	VCCIO	VCCIO5	VCCIO5
–	491	VCCINT	VCCINT	VCCINT
–	492	VCCINT	VCCINT	VCCINT
–	493	GNDINT	GND	GND
–	494	GNDINT	GND	GND
5	495	I/O	AP27	AD21
5	496	I/O	–	–
5	497	I/O	AN26	AC21
5	498	I/O	–	AB21
5	499	I/O	AM25	AH22
5	500	I/O	AR29	AG22
5	501	I/O	AP28	AF22
5	502	I/O	AL25	AE22
5	503	I/O	AN27	AD22
5	504	I/O	AM26	AC22
5	505	I/O	–	AB22
–	506	GNDIO	GND	GND
5	507	I/O	AR30	AM23
5	508	I/O	–	AL23
5	509	I/O	AP29	AK23
5	510	I/O	–	AJ23
5	511	I/O	–	AH23
5	512	I/O	AN28	AG23
5	513	I/O	–	AF23
5	514	I/O	AL26	AE23
5	515	I/O	–	AD23
5	516	I/O	AM27	AC23
–	517	VCCIO	VCCIO5	VCCIO5
5	518	I/O	AR31	AB23
5	519	I/O	AP30	AM24
5	520	I/O	AN29	AL24
5	521	I/O	AM28	AK24
5	522	I/O	AR32	AJ24
5	523	I/O	–	AH24
5	524	I/O	AL27	AG24
5	525	I/O	–	AF24
5	526	I/O	AP31	AE24

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
5	527	I/O	–	AD24
–	528	GNDIO	GND	GND
5	529	I/O	–	AC24
5	530	I/O	AR33	AB24
5	531	I/O	–	AM25
5	532	I/O	AN30	AL25
5	533	I/O	–	AK25
5	534	I/O	AM29	AJ25
5	535	I/O	AL28	AH25
5	536	I/O	AP32	AG25
5	537	I/O	AR34	AF25
5	538	I/O	AN31	AE25
–	539	VCCIO	VCCIO5	VCCIO5
5	540	I/O	AP33	AD25
5	541	I/O	–	AC25
5	542	I/O	AM30	AB25
5	543	I/O	–	AH26
5	544	I/O	AL29	AG26
5	545	I/O	–	V15
5	546	I/O	–	Y13
5	547	I/O	–	AH5
–	548	GNDIO	GND	GND
5	549	I/O	–	AA13
5	550	I/O	–	Y14
5	551	I/O	–	AA14
–	552	VCCINT	VCCINT	VCCINT
–	553	GNDINT	GND	GND
5	554	I/O	–	AA15
5	555	I/O	–	W15
5	556	I/O	–	Y15
5	557	I/O	–	V16
–	558	VCCIO	VCCIO5	VCCIO5
–	559	VCCIO	VCCIO4	VCCIO4
4	560	I/O	–	Y16
4	561	I/O	AL33	W16
4	562	I/O	–	AA17
4	563	I/O	AK30	W17
–	564	VCCINT	VCCINT	VCCINT
–	565	GNDINT	GND	GND
4	566	I/O	–	AA18
4	567	I/O	AK31	Y18
4	568	I/O	–	Y17
4	569	I/O	AK32	AA16
–	570	GNDIO	GND	GND
4	571	I/O	–	AA19
4	572	I/O	AL34	V17
4	573	I/O	–	AA20
4	574	I/O	AM35	AH27

