

## Pin Definitions

Pin Name	Dedicated Pin	Direction	Description
GCK0, GCK1, GCK2, GCK3	No	Input	Clock input pins that connect to Global Clock Buffers. These pins become user inputs when not needed for clocks.
M0, M1, M2	Yes	Input	Mode pins are used to specify the configuration mode.
CCLK	Yes	Input or Output	The configuration Clock I/O pin. It is an input for slave-parallel and slave-serial modes, and output in master-serial mode.
$\overline{\text{PROGRAM}}$	Yes	Input	Initiates a configuration sequence when asserted Low.
DONE	Yes	Bidirectional	Indicates that configuration loading is complete, and that the start-up sequence is in progress. The output may be open drain.
$\overline{\text{INIT}}$	No	Bidirectional (Open-drain)	When Low, indicates that the configuration memory is being cleared. This pin becomes a user I/O after configuration.
BUSY/DOUT	No	Output	In Slave Parallel mode, BUSY controls the rate at which configuration data is loaded. This pin becomes a user I/O after configuration unless the Slave Parallel port is retained. In serial modes, DOUT provides configuration data to downstream devices in a daisy-chain. This pin becomes a user I/O after configuration.
D0/DIN, D1, D2, D3, D4, D5, D6, D7	No	Input or Output	In Slave Parallel mode, D0-D7 are configuration data input pins. During readback, D0-D7 are output pins. These pins become user I/Os after configuration unless the Slave Parallel port is retained. In serial modes, DIN is the single data input. This pin becomes a user I/O after configuration.
$\overline{\text{WRITE}}$	No	Input	In Slave Parallel mode, the active-low Write Enable signal. This pin becomes a user I/O after configuration unless the Slave Parallel port is retained.
$\overline{\text{CS}}$	No	Input	In Slave Parallel mode, the active-low Chip Select signal. This pin becomes a user I/O after configuration unless the Slave Parallel port is retained.
TDI, TDO, TMS, TCK	Yes	Mixed	Boundary Scan Test Access Port pins (IEEE 1149.1).
$V_{\text{CCINT}}$	Yes	Input	Power supply pins for the internal core logic.
$V_{\text{CCO}}$	Yes	Input	Power supply pins for output drivers (subject to banking rules)
$V_{\text{REF}}$	No	Input	Input threshold voltage pins. Become user I/Os when an external threshold voltage is not needed (subject to banking rules).
GND	Yes	Input	Ground
IRDY, TRDY	No	See PCI core documentation	These signals can only be accessed when using Xilinx PCI cores. If the cores are not used, these pins are available as user I/Os.

## Pinout Tables

The following device-specific pinout tables include all packages available for each Spartan-II device. They follow the pad locations around the die, and include Boundary Scan register locations.

### XC2S15 Device Pinouts

XC2S15 Pad Name		VQ100	TQ144	CS144	Bndry Scan
Function	Bank				
GND	-	P1	P143	A1	-
TMS	-	P2	P142	B1	-
I/O	7	P3	P141	C2	77
I/O	7	-	P140	C1	80
I/O, V <sub>REF</sub>	7	P4	P139	D4	83
I/O	7	P5	P137	D2	86
I/O	7	P6	P136	D1	89
GND	-	-	P135	E4	-
I/O	7	P7	P134	E3	92
I/O	7	-	P133	E2	95
I/O, V <sub>REF</sub>	7	P8	P132	E1	98
I/O	7	P9	P131	F4	101
I/O	7	-	P130	F3	104
I/O, IRDY	7	P10	P129	F2	107
GND	-	P11	P128	F1	-
V <sub>CCO</sub>	7	P12	P127	G2	-
V <sub>CCO</sub>	6	P12	P127	G2	-
I/O, TRDY	6	P13	P126	G1	110
V <sub>CCINT</sub>	-	P14	P125	G3	-
I/O	6	-	P124	G4	113
I/O	6	P15	P123	H1	116
I/O, V <sub>REF</sub>	6	P16	P122	H2	119
I/O	6	-	P121	H3	122
I/O	6	P17	P120	H4	125
GND	-	-	P119	J1	-
I/O	6	P18	P118	J2	128
I/O	6	P19	P117	J3	131
I/O, V <sub>REF</sub>	6	P20	P115	K1	134
I/O	6	-	P114	K2	137
I/O	6	P21	P113	K3	140
I/O	6	P22	P112	L1	143
M1	-	P23	P111	L2	146
GND	-	P24	P110	L3	-
M0	-	P25	P109	M1	147
V <sub>CCO</sub>	6	P26	P108	M2	-
V <sub>CCO</sub>	5	P26	P107	N1	-
M2	-	P27	P106	N2	148
I/O	5	-	P103	K4	155

### XC2S15 Device Pinouts (Continued)

XC2S15 Pad Name		VQ100	TQ144	CS144	Bndry Scan
Function	Bank				
I/O, V <sub>REF</sub>	5	P30	P102	L4	158
I/O	5	P31	P100	N4	161
I/O	5	P32	P99	K5	164
GND	-	-	P98	L5	-
V <sub>CCINT</sub>	-	P33	P97	M5	-
I/O	5	-	P96	N5	167
I/O	5	-	P95	K6	170
I/O, V <sub>REF</sub>	5	P34	P94	L6	173
I/O	5	-	P93	M6	176
V <sub>CCINT</sub>	-	P35	P92	N6	-
I, GCK1	5	P36	P91	M7	185
V <sub>CCO</sub>	5	P37	P90	N7	-
V <sub>CCO</sub>	4	P37	P90	N7	-
GND	-	P38	P89	L7	-
I, GCK0	4	P39	P88	K7	186
I/O	4	P40	P87	N8	190
I/O	4	-	P86	M8	193
I/O, V <sub>REF</sub>	4	P41	P85	L8	196
I/O	4	-	P84	K8	199
I/O	4	-	P83	N9	202
V <sub>CCINT</sub>	-	P42	P82	M9	-
GND	-	-	P81	L9	-
I/O	4	P43	P80	K9	205
I/O	4	P44	P79	N10	208
I/O, V <sub>REF</sub>	4	P45	P77	L10	211
I/O	4	-	P76	N11	214
I/O	4	P46	P75	M11	217
I/O	4	P47	P74	L11	220
GND	-	P48	P73	N12	-
DONE	3	P49	P72	M12	223
V <sub>CCO</sub>	4	P50	P71	N13	-
V <sub>CCO</sub>	3	P50	P70	M13	-
PROGRAM	-	P51	P69	L12	226
I/O (INIT)	3	P52	P68	L13	227
I/O (D7)	3	P53	P67	K10	230
I/O	3	-	P66	K11	233
I/O, V <sub>REF</sub>	3	P54	P65	K12	236
I/O	3	P55	P63	J10	239