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
–	575	VCCINT	VCCINT	VCCINT
–	576	GNDINT	GND	GND
4	577	I/O	–	AK29
4	578	I/O	AJ30	AA21
4	579	I/O	–	AK28
4	580	I/O	AJ31	W18
–	581	VCCIO	VCCIO4	VCCIO4
4	582	I/O	–	W19
4	583	I/O	AJ32	AJ29
4	584	I/O	–	AJ28
4	585	I/O	AJ33	Y19
–	586	VCCINT	VCCINT	VCCINT
–	587	GNDINT	GND	GND
4	588	I/O	–	Y20
4	589	I/O	AK34	U17
4	590	I/O	–	AG27
4	591	I/O	AL35	V18
–	592	GNDIO	GND	GND
4	593	I/O	–	AG28
4	594	I/O	AJ34	AH28
4	595	I/O	–	AF26
4	596	I/O	AH30	AH29
–	597	VCCINT	VCCINT	VCCINT
–	598	GNDINT	GND	GND
4	599	I/O	–	AF28
4	600	I/O	AH32	AE26
4	601	I/O	–	AF27
4	602	I/O	AH33	AJ30
–	603	VCCIO	VCCIO4	VCCIO4
4	604	I/O	–	AH30
4	605	I/O	AK35	AA22
4	606	I/O	–	AD26
4	607	I/O	AH34	AE28
–	608	VCCINT	VCCINT	VCCINT
–	609	GNDINT	GND	GND
4	610	I/O	AJ35	AA23
4	611	I/O	AG30	AD27
4	612	I/O	–	Y21
4	613	I/O	AG31	AE27
–	614	GNDIO	GND	GND
4	615	I/O	AG32	AE29
4	616	I/O	–	–
4	617	I/O	AG33	W20
4	618	I/O	–	AC26
4	619	I/O	AG34	AE30
–	620	VCCINT	VCCINT	VCCINT
–	621	GNDINT	GND	GND
4	622	I/O	AG35	AD28

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
4	623	I/O	–	AD29
4	624	I/O	AF30	AA24
4	625	I/O	–	V19
4	626	I/O	AF31	Y22
–	627	VCCIO	VCCIO4	VCCIO4
4	628	I/O	AF32	W21
4	629	I/O	–	AC28
4	630	I/O	AF33	AB26
4	631	I/O	–	AC27
4	632	I/O	AF34	AD30
–	633	VCCINT	VCCINT	VCCINT
–	634	GNDINT	GND	GND
4	635	I/O	AF35	AC29
4	636	I/O	–	AB28
4	637	I/O	AE30	AA25
4	638	I/O	–	Y23
4	639	I/O	AE31	AB27
–	640	GNDIO	GND	GND
4	641	I/O	AE32	W22
4	642	I/O	–	Y24
4	643	I/O	AE34	AA26
4	644	I/O	–	AA27
4	645	I/O	AE35	W23
–	646	VCCINT	VCCINT	VCCINT
–	647	GNDINT	GND	GND
4	648	I/O	AD30	V20
4	649	I/O	–	V21
4	650	I/O	AD31	Y26
4	651	I/O	–	AA28
4	652	I/O	AD32	Y25
–	653	VCCIO	VCCIO4	VCCIO4
4	654	I/O	AD33	W25
4	655	I/O	–	Y27
4	656	I/O	AD34	U18
4	657	I/O	–	Y28
4	658	I/O	AD35	V22
–	659	VCCINT	VCCINT	VCCINT
–	660	GNDINT	GND	GND
4	661	I/O	AC30	Y29
4	662	I/O	–	W29
4	663	I/O	AC31	V23
4	664	I/O	–	W27
4	665	I/O	AC33	W26
–	666	GNDIO	GND	GND
4	667	I/O	AC34	V25
4	668	I/O	–	W28
4	669	I/O	AC35	U19
4	670	I/O	–	V26