**XC2S15 Device Pinouts (Continued)**

XC2S15 Pad Name		VQ100	TQ144	CS144	Bndry Scan
Function	Bank				
I/O (D6)	3	P56	P62	J11	242
GND	-	-	P61	J12	-
I/O (D5)	3	P57	P60	J13	245
I/O	3	P58	P59	H10	248
I/O, V <sub>REF</sub>	3	P59	P58	H11	251
I/O (D4)	3	P60	P57	H12	254
I/O	3	-	P56	H13	257
V <sub>CCINT</sub>	-	P61	P55	G12	-
I/O, TRDY	3	P62	P54	G13	260
V <sub>CCO</sub>	3	P63	P53	G11	-
V <sub>CCO</sub>	2	P63	P53	G11	-
GND	-	P64	P52	G10	-
I/O, IRDY	2	P65	P51	F13	263
I/O	2	-	P50	F12	266
I/O (D3)	2	P66	P49	F11	269
I/O, V <sub>REF</sub>	2	P67	P48	F10	272
I/O	2	P68	P47	E13	275
I/O (D2)	2	P69	P46	E12	278
GND	-	-	P45	E11	-
I/O (D1)	2	P70	P44	E10	281
I/O	2	P71	P43	D13	284
I/O, V <sub>REF</sub>	2	P72	P41	D11	287
I/O	2	-	P40	C13	290
I/O (DIN, D0)	2	P73	P39	C12	293
I/O (DOUT, BUSY)	2	P74	P38	C11	296
CCLK	2	P75	P37	B13	299
V <sub>CCO</sub>	2	P76	P36	B12	-
V <sub>CCO</sub>	2	P76	P35	A13	-
TDO	2	P77	P34	A12	-
GND	-	P78	P33	B11	-
TDI	-	P79	P32	A11	-
I/O ( $\overline{CS}$ )	1	P80	P31	D10	0
I/O ( $\overline{WRITE}$ )	1	P81	P30	C10	3
I/O	1	-	P29	B10	6
I/O, V <sub>REF</sub>	1	P82	P28	A10	9
I/O	1	P83	P27	D9	12
I/O	1	P84	P26	C9	15
GND	-	-	P25	B9	-
V <sub>CCINT</sub>	-	P85	P24	A9	-
I/O	1	-	P23	D8	18

**XC2S15 Device Pinouts (Continued)**

XC2S15 Pad Name		VQ100	TQ144	CS144	Bndry Scan
Function	Bank				
I/O	1	-	P22	C8	21
I/O, V <sub>REF</sub>	1	P86	P21	B8	24
I/O	1	-	P20	A8	27
I/O	1	P87	P19	B7	30
I, GCK2	1	P88	P18	A7	36
GND	-	P89	P17	C7	-
V <sub>CCO</sub>	1	P90	P16	D7	-
V <sub>CCO</sub>	0	P90	P16	D7	-
I, GCK3	0	P91	P15	A6	37
V <sub>CCINT</sub>	-	P92	P14	B6	-
I/O	0	-	P13	C6	44
I/O, V <sub>REF</sub>	0	P93	P12	D6	47
I/O	0	-	P11	A5	50
I/O	0	-	P10	B5	53
V <sub>CCINT</sub>	-	P94	P9	C5	-
GND	-	-	P8	D5	-
I/O	0	P95	P7	A4	56
I/O	0	P96	P6	B4	59
I/O, V <sub>REF</sub>	0	P97	P5	C4	62
I/O	0	-	P4	A3	65
I/O	0	P98	P3	B3	68
TCK	-	P99	P2	C3	-
V <sub>CCO</sub>	0	P100	P1	A2	-
V <sub>CCO</sub>	7	P100	P144	B2	-

11/02/00

**Additional XC2S15 Package Pins**
**VQ100**

Not Connected Pins					
P28	P29	-	-	-	-

11/02/00

**TQ144**

Not Connected Pins					
P42	P64	P78	P101	P104	P105
P116	P138	-	-	-	-

11/02/00

**CS144**

Not Connected Pins					
D3	D12	J4	K13	M3	M4
M10	N3	-	-	-	-

11/02/00

## XC2S30 Device Pinouts

XC2S30 Pad Name		VQ100	TQ144	CS144	PQ208	Bndry Scan
Function	Bank					
GND	-	P1	P143	A1	P1	-
TMS	-	P2	P142	B1	P2	-
I/O	7	P3	P141	C2	P3	113
I/O	7	-	P140	C1	P4	116
I/O	7	-	-	-	P5	119
I/O, V <sub>REF</sub>	7	P4	P139	D4	P6	122
I/O	7	-	P138	D3	P8	125
I/O	7	P5	P137	D2	P9	128
I/O	7	P6	P136	D1	P10	131
GND	-	-	P135	E4	P11	-
V <sub>CCO</sub>	7	-	-	-	P12	-
I/O	7	P7	P134	E3	P14	134
I/O	7	-	P133	E2	P15	137
I/O	7	-	-	-	P16	140
I/O	7	-	-	-	P17	143
I/O	7	-	-	-	P18	146
GND	-	-	-	-	P19	-
I/O, V <sub>REF</sub>	7	P8	P132	E1	P20	149
I/O	7	P9	P131	F4	P21	152
I/O	7	-	P130	F3	P22	155
I/O	7	-	-	-	P23	158
I/O, IRDY	7	P10	P129	F2	P24	161
GND	-	P11	P128	F1	P25	-
V <sub>CCO</sub>	7	P12	P127	G2	P26	-
V <sub>CCO</sub>	6	P12	P127	G2	P26	-
I/O, TRDY	6	P13	P126	G1	P27	164
V <sub>CCINT</sub>	-	P14	P125	G3	P28	-
I/O	6	-	P124	G4	P29	170
I/O	6	P15	P123	H1	P30	173
I/O, V <sub>REF</sub>	6	P16	P122	H2	P31	176
GND	-	-	-	-	P32	-
I/O	6	-	-	-	P33	179
I/O	6	-	-	-	P34	182
I/O	6	-	-	-	P35	185
I/O	6	-	P121	H3	P36	188
I/O	6	P17	P120	H4	P37	191
V <sub>CCO</sub>	6	-	-	-	P39	-
GND	-	-	P119	J1	P40	-
I/O	6	P18	P118	J2	P41	194
I/O	6	P19	P117	J3	P42	197
I/O	6	-	P116	J4	P43	200