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
4	671	I/O	AB30	U20
–	672	VCCINT	VCCINT	VCCINT
–	673	GNDINT	GND	GND
4	674	I/O	AB31	V27
4	675	I/O	–	U22
4	676	I/O	AB32	U21
4	677	I/O	–	V28
4	678	I/O	AB33	V29
–	679	VCCIO	VCCIO4	VCCIO4
4	680	I/O	AB34	U24
4	681	I/O	–	U29
4	682	I/O	AB35	U23
4	683	I/O	–	U25
4	684	I/O, LOCK1 (9)	AA30	AC30
–	685	VCCINT	VCCINT	VCCINT
–	686	GNDINT	GND	GND
4	687	I/O	AA32	U26
4	688	I/O	AA33	U27
4	689	I/O	AA34	U28
–	690	VCC_CKLK1 (2)	AA35	W24
–	691	GND_CKLK1 (2)	Y30	V24
–	692	GND_CKLK1 (2)	Y30	V24
–	693	GNDIO	GND	GND
4	694	I/O, CLKLK_FB1n (4)	Y31	AM28
4	695	CLKLK_FB1p	Y32	AL28
4	696	I/O, CLK3n (4)	Y33	Y30
4	697	CLK3p	Y34	W30
4	698	I/O, CLK1n (4)	Y35	V30
–	699	VCCIO	VCCIO4	VCCIO4
–	700	VCCINT	VCCINT	VCCINT
–	701	GNDINT	GND	GND
–	702	VCCINT	VCCINT	VCCINT
–	703	GNDINT	GND	GND
–	704	nCONFIG (5)	W32	R30
–	705	CLKLK_ENA (5), (10)	W33	P30
4	706	CLK1p	W34	N30
–	707	MSEL1 (5)	W35	K30
–	708	MSEL0 (5)	U35	J30
–	709	GNDINT	GND	GND
–	710	VCCINT	VCCINT	VCCINT
–	711	GNDINT	GND	GND
–	712	VCCINT	VCCINT	VCCINT
–	713	VCC_CKOUT1 (7)	U33	N24
–	714	GND_CKOUT1 (7)	U32	T24
–	715	CLKLK_OUT1p (8)	U31	AM29
3	716	I/O, CLKLK_OUT1n (4)	T35	AL29
–	717	VCC_CKLK3 (2)	T34	M24
–	718	VCCIO	VCCIO3	VCCIO3

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
–	719	GND_CKLK3 (2)	V35	P23
–	720	GND_CKLK3 (2)	T33	P24
3	721	I/O, LVDSRXINCLK1p	T32	B29
3	722	I/O, LVDSRXINCLK1n (4)	T31	A29
3	723	I/O	T30	T27
3	724	I/O	R35	T29
–	725	GNDINT	GND	GND
–	726	VCCINT	VCCINT	VCCINT
3	727	I/O, LVDSRX01p	R33	AJ32
3	728	I/O, LVDSRX01n (4)	R32	AJ31
3	729	I/O, LOCK3 (9)	R31	H30
3	730	I/O, LVDSRX02n (4)	R30	AH32
3	731	I/O, LVDSRX02p	P35	AH31
–	732	GNDIO	GND	GND
3	733	I/O, LVDSRX03p	P34	AE32
3	734	I/O, LVDSRX03n (4)	P33	AE31
3	735	I/O	P32	T28
3	736	I/O, LVDSRX04n (4)	P31	AD32
3	737	I/O, LVDSRX04p	P30	AD31
–	738	GNDINT	GND	GND
–	739	VCCINT	VCCINT	VCCINT
3	740	I/O, LVDSRX05p	N34	AC32
3	741	I/O, LVDSRX05n (4)	N33	AC31
3	742	I/O	N32	T25
3	743	I/O, LVDSRX06n (4)	N31	Y32
3	744	I/O, LVDSRX06p	N30	Y31
–	745	VCCIO	VCCIO3	VCCIO3
3	746	I/O, LVDSRX07p	M35	W32
3	747	I/O, LVDSRX07n (4)	M34	W31
3	748	I/O	M33	T26
3	749	I/O, LVDSRX08n (4)	M32	V32
3	750	I/O, LVDSRX08p	M31	V31
–	751	GNDINT	GND	GND
–	752	VCCINT	VCCINT	VCCINT
3	753	I/O, LVDSRX09p	L35	R32
3	754	I/O, LVDSRX09n (4)	L34	R31
3	755	I/O	L33	T23
3	756	I/O, LVDSRX10n (4)	L32	P32
3	757	I/O, LVDSRX10p	L31	P31
–	758	GNDIO	GND	GND
3	759	I/O, LVDSRX11p	L30	N32
3	760	I/O, LVDSRX11n (4)	K35	N31
3	761	I/O	K34	T22
3	762	I/O, LVDSRX12n (4)	K33	K32
3	763	I/O, LVDSRX12p	K32	K31
–	764	GNDINT	GND	GND
–	765	VCCINT	VCCINT	VCCINT