## XC2S30 Device Pinouts (Continued)

XC2S30 Pad Name		VQ100	TQ144	CS144	PQ208	Bndry Scan
Function	Bank					
I/O, V <sub>REF</sub>	6	P20	P115	K1	P45	203
I/O	6	-	-	-	P46	206
I/O	6	-	P114	K2	P47	209
I/O	6	P21	P113	K3	P48	212
I/O	6	P22	P112	L1	P49	215
M1	-	P23	P111	L2	P50	218
GND	-	P24	P110	L3	P51	-
M0	-	P25	P109	M1	P52	219
V <sub>CCO</sub>	6	P26	P108	M2	P53	-
V <sub>CCO</sub>	5	P26	P107	N1	P53	-
M2	-	P27	P106	N2	P54	220
I/O	5	-	P103	K4	P57	227
I/O	5	-	-	-	P58	230
I/O, V <sub>REF</sub>	5	P30	P102	L4	P59	233
I/O	5	-	P101	M4	P61	236
I/O	5	P31	P100	N4	P62	239
I/O	5	P32	P99	K5	P63	242
GND	-	-	P98	L5	P64	-
V <sub>CCO</sub>	5	-	-	-	P65	-
V <sub>CCINT</sub>	-	P33	P97	M5	P66	-
I/O	5	-	P96	N5	P67	245
I/O	5	-	P95	K6	P68	248
I/O	5	-	-	-	P69	251
I/O	5	-	-	-	P70	254
I/O	5	-	-	-	P71	257
GND	-	-	-	-	P72	-
I/O, V <sub>REF</sub>	5	P34	P94	L6	P73	260
I/O	5	-	-	-	P74	263
I/O	5	-	P93	M6	P75	266
V <sub>CCINT</sub>	-	P35	P92	N6	P76	-
I, GCK1	5	P36	P91	M7	P77	275
V <sub>CCO</sub>	5	P37	P90	N7	P78	-
V <sub>CCO</sub>	4	P37	P90	N7	P78	-
GND	-	P38	P89	L7	P79	-
I, GCK0	4	P39	P88	K7	P80	276
I/O	4	P40	P87	N8	P81	280
I/O	4	-	P86	M8	P82	283
I/O	4	-	-	-	P83	286
I/O, V <sub>REF</sub>	4	P41	P85	L8	P84	289
GND	-	-	-	-	P85	-
I/O	4	-	-	-	P86	292

**XC2S30 Device Pinouts (Continued)**

XC2S30 Pad Name		VQ100	TQ144	CS144	PQ208	Bndry Scan
Function	Bank					
I/O	4	-	-	-	P87	295
I/O	4	-	-	-	P88	298
I/O	4	-	P84	K8	P89	301
I/O	4	-	P83	N9	P90	304
V <sub>CCINT</sub>	-	P42	P82	M9	P91	-
V <sub>CCO</sub>	4	-	-	-	P92	-
GND	-	-	P81	L9	P93	-
I/O	4	P43	P80	K9	P94	307
I/O	4	P44	P79	N10	P95	310
I/O	4	-	P78	M10	P96	313
I/O, V <sub>REF</sub>	4	P45	P77	L10	P98	316
I/O	4	-	-	-	P99	319
I/O	4	-	P76	N11	P100	322
I/O	4	P46	P75	M11	P101	325
I/O	4	P47	P74	L11	P102	328
GND	-	P48	P73	N12	P103	-
DONE	3	P49	P72	M12	P104	331
V <sub>CCO</sub>	4	P50	P71	N13	P105	-
V <sub>CCO</sub>	3	P50	P70	M13	P105	-
PROGRAM	-	P51	P69	L12	P106	334
I/O (INIT)	3	P52	P68	L13	P107	335
I/O (D7)	3	P53	P67	K10	P108	338
I/O	3	-	P66	K11	P109	341
I/O	3	-	-	-	P110	344
I/O, V <sub>REF</sub>	3	P54	P65	K12	P111	347
I/O	3	-	P64	K13	P113	350
I/O	3	P55	P63	J10	P114	353
I/O (D6)	3	P56	P62	J11	P115	356
GND	-	-	P61	J12	P116	-
V <sub>CCO</sub>	3	-	-	-	P117	-
I/O (D5)	3	P57	P60	J13	P119	359
I/O	3	P58	P59	H10	P120	362
I/O	3	-	-	-	P121	365
I/O	3	-	-	-	P122	368
I/O	3	-	-	-	P123	371
GND	-	-	-	-	P124	-
I/O, V <sub>REF</sub>	3	P59	P58	H11	P125	374
I/O (D4)	3	P60	P57	H12	P126	377
I/O	3	-	P56	H13	P127	380
V <sub>CCINT</sub>	-	P61	P55	G12	P128	-
I/O, TRDY	3	P62	P54	G13	P129	386

**XC2S30 Device Pinouts (Continued)**

XC2S30 Pad Name		VQ100	TQ144	CS144	PQ208	Bndry Scan
Function	Bank					
V <sub>CCO</sub>	3	P63	P53	G11	P130	-
V <sub>CCO</sub>	2	P63	P53	G11	P130	-
GND	-	P64	P52	G10	P131	-
I/O, IRDY	2	P65	P51	F13	P132	389
I/O	2	-	-	-	P133	392
I/O	2	-	P50	F12	P134	395
I/O (D3)	2	P66	P49	F11	P135	398
I/O, V <sub>REF</sub>	2	P67	P48	F10	P136	401
GND	-	-	-	-	P137	-
I/O	2	-	-	-	P138	404
I/O	2	-	-	-	P139	407
I/O	2	-	-	-	P140	410
I/O	2	P68	P47	E13	P141	413
I/O (D2)	2	P69	P46	E12	P142	416
V <sub>CCO</sub>	2	-	-	-	P144	-
GND	-	-	P45	E11	P145	-
I/O (D1)	2	P70	P44	E10	P146	419
I/O	2	P71	P43	D13	P147	422
I/O	2	-	P42	D12	P148	425
I/O, V <sub>REF</sub>	2	P72	P41	D11	P150	428
I/O	2	-	-	-	P151	431
I/O	2	-	P40	C13	P152	434
I/O (DIN, D0)	2	P73	P39	C12	P153	437
I/O (DOUT, BUSY)	2	P74	P38	C11	P154	440
CCLK	2	P75	P37	B13	P155	443
V <sub>CCO</sub>	2	P76	P36	B12	P156	-
V <sub>CCO</sub>	1	P76	P35	A13	P156	-
TDO	2	P77	P34	A12	P157	-
GND	-	P78	P33	B11	P158	-
TDI	-	P79	P32	A11	P159	-
I/O (CS)	1	P80	P31	D10	P160	0
I/O (WRITE)	1	P81	P30	C10	P161	3
I/O	1	-	P29	B10	P162	6
I/O	1	-	-	-	P163	9
I/O, V <sub>REF</sub>	1	P82	P28	A10	P164	12
I/O	1	-	-	-	P166	15
I/O	1	P83	P27	D9	P167	18
I/O	1	P84	P26	C9	P168	21
GND	-	-	P25	B9	P169	-
V <sub>CCO</sub>	1	-	-	-	P170	-

### XC2S30 Device Pinouts (Continued)

XC2S30 Pad Name		VQ100	TQ144	CS144	PQ208	Bndry Scan
Function	Bank					
V <sub>CCINT</sub>	-	P85	P24	A9	P171	-
I/O	1	-	P23	D8	P172	24
I/O	1	-	P22	C8	P173	27
I/O	1	-	-	-	P174	30
I/O	1	-	-	-	P175	33
I/O	1	-	-	-	P176	36
GND	-	-	-	-	P177	-
I/O, V <sub>REF</sub>	1	P86	P21	B8	P178	39
I/O	1	-	-	-	P179	42
I/O	1	-	P20	A8	P180	45
I/O	1	P87	P19	B7	P181	48
I, GCK2	1	P88	P18	A7	P182	54
GND	-	P89	P17	C7	P183	-
V <sub>CCO</sub>	1	P90	P16	D7	P184	-
V <sub>CCO</sub>	0	P90	P16	D7	P184	-
I, GCK3	0	P91	P15	A6	P185	55
V <sub>CCINT</sub>	-	P92	P14	B6	P186	-
I/O	0	-	P13	C6	P187	62
I/O	0	-	-	-	P188	65
I/O, V <sub>REF</sub>	0	P93	P12	D6	P189	68
GND	-	-	-	-	P190	-
I/O	0	-	-	-	P191	71
I/O	0	-	-	-	P192	74
I/O	0	-	-	-	P193	77
I/O	0	-	P11	A5	P194	80
I/O	0	-	P10	B5	P195	83
V <sub>CCINT</sub>	-	P94	P9	C5	P196	-
V <sub>CCO</sub>	0	-	-	-	P197	-
GND	-	-	P8	D5	P198	-

### XC2S30 Device Pinouts (Continued)

XC2S30 Pad Name		VQ100	TQ144	CS144	PQ208	Bndry Scan
Function	Bank					
I/O	0	P95	P7	A4	P199	86
I/O	0	P96	P6	B4	P200	89
I/O	0	-	-	-	P201	92
I/O, V <sub>REF</sub>	0	P97	P5	C4	P203	95
I/O	0	-	-	-	P204	98
I/O	0	-	P4	A3	P205	101
I/O	0	P98	P3	B3	P206	104
TCK	-	P99	P2	C3	P207	-
V <sub>CCO</sub>	0	P100	P1	A2	P208	-
V <sub>CCO</sub>	7	P100	P144	B2	P208	-

11/02/00

### Additional XC2S30 Package Pins

#### VQ100

Not Connected Pins					
P28	P29	-	-	-	-

11/02/00

#### TQ144

Not Connected Pins					
P104	P105	-	-	-	-

11/02/00

#### CS144

Not Connected Pins					
M3	N3	-	-	-	-

11/02/00

#### PQ208

Not Connected Pins					
P7	P13	P38	P44	P55	P56
P60	P97	P112	P118	P143	P149
P165	P202	-	-	-	-

11/02/00

### XC2S50 Device Pinouts

XC2S50 Pad Name		TQ144	PQ208	FG256	Bndry Scan
Function	Bank				
GND	-	P143	P1	GND*	-
TMS	-	P142	P2	D3	-
I/O	7	P141	P3	C2	149
I/O	7	-	-	A2	152

### XC2S50 Device Pinouts (Continued)

XC2S50 Pad Name		TQ144	PQ208	FG256	Bndry Scan
Function	Bank				
I/O	7	P140	P4	B1	155
I/O	7	-	-	E3	158
I/O	7	-	P5	D2	161
GND	-	-	-	GND*	-
I/O, V <sub>REF</sub>	7	P139	P6	C1	164