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
3	766	I/O, LVDSRX13p	K30	J32
3	767	I/O, LVDSRX13n (4)	J35	J31
3	768	I/O	H35	T21
3	769	I/O, LVDSRX14n (4)	J34	H32
3	770	I/O, LVDSRX14p	J33	H31
–	771	VCCIO	VCCIO3	VCCIO3
3	772	I/O, LVDSRX15p	J32	E32
3	773	I/O, LVDSRX15n (4)	J31	E31
3	774	I/O	J30	R29
3	775	I/O, LVDSRX16n (4)	G35	D32
3	776	I/O, LVDSRX16p	H34	D31
–	777	GNDINT	GND	GND
–	778	VCCINT	VCCINT	VCCINT
3	779	I/O	H33	R28
3	780	I/O	–	R27
3	781	I/O	H32	T20
3	782	I/O	–	R26
3	783	I/O	–	T19
–	784	GNDIO	GND	GND
3	785	I/O	–	R25
3	786	I/O	–	P29
3	787	I/O	H31	P26
3	788	I/O	–	P27
3	789	I/O	–	R24
–	790	GNDINT	GND	GND
–	791	VCCINT	VCCINT	VCCINT
3	792	I/O	–	R23
3	793	I/O	–	P28
3	794	I/O	H30	N29
3	795	I/O	–	P25
3	796	I/O	–	N26
–	797	VCCIO	VCCIO3	VCCIO3
3	798	I/O	–	R22
3	799	I/O	–	N27
3	800	I/O	G34	R21
3	801	I/O	–	N28
–	802	GNDINT	GND	GND
–	803	VCCINT	VCCINT	VCCINT
3	804	I/O	–	R20
3	805	I/O	–	T18
3	806	I/O	E35	M28
3	807	I/O	–	N25
–	808	GNDIO	GND	GND
3	809	I/O	–	M27
3	810	I/O	–	P22
3	811	I/O	F34	L28
3	812	I/O	–	K29
–	813	GNDINT	GND	GND

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
–	814	VCCINT	VCCINT	VCCINT
3	815	I/O	–	M26
3	816	I/O	–	N23
3	817	I/O	G33	M25
3	818	I/O	–	L27
–	819	VCCIO	VCCIO3	VCCIO3
3	820	I/O	–	J29
3	821	I/O	–	R19
3	822	I/O	G32	K28
3	823	I/O	–	P21
–	824	GNDINT	GND	GND
–	825	VCCINT	VCCINT	VCCINT
3	826	I/O	–	J27
3	827	I/O	–	K26
3	828	I/O	G31	N22
3	829	I/O	–	L26
–	830	GNDIO	GND	GND
3	831	I/O	–	P20
3	832	I/O	–	M23
3	833	I/O	D35	K27
3	834	I/O	–	H29
–	835	GNDINT	GND	GND
–	836	VCCINT	VCCINT	VCCINT
3	837	I/O	–	J28
3	838	I/O	–	H28
3	839	I/O	E34	H27
3	840	I/O	–	N21
–	841	VCCIO	VCCIO3	VCCIO3
3	842	I/O	–	H26
3	843	I/O	–	E30
3	844	I/O	F33	J26
3	845	I/O	–	M22
–	846	GNDINT	GND	GND
–	847	VCCINT	VCCINT	VCCINT
3	848	I/O	–	G28
3	849	I/O	–	G27
3	850	I/O	F32	D30
3	851	I/O	–	E29
–	852	GNDIO	GND	GND
2	853	I/O	–	T17
2	854	I/O	–	M21
2	855	I/O	–	F28
2	856	I/O	–	D29
–	857	GNDINT	GND	GND
–	858	VCCINT	VCCINT	VCCINT
2	859	I/O	–	N20
2	860	I/O	–	P19
2	861	I/O	–	R18