**XC2S50 Device Pinouts (Continued)**

XC2S50 Pad Name		TQ144	PQ208	FG256	Bndry Scan
Function	Bank				
I/O	7	-	P7	F3	167
I/O	7	-	-	E2	170
I/O	7	P138	P8	E4	173
I/O	7	P137	P9	D1	176
I/O	7	P136	P10	E1	179
GND	-	P135	P11	GND*	-
V <sub>CCO</sub>	7	-	P12	V <sub>CCO</sub> Bank 7*	-
V <sub>CCINT</sub>	-	-	P13	V <sub>CCINT</sub> *	-
I/O	7	P134	P14	F2	182
I/O	7	P133	P15	G3	185
I/O	7	-	-	F1	188
I/O	7	-	P16	F4	191
I/O	7	-	P17	F5	194
I/O	7	-	P18	G2	197
GND	-	-	P19	GND*	-
I/O, V <sub>REF</sub>	7	P132	P20	H3	200
I/O	7	P131	P21	G4	203
I/O	7	-	-	H2	206
I/O	7	P130	P22	G5	209
I/O	7	-	P23	H4	212
I/O, IRDY	7	P129	P24	G1	215
GND	-	P128	P25	GND*	-
V <sub>CCO</sub>	7	P127	P26	V <sub>CCO</sub> Bank 7*	-
V <sub>CCO</sub>	6	P127	P26	V <sub>CCO</sub> Bank 6*	-
I/O, TRDY	6	P126	P27	J2	218
V <sub>CCINT</sub>	-	P125	P28	V <sub>CCINT</sub> *	-
I/O	6	P124	P29	H1	224
I/O	6	-	-	J4	227
I/O	6	P123	P30	J1	230
I/O, V <sub>REF</sub>	6	P122	P31	J3	233
GND	-	-	P32	GND*	-
I/O	6	-	P33	K5	236
I/O	6	-	P34	K2	239
I/O	6	-	P35	K1	242
I/O	6	-	-	K3	245
I/O	6	P121	P36	L1	248
I/O	6	P120	P37	L2	251
V <sub>CCINT</sub>	-	-	P38	V <sub>CCINT</sub> *	-

**XC2S50 Device Pinouts (Continued)**

XC2S50 Pad Name		TQ144	PQ208	FG256	Bndry Scan
Function	Bank				
V <sub>CCO</sub>	6	-	P39	V <sub>CCO</sub> Bank 6*	-
GND	-	P119	P40	GND*	-
I/O	6	P118	P41	K4	254
I/O	6	P117	P42	M1	257
I/O	6	P116	P43	L4	260
I/O	6	-	-	M2	263
I/O	6	-	P44	L3	266
I/O, V <sub>REF</sub>	6	P115	P45	N1	269
GND	-	-	-	GND*	-
I/O	6	-	P46	P1	272
I/O	6	-	-	L5	275
I/O	6	P114	P47	N2	278
I/O	6	-	-	M4	281
I/O	6	P113	P48	R1	284
I/O	6	P112	P49	M3	287
M1	-	P111	P50	P2	290
GND	-	P110	P51	GND*	-
M0	-	P109	P52	N3	291
V <sub>CCO</sub>	6	P108	P53	V <sub>CCO</sub> Bank 6*	-
V <sub>CCO</sub>	5	P107	P53	V <sub>CCO</sub> Bank 5*	-
M2	-	P106	P54	R3	292
I/O	5	-	-	N5	299
I/O	5	P103	P57	T2	302
I/O	5	-	-	P5	305
I/O	5	-	P58	T3	308
GND	-	-	-	GND*	-
I/O, V <sub>REF</sub>	5	P102	P59	T4	311
I/O	5	-	P60	M6	314
I/O	5	-	-	T5	317
I/O	5	P101	P61	N6	320
I/O	5	P100	P62	R5	323
I/O	5	P99	P63	P6	326
GND	-	P98	P64	GND*	-
V <sub>CCO</sub>	5	-	P65	V <sub>CCO</sub> Bank 5*	-
V <sub>CCINT</sub>	-	P97	P66	V <sub>CCINT</sub> *	-
I/O	5	P96	P67	R6	329
I/O	5	P95	P68	M7	332
I/O	5	-	P69	N7	338

## XC2S50 Device Pinouts (Continued)

XC2S50 Pad Name		TQ144	PQ208	FG256	Bndry Scan
Function	Bank				
I/O	5	-	P70	T6	341
I/O	5	-	P71	P7	344
GND	-	-	P72	GND*	-
I/O, V <sub>REF</sub>	5	P94	P73	P8	347
I/O	5	-	P74	R7	350
I/O	5	-	-	T7	353
I/O	5	P93	P75	T8	356
V <sub>CCINT</sub>	-	P92	P76	V <sub>CCINT</sub> *	-
I, GCK1	5	P91	P77	R8	365
V <sub>CCO</sub>	5	P90	P78	V <sub>CCO</sub> Bank 5*	-
V <sub>CCO</sub>	4	P90	P78	V <sub>CCO</sub> Bank 4*	-
GND	-	P89	P79	GND*	-
I, GCK0	4	P88	P80	N8	366
I/O	4	P87	P81	N9	370
I/O	4	P86	P82	R9	373
I/O	4	-	-	N10	376
I/O	4	-	P83	T9	379
I/O, V <sub>REF</sub>	4	P85	P84	P9	382
GND	-	-	P85	GND*	-
I/O	4	-	P86	M10	385
I/O	4	-	P87	R10	388
I/O	4	-	P88	P10	391
I/O	4	P84	P89	T10	397
I/O	4	P83	P90	R11	400
V <sub>CCINT</sub>	-	P82	P91	V <sub>CCINT</sub> *	-
V <sub>CCO</sub>	4	-	P92	V <sub>CCO</sub> Bank 4*	-
GND	-	P81	P93	GND*	-
I/O	4	P80	P94	M11	403
I/O	4	P79	P95	T11	406
I/O	4	P78	P96	N11	409
I/O	4	-	-	R12	412
I/O	4	-	P97	P11	415
I/O, V <sub>REF</sub>	4	P77	P98	T12	418
GND	-	-	-	GND*	-
I/O	4	-	P99	T13	421
I/O	4	-	-	N12	424
I/O	4	P76	P100	R13	427
I/O	4	-	-	P12	430
I/O	4	P75	P101	P13	433