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
–	862	VCCIO	VCCIO2	VCCIO2
2	863	I/O	–	E28
2	864	I/O	–	D28
2	865	I/O	–	C29
2	866	I/O	E29	A28
2	867	I/O	–	F27
2	868	I/O	D30	E27
2	869	I/O	–	G26
2	870	I/O	B33	F26
–	871	GNDIO	GND	GND
2	872	I/O	C31	E26
2	873	I/O	A34	L25
2	874	I/O	B32	K25
2	875	I/O	E28	J25
2	876	I/O	D29	H25
2	877	I/O	–	G25
2	878	I/O	C30	F25
2	879	I/O	–	E25
2	880	I/O	A33	D25
2	881	I/O	–	C25
–	882	VCCIO	VCCIO2	VCCIO2
2	883	I/O	–	B25
2	884	I/O	B31	A25
2	885	I/O	–	L24
2	886	I/O	E27	K24
2	887	I/O	–	J24
2	888	I/O	A32	H24
2	889	I/O	D28	G24
2	890	I/O	C29	F24
2	891	I/O	B30	E24
2	892	I/O	A31	D24
–	893	GNDIO	GND	GND
2	894	I/O	D27	C24
2	895	I/O	–	B24
2	896	I/O	E26	L23
2	897	I/O	–	K23
2	898	I/O	C28	J23
2	899	I/O	–	H23
2	900	I/O	–	G23
2	901	I/O	B29	F23
2	902	I/O	–	E23
2	903	I/O	A30	D23
–	904	VCCIO	VCCIO2	VCCIO2
2	905	I/O	–	C23
2	906	I/O	D26	B23
2	907	I/O	C27	L22
2	908	I/O	E25	K22
2	909	I/O	B28	J22

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
2	910	I/O	A29	H22
2	911	I/O	D25	G22
2	912	I/O	–	F22
2	913	I/O	C26	E22
2	914	I/O	–	–
2	915	I/O	B27	L21
–	916	GNDIO	GND	GND
–	917	GNDINT	GND	GND
–	918	GNDINT	GND	GND
–	919	VCCINT	VCCINT	VCCINT
–	920	VCCINT	VCCINT	VCCINT
–	921	GNDINT	–	–
2	922	I/O	A28	K21
2	923	I/O	–	–
2	924	I/O	C25	J21
2	925	I/O	–	H21
2	926	I/O	B26	G21
2	927	I/O	A27	F21
2	928	I/O	E23	E21
2	929	I/O	D23	L20
2	930	I/O	C24	K20
2	931	I/O	B25	J20
2	932	I/O	–	H20
–	933	VCCIO	VCCIO2	VCCIO2
2	934	I/O	E22	G20
2	935	I/O	–	F20
2	936	I/O	A26	E20
2	937	I/O	–	D20
2	938	I/O	–	C20
2	939	I/O	C23	B20
2	940	I/O	–	L19
2	941	I/O	B24	K19
2	942	I/O	–	J19
2	943	I/O	D22	H19
–	944	GNDIO	GND	GND
2	945	I/O	A25	G19
2	946	I/O	E21	F19
2	947	I/O	C22	E19
2	948	I/O	B23	D19
2	949	I/O	A24	C19
2	950	I/O	–	B19
2	951	I/O	A23	L18
2	952	I/O	–	K18
2	953	I/O	D21	J18
2	954	I/O	–	H18
–	955	VCCIO	VCCIO2	VCCIO2
2	956	I/O	–	G18
2	957	I/O	C21	F18

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
2	958	I/O	–	E18
2	959	I/O	E20	D18
2	960	I/O	–	C18
2	961	I/O	B22	B18
2	962	I/O	A22	L17
2	963	I/O	B21	K17
2	964	I/O	A21	J17
2	965	I/O	D20	H17
–	966	GNDIO	GND	GND
2	967	I/O	C20	G17
2	968	I/O	–	F17
2	969	I/O	B20	E17
2	970	I/O	–	D17
2	971	I/O	A20	C17
–	972	VCCIO	VCCIO2	VCCIO2
–	973	TRST (5)	D19	A24
–	974	NCEO (5)	C19	A23
1	975	FAST1	B19	A20
–	976	GNDINT	GND	GND
–	977	GNDINT	GND	GND
–	978	VCCINT	VCCINT	VCCINT
–	979	VCCINT	VCCINT	VCCINT
–	980	VCCIO	VCCIO1	VCCIO1
1	981	FAST2	B17	A19
–	982	TDO (5)	C17	A18
–	983	GNDINT	GND	GND
1	984	I/O	A16	C16
1	985	I/O	–	D16
1	986	I/O	B16	E16
1	987	I/O	–	F16
1	988	I/O, INITDONE (3)	C16	A15
–	989	GNDIO	GND	GND
1	990	I/O	D16	G16
1	991	I/O	A15	H16
1	992	I/O	B15	J16
1	993	I/O, RDYnBSY (1)	A14	A14
1	994	I/O	B14	K16
1	995	I/O	–	L16
1	996	I/O	E16	B15
1	997	I/O	–	C15
1	998	I/O, CLKUSR (1)	C15	A13
1	999	I/O	–	D15
–	1000	VCCIO	VCCIO1	VCCIO1
1	1001	I/O	–	E15
1	1002	I/O	D15	F15
1	1003	I/O	–	G15
1	1004	I/O	A13	H15
1	1005	I/O	–	J15