## XC2S50 Device Pinouts (Continued)

XC2S50 Pad Name		TQ144	PQ208	FG256	Bndry Scan
Function	Bank				
I/O	4	P74	P102	T14	436
GND	-	P73	P103	GND*	-
DONE	3	P72	P104	R14	439
V <sub>CCO</sub>	4	P71	P105	V <sub>CCO</sub> Bank 4*	-
V <sub>CCO</sub>	3	P70	P105	V <sub>CCO</sub> Bank 3*	-
PROGRAM	-	P69	P106	P15	442
I/O (INIT)	3	P68	P107	N15	443
I/O (D7)	3	P67	P108	N14	446
I/O	3	-	-	T15	449
I/O	3	P66	P109	M13	452
I/O	3	-	-	R16	455
I/O	3	-	P110	M14	458
GND	-	-	-	GND*	-
I/O, V <sub>REF</sub>	3	P65	P111	L14	461
I/O	3	-	P112	M15	464
I/O	3	-	-	L12	467
I/O	3	P64	P113	P16	470
I/O	3	P63	P114	L13	473
I/O (D6)	3	P62	P115	N16	476
GND	-	P61	P116	GND*	-
V <sub>CCO</sub>	3	-	P117	V <sub>CCO</sub> Bank 3*	-
V <sub>CCINT</sub>	-	-	P118	V <sub>CCINT</sub> *	-
I/O (D5)	3	P60	P119	M16	479
I/O	3	P59	P120	K14	482
I/O	3	-	-	L16	485
I/O	3	-	P121	K13	488
I/O	3	-	P122	L15	491
I/O	3	-	P123	K12	494
GND	-	-	P124	GND*	-
I/O, V <sub>REF</sub>	3	P58	P125	K16	497
I/O (D4)	3	P57	P126	J16	500
I/O	3	-	-	J14	503
I/O	3	P56	P127	K15	506
V <sub>CCINT</sub>	-	P55	P128	V <sub>CCINT</sub> *	-
I/O, TRDY	3	P54	P129	J15	512
V <sub>CCO</sub>	3	P53	P130	V <sub>CCO</sub> Bank 3*	-
V <sub>CCO</sub>	2	P53	P130	V <sub>CCO</sub> Bank 2*	-
GND	-	P52	P131	GND*	-



**XC2S50 Device Pinouts (Continued)**

XC2S50 Pad Name		TQ144	PQ208	FG256	Bndry Scan
Function	Bank				
I/O, IRDY	2	P51	P132	H16	515
I/O	2	-	P133	H14	518
I/O	2	P50	P134	H15	521
I/O	2	-	-	J13	524
I/O (D3)	2	P49	P135	G16	527
I/O, V <sub>REF</sub>	2	P48	P136	H13	530
GND	-	-	P137	GND*	-
I/O	2	-	P138	G14	533
I/O	2	-	P139	G15	536
I/O	2	-	P140	G12	539
I/O	2	-	-	F16	542
I/O	2	P47	P141	G13	545
I/O (D2)	2	P46	P142	F15	548
V <sub>CCINT</sub>	-	-	P143	V <sub>CCINT</sub> *	-
V <sub>CCO</sub>	2	-	P144	V <sub>CCO</sub> Bank 2*	-
GND	-	P45	P145	GND*	-
I/O (D1)	2	P44	P146	E16	551
I/O	2	P43	P147	F14	554
I/O	2	P42	P148	D16	557
I/O	2	-	-	F12	560
I/O	2	-	P149	E15	563
I/O, V <sub>REF</sub>	2	P41	P150	F13	566
GND	-	-	-	GND*	-
I/O	2	-	P151	E14	569
I/O	2	-	-	C16	572
I/O	2	P40	P152	E13	575
I/O	2	-	-	B16	578
I/O (DIN, D0)	2	P39	P153	D14	581
I/O (DOUT, BUSY)	2	P38	P154	C15	584
CCCLK	2	P37	P155	D15	587
V <sub>CCO</sub>	2	P36	P156	V <sub>CCO</sub> Bank 2*	-
V <sub>CCO</sub>	1	P35	P156	V <sub>CCO</sub> Bank 1*	-
TDO	2	P34	P157	B14	-
GND	-	P33	P158	GND*	-
TDI	-	P32	P159	A15	-
I/O ( $\overline{\text{CS}}$ )	1	P31	P160	B13	0
I/O ( $\overline{\text{WRITE}}$ )	1	P30	P161	C13	3
I/O	1	-	-	C12	6

**XC2S50 Device Pinouts (Continued)**

XC2S50 Pad Name		TQ144	PQ208	FG256	Bndry Scan
Function	Bank				
I/O	1	P29	P162	A14	9
I/O	1	-	-	D12	12
I/O	1	-	P163	B12	15
GND	-	-	-	GND*	-
I/O, V <sub>REF</sub>	1	P28	P164	C11	18
I/O	1	-	P165	A13	21
I/O	1	-	-	D11	24
I/O	1	-	P166	A12	27
I/O	1	P27	P167	E11	30
I/O	1	P26	P168	B11	33
GND	-	P25	P169	GND*	-
V <sub>CCO</sub>	1	-	P170	V <sub>CCO</sub> Bank 1*	-
V <sub>CCINT</sub>	-	P24	P171	V <sub>CCINT</sub> *	-
I/O	1	P23	P172	A11	36
I/O	1	P22	P173	C10	39
I/O	1	-	P174	B10	45
I/O	1	-	P175	D10	48
I/O	1	-	P176	A10	51
GND	-	-	P177	GND*	-
I/O, V <sub>REF</sub>	1	P21	P178	B9	54
I/O	1	-	P179	E10	57
I/O	1	-	-	A9	60
I/O	1	P20	P180	D9	63
I/O	1	P19	P181	A8	66
I, GCK2	1	P18	P182	C9	72
GND	-	P17	P183	GND*	-
V <sub>CCO</sub>	1	P16	P184	V <sub>CCO</sub> Bank 1*	-
V <sub>CCO</sub>	0	P16	P184	V <sub>CCO</sub> Bank 0*	-
I, GCK3	0	P15	P185	B8	73
V <sub>CCINT</sub>	-	P14	P186	V <sub>CCINT</sub> *	-
I/O	0	P13	P187	A7	80
I/O	0	-	-	D8	83
I/O	0	-	P188	A6	86
I/O, V <sub>REF</sub>	0	P12	P189	B7	89
GND	-	-	P190	GND*	-
I/O	0	-	P191	C8	92
I/O	0	-	P192	D7	95
I/O	0	-	P193	E7	98
I/O	0	P11	P194	C7	104