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
1	1006	I/O	A12	K15
1	1007	I/O	B13	L15
1	1008	I/O	C14	B14
1	1009	I/O	E15	C14
1	1010	I/O	A11	D14
–	1011	GNDIO	GND	GND
1	1012	I/O	D14	E14
1	1013	I/O	–	F14
1	1014	I/O	B12	G14
1	1015	I/O	–	H14
1	1016	I/O, DATA1 (1)	C13	A10
1	1017	I/O	–	J14
1	1018	I/O	–	K14
1	1019	I/O	A10	L14
1	1020	I/O	–	B13
1	1021	I/O	E14	C13
–	1022	VCCIO	VCCIO1	VCCIO1
1	1023	I/O	–	D13
1	1024	I/O	B11	E13
1	1025	I/O	C12	F13
1	1026	I/O	D13	G13
1	1027	I/O	E13	H13
1	1028	I/O	A9	J13
1	1029	I/O	B10	K13
1	1030	I/O	–	L13
1	1031	I/O	C11	E12
1	1032	I/O	–	–
1	1033	I/O, DATA2 (1)	A8	A9
–	1034	GNDIO	GND	GND
–	1035	GNDINT	GND	GND
–	1036	GNDINT	GND	GND
–	1037	VCCINT	VCCINT	VCCINT
–	1038	VCCINT	VCCINT	VCCINT
1	1039	I/O	B9	F12
1	1040	I/O	–	–
1	1041	I/O	C10	G12
1	1042	I/O	–	H12
1	1043	I/O	D11	J12
1	1044	I/O	A7	K12
1	1045	I/O	B8	L12
1	1046	I/O	E11	E11
1	1047	I/O	C9	F11
1	1048	I/O	D10	G11
1	1049	I/O	–	H11
–	1050	VCCIO	VCCIO1	VCCIO1
1	1051	I/O	A6	J11
1	1052	I/O	–	K11
1	1053	I/O, DATA3 (1)	B7	A8

I/O & VREF Bank	Pad Number Orientation	Pin/Pad Function	652-Pin BGA	1,020-Pin FineLine BGA
1	1054	I/O	–	L11
1	1055	I/O	–	B10
1	1056	I/O	C8	C10
1	1057	I/O	–	D10
1	1058	I/O	E10	E10
1	1059	I/O	–	F10
1	1060	I/O	D9	G10
–	1061	GNDIO	GND	GND
1	1062	I/O	A5	H10
1	1063	I/O	B6	J10
1	1064	I/O	C7	K10
1	1065	I/O	D8	L10
1	1066	I/O	A4	B9
1	1067	I/O	–	C9
1	1068	I/O	E9	D9
1	1069	I/O	–	E9
1	1070	I/O, DATA4 (1)	B5	B5
1	1071	I/O	–	F9
–	1072	VCCIO	VCCIO1	VCCIO1
1	1073	I/O	–	G9
1	1074	I/O	A3	H9
1	1075	I/O	–	J9
1	1076	I/O	C6	K9
1	1077	I/O	–	L9
1	1078	I/O	D7	B8
1	1079	I/O	E8	C8
1	1080	I/O	B4	D8
1	1081	I/O	A2	E8
1	1082	I/O	C5	F8
–	1083	GNDIO	GND	GND
1	1084	I/O	B3	G8
1	1085	I/O	–	H8
1	1086	I/O	D6	E7
1	1087	I/O	–	F7
1	1088	I/O, DATA5 (1)	E7	A5
1	1089	–	–	–