## XC2S50 Device Pinouts (Continued)

XC2S50 Pad Name		TQ144	PQ208	FG256	Bdry Scan
Function	Bank				
I/O	0	P10	P195	B6	107
V <sub>CCINT</sub>	-	P9	P196	V <sub>CCINT</sub> *	-
V <sub>CCO</sub>	0	-	P197	V <sub>CCO</sub> Bank 0*	-
GND	-	P8	P198	GND*	-
I/O	0	P7	P199	A5	110
I/O	0	P6	P200	C6	113
I/O	0	-	P201	B5	116
I/O	0	-	-	D6	119
I/O	0	-	P202	A4	122
I/O, V <sub>REF</sub>	0	P5	P203	B4	125
GND	-	-	-	GND*	-
I/O	0	-	P204	E6	128
I/O	0	-	-	D5	131
I/O	0	P4	P205	A3	134
I/O	0	-	-	C5	137
I/O	0	P3	P206	B3	140
TCK	-	P2	P207	C4	-
V <sub>CCO</sub>	0	P1	P208	V <sub>CCO</sub> Bank 0*	-
V <sub>CCO</sub>	7	P144	P208	V <sub>CCO</sub> Bank 7*	-

11/02/00

### Notes:

1. Pads labelled GND\*, V<sub>CCINT</sub>\*, V<sub>CCO</sub> Bank 0\*, V<sub>CCO</sub> Bank 1\*, V<sub>CCO</sub> Bank 2\*, V<sub>CCO</sub> Bank 3\*, V<sub>CCO</sub> Bank 4\*, V<sub>CCO</sub> Bank 5\*, V<sub>CCO</sub> Bank 6\*, V<sub>CCO</sub> Bank 7\* are internally bonded to independent ground or power planes within the package.

## Additional XC2S50 Package Pins

### TQ144

Not Connected Pins					
P104	P105	-	-	-	-

11/02/00

### PQ208

Not Connected Pins					
P55	P56	-	-	-	-

11/02/00

### FG256

V <sub>CCINT</sub> Pins					
C3	C14	D4	D13	E5	E12
M5	M12	N4	N13	P3	P14
V <sub>CCO</sub> Bank 0 Pins					
E8	F8	-	-	-	-
V <sub>CCO</sub> Bank 1 Pins					
E9	F9	-	-	-	-
V <sub>CCO</sub> Bank 2 Pins					
H11	H12	-	-	-	-
V <sub>CCO</sub> Bank 3 Pins					
J11	J12	-	-	-	-
V <sub>CCO</sub> Bank 4 Pins					
L9	M9	-	-	-	-
V <sub>CCO</sub> Bank 5 Pins					
L8	M8	-	-	-	-
V <sub>CCO</sub> Bank 6 Pins					
J5	J6	-	-	-	-
V <sub>CCO</sub> Bank 7 Pins					
H5	H6	-	-	-	-
GND Pins					
A1	A16	B2	B15	F6	F7
F10	F11	G6	G7	G8	G9
G10	G11	H7	H8	H9	H10
J7	J8	J9	J10	K6	K7
K8	K9	K10	K11	L6	L7
L10	L11	R2	R15	T1	T16
Not Connected Pins					
P4	R4	-	-	-	-

11/02/00

**XC2S100 Device Pinouts**

XC2S100 Pad Name						Bndry Scan
Function	Bank	TQ144	PQ208	FG256	FG456	
GND	-	P143	P1	GND*	GND*	-
TMS	-	P142	P2	D3	D3	-
I/O	7	P141	P3	C2	B1	185
I/O	7	-	-	A2	F5	191
I/O	7	P140	P4	B1	D2	194
I/O	7	-	-	-	E3	197
I/O	7	-	-	E3	G5	200
I/O	7	-	P5	D2	F3	203
GND	-	-	-	GND*	GND*	-
V <sub>CCO</sub>	7	-	-	V <sub>CCO</sub> Bank 7*	V <sub>CCO</sub> Bank 7*	-
I/O, V <sub>REF</sub>	7	P139	P6	C1	E2	206
I/O	7	-	P7	F3	E1	209
I/O	7	-	-	E2	H5	215
I/O	7	P138	P8	E4	F2	218
I/O	7	-	-	-	F1	221
I/O, V <sub>REF</sub>	7	P137	P9	D1	H4	224
I/O	7	P136	P10	E1	G1	227
GND	-	P135	P11	GND*	GND*	-
V <sub>CCO</sub>	7	-	P12	V <sub>CCO</sub> Bank 7*	V <sub>CCO</sub> Bank 7*	-
V <sub>CCINT</sub>	-	-	P13	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O	7	P134	P14	F2	H3	230
I/O	7	P133	P15	G3	H2	233
I/O	7	-	-	F1	J5	236
I/O	7	-	P16	F4	J2	239
I/O	7	-	P17	F5	K5	245
I/O	7	-	P18	G2	K1	248
GND	-	-	P19	GND*	GND*	-
I/O, V <sub>REF</sub>	7	P132	P20	H3	K3	251
I/O	7	P131	P21	G4	K4	254
I/O	7	-	-	H2	L6	257
I/O	7	P130	P22	G5	L1	260
I/O	7	-	P23	H4	L4	266
I/O, IRDY	7	P129	P24	G1	L3	269
GND	-	P128	P25	GND*	GND*	-
V <sub>CCO</sub>	7	P127	P26	V <sub>CCO</sub> Bank 7*	V <sub>CCO</sub> Bank 7*	-
V <sub>CCO</sub>	6	P127	P26	V <sub>CCO</sub> Bank 6*	V <sub>CCO</sub> Bank 6*	-
I/O, TRDY	6	P126	P27	J2	M1	272