Pin Name	652-Pin BGA	1,020-Pin FineLine BGA
MSEL0 (5)	U35	J30
MSEL1 (5)	W35	K30
nSTATUS (5)	AN17	AM14
nCONFIG (5)	W32	R30
DCLK (5)	U3	W3
CONF_DONE (5)	AM17	AM13
INIT_DONE (3)	C16	A15
nCE (5)	U1	AC3
nCEO (5)	C19	A23
nWS (1)	M1	C4
nRS (1)	N1	D4
nCS (1)	P2	D3
CS (1)	R2	E3
RDYnBSY (1)	A14	A14
CLKUSR (1)	C15	A13
DATA7 (1)	M6	B4
DATA6 (1)	L6	A4
DATA5 (1)	E7	A5
DATA4 (1)	B5	B5
DATA3 (1)	B7	A8
DATA2 (1)	A8	A9
DATA1 (1)	C13	A10
DATA0 (5), (6)	U4	V3
TDI (5)	W1	AD3
TDO (5)	C17	A18
TCK (5)	AN19	AM19
TMS (5)	AM19	AM20
TRST (5)	D19	A24
Dedicated Fast I/Os	B19, B17, AP19, AP17	A20, A19, AM18, AM15,
CLK1p	W34	N30
CLK2p	U2	Y3
CLK3p	Y34	W30
CLK4p	T2	P3
LOCK1 (9)	AA30	AC30
LOCK2 (9)	AB6	AK4
LOCK3 (9)	R31	H30
LOCK4 (9)	AC6	AK5
CLKLK_ENA (5), (10)	W33	P30
CLKLK_OUT1p (8)	U31	AM29
CLKLK_OUT2p (8)	Y3	AH3
CLKLK_FB1p (8)	Y32	AL28
CLKLK_FB2p	T4	K3
DEV_CLRn (3)	T6	H3
DEV_OE (3)	Y5	AE3

Pin Name	652-Pin BGA	1,020-Pin FineLine BGA
VCCINT	A17, A19, AA31, AA4, AC3, AC32, AE2, AE33, AG1, AH31, AH35, AH4, AK33, AL12, AL2, AL24, AM12, AM24, AR17, AR19, D12, D24, E12, E24, F3, F35, G30, H1, H5, K31, L3, M30, N35, N4, R34, R5, U34, U5, W3, W31	A2, B1, F1, F2, L1, L2, U1, U2, U3, AB1, AB2, AG1, AG2, AL1, AM2, AL6, AM6, AL11, AM11, AL17, AM17, AL22, AM22, AL27, AM27, AM31, AL32, AG31, AG32, AB31, AB32, T30, T31, T32, L31, L32, F31, F32, B32, A31, A27, B27, A22, B22, A16, B16, A11, B11, A6, B6
VCCIO1	C4, D5, E17	A12, B12, A7, B7, A3
VCCIO2	E19, D31, C32	A30, A26, B26, A21, B21
VCCIO3	F30, F31, U30	M31, M32, G31, G32, C32
VCCIO4	W30, AL31, AL32	AK32, AF31, AF32, AA31, AA32
VCCIO5	AN32, AN33, AL19	AL21, AM21, AL26, AM26, AM30
VCCIO6	AL17, AM5, AN4	AM3, AL7, AM7, AL12, AM12
VCCIO7	AL3, AL4, W6	AA1, AA2, AF1, AF2,AK1
VCCIO8	U6, E3, E4	C1, G1, G2, M1, M2
VCC_CKLK1 (2)	AA35	W24
VCC_CKLK2 (2)	W4	Y9
VCC_CKLK3 (2)	T34	M24
VCC_CKLK4 (2)	R4	P9
VCC_CKOUT1 (7)	U33	N24
VCC_CKOUT2 (7)	Y1	AA9
GND	A1, A18, A35, AK18, AL18, AL30, AL5, AL6, AM18, AM2, AM3, AM31, AM32, AM33, AM34, AM4, AN1, AN18, AN2, AN3, AN34, AN35, AP1, AP18, AP2, AP34, AP35, AR1, AR18, AR35, B1, B18, B2, B34, B35, C18, C2, C3, C33, C34, C35, D18, D2, D3, D17, D32, D33, D34, D4, E18, E30, E31, E32, E33, E5, E6, F18, V1, V2, V3, V30, V31, V32, V33, V34, V4, V5, V6	B2, B3, C2, C3, F3, F4, G3, G4, L3, L4, M3, M4, T1, T2, T3, AA3, AA4, AB3, AB4, AF3, AF4, AG3, AG4, AK2, AK3, AL2, AL3, AJ6, AJ7, AK6, AK7, AJ11, AJ12, AK11, AK12, AL16, AM16, AJ21, AJ22, AK21, AK22, AJ26, AJ27, AK26, AK27, AK30, AK31, AL30, AL31, AG29, AG30, AF29, AF30, AB29, AB30, AA29, AA30, U30, U31, U32, M29, M30, L29, L30, G29, G30, F29, F30, C30, C31, B30, B31, C26, C27, D26, D27, C21, C22, D21, D22, A17, B17, C11, C12, D11, D12, C6, C7, D6, D7
GND_CKLK1 (2)	Y30	V24
GND_CKLK2 (2)	W2	V9
GND_CKLK3 (2)	T33, V35	P23, P24
GND_CKLK4 (2)	R3	T9
GND_CKOUT1 (7)	U32	T24
GND_CKOUT2 (7)	Y2	W9
No Connect (N.C.)	–	–
Total User I/O Pins (11)	488	808

Notes:

(1) This pin can be used as a user I/O pin after configuration.

(2) This pin is the power or ground for the ClockLock and ClockBoost circuitry. To ensure noise resistance, the power and ground supply to the ClockLock and ClockBoost circuitry should be isolated from the power and ground to the rest of the device. VCC_CKLK has the same voltage specifications as the VCCINT and should be connected to a 1.8-V power supply. If the ClockLock or ClockBoost circuitry is not used, this power or ground pin should be connected to VCCINT or GNDINT, respectively.

(3) This pin can be used as a user I/O pin if it is not used for its device-wide or configuration function.

(4) This pin is the complementary signal for the LVDS pair on dedicated inputs and outputs that can be configured for the LVDS standard. If not used for the LVDS pair, these pins are regular I/O pins. Pins with the "n" suffix carry the negative signal for the LVDS channel. Pins with a "p" suffix carry the positive signal for the LVDS channel.

(5) This pin is a dedicated pin; it is not available as a user I/O pin.

(6) This pin is tri-stated in user mode.

(7) This pin is the power or ground for the external output of a PLL. These pins should be set to the VCCIO level/standard desired for the external clock ouput. To ensure noise resistance, the power and ground supply to the PLL external output should be isolated from the power and ground to the rest of the VCCIO and GNDIO pins. If the PLL or external output is not used, this power or ground pin should be connected to VCCIO or GNDIO, respectively.

(8) The CLKLK_OUT pin is powered by the VCC_CKOUT and GND_CKOUT pins.

(9) This pin shows the status of the ClockLock and ClockBoost circuitry. When the ClockLock and ClockBoost circuitry is locked to the incoming clock and generates an internal clock, LOCK is driven high. LOCK remains high if a periodic clock stops clocking. The LOCK function is optional; if the LOCK output is not used, this pin is a user I/O pin.

(10) This pin is the active high enable pin for all of the PLL circuits in the device. When de-asserted, all PLLs are reset to their default, unlocked state and will stop clocking. Once re-asserted, the PLLs will lock again and start clocking. If this pin function is not needed, the pin should be connected to VCCINT.

(11) The user I/O pin count includes dedicated inputs and dedicated clock inputs. It does not include the dedicated clock feedback and output pins.

Copyright © 1995, 1996, 1997, 1998, 1999 Altera Corporation, 101 Innovation Drive, San Jose, CA 95134, USA, all rights reserved.

By accessing this information, you agree to be bound by the terms of Altera's Legal Notice.