**XC2S100 Device Pinouts (Continued)**

XC2S100 Pad Name						Bndry Scan
Function	Bank	TQ144	PQ208	FG256	FG456	
V <sub>CCINT</sub>	-	P125	P28	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O	6	P124	P29	H1	M3	281
I/O	6	-	-	J4	M4	284
I/O	6	P123	P30	J1	M5	287
I/O, V <sub>REF</sub>	6	P122	P31	J3	N2	290
GND	-	-	P32	GND*	GND*	-
I/O	6	-	P33	K5	N3	293
I/O	6	-	P34	K2	N4	296
I/O	6	-	P35	K1	P2	302
I/O	6	-	-	K3	P4	305
I/O	6	P121	P36	L1	P3	308
I/O	6	P120	P37	L2	R2	311
V <sub>CCINT</sub>	-	-	P38	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
V <sub>CCO</sub>	6	-	P39	V <sub>CCO</sub> Bank 6*	V <sub>CCO</sub> Bank 6*	-
GND	-	P119	P40	GND*	GND*	-
I/O	6	P118	P41	K4	T1	314
I/O, V <sub>REF</sub>	6	P117	P42	M1	R4	317
I/O	6	-	-	-	T2	320
I/O	6	P116	P43	L4	U1	323
I/O	6	-	-	M2	R5	326
I/O	6	-	P44	L3	U2	332
I/O, V <sub>REF</sub>	6	P115	P45	N1	T3	335
V <sub>CCO</sub>	6	-	-	V <sub>CCO</sub> Bank 6*	V <sub>CCO</sub> Bank 6*	-
GND	-	-	-	GND*	GND*	-
I/O	6	-	P46	P1	T4	338
I/O	6	-	-	L5	W1	341
I/O	6	-	-	-	U4	344
I/O	6	P114	P47	N2	Y1	347
I/O	6	-	-	M4	W2	350
I/O	6	P113	P48	R1	Y2	356
I/O	6	P112	P49	M3	W3	359
M1	-	P111	P50	P2	U5	362
GND	-	P110	P51	GND*	GND*	-
M0	-	P109	P52	N3	AB2	363
V <sub>CCO</sub>	6	P108	P53	V <sub>CCO</sub> Bank 6*	V <sub>CCO</sub> Bank 6*	-
V <sub>CCO</sub>	5	P107	P53	V <sub>CCO</sub> Bank 5*	V <sub>CCO</sub> Bank 5*	-
M2	-	P106	P54	R3	Y4	364
I/O	5	-	-	N5	V7	374

## XC2S100 Device Pinouts (Continued)

XC2S100 Pad Name						Bndry Scan
Function	Bank	TQ144	PQ208	FG256	FG456	
I/O	5	P103	P57	T2	Y6	377
I/O	5	-	-	-	AA4	380
I/O	5	-	-	P5	W6	383
I/O	5	-	P58	T3	Y7	386
GND	-	-	-	GND*	GND*	-
V <sub>CCO</sub>	5	-	-	V <sub>CCO</sub> Bank 5*	V <sub>CCO</sub> Bank 5*	-
I/O, V <sub>REF</sub>	5	P102	P59	T4	AA5	389
I/O	5	-	P60	M6	AB5	392
I/O	5	-	-	T5	AB6	398
I/O	5	P101	P61	N6	AA7	401
I/O	5	-	-	-	W7	404
I/O, V <sub>REF</sub>	5	P100	P62	R5	W8	407
I/O	5	P99	P63	P6	Y8	410
GND	-	P98	P64	GND*	GND*	-
V <sub>CCO</sub>	5	-	P65	V <sub>CCO</sub> Bank 5*	V <sub>CCO</sub> Bank 5*	-
V <sub>CCINT</sub>	-	P97	P66	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O	5	P96	P67	R6	AA8	413
I/O	5	P95	P68	M7	V9	416
I/O	5	-	-	-	AB9	419
I/O	5	-	P69	N7	Y9	422
I/O	5	-	P70	T6	W10	428
I/O	5	-	P71	P7	AB10	431
GND	-	-	P72	GND*	GND*	-
I/O, V <sub>REF</sub>	5	P94	P73	P8	Y10	434
I/O	5	-	P74	R7	V11	437
I/O	5	-	-	T7	W11	440
I/O	5	P93	P75	T8	AB11	443
V <sub>CCINT</sub>	-	P92	P76	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I, GCK1	5	P91	P77	R8	Y11	455
V <sub>CCO</sub>	5	P90	P78	V <sub>CCO</sub> Bank 5*	V <sub>CCO</sub> Bank 5*	-
V <sub>CCO</sub>	4	P90	P78	V <sub>CCO</sub> Bank 4*	V <sub>CCO</sub> Bank 4*	-
GND	-	P89	P79	GND*	GND*	-
I, GCK0	4	P88	P80	N8	W12	456
I/O	4	P87	P81	N9	U12	460
I/O	4	P86	P82	R9	Y12	466
I/O	4	-	-	N10	AA12	469
I/O	4	-	P83	T9	AB13	472
I/O, V <sub>REF</sub>	4	P85	P84	P9	AA13	475

## XC2S100 Device Pinouts (Continued)

XC2S100 Pad Name						Bndry Scan
Function	Bank	TQ144	PQ208	FG256	FG456	
GND	-	-	P85	GND*	GND*	-
I/O	4	-	P86	M10	Y13	478
I/O	4	-	P87	R10	V13	481
I/O	4	-	P88	P10	AA14	487
I/O	4	-	-	-	V14	490
I/O	4	P84	P89	T10	AB15	493
I/O	4	P83	P90	R11	AA15	496
V <sub>CCINT</sub>	-	P82	P91	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
V <sub>CCO</sub>	4	-	P92	V <sub>CCO</sub> Bank 4*	V <sub>CCO</sub> Bank 4*	-
GND	-	P81	P93	GND*	GND*	-
I/O	4	P80	P94	M11	Y15	499
I/O, V <sub>REF</sub>	4	P79	P95	T11	AB16	502
I/O	4	-	-	-	AB17	505
I/O	4	P78	P96	N11	V15	508
I/O	4	-	-	R12	Y16	511
I/O	4	-	P97	P11	AB18	517
I/O, V <sub>REF</sub>	4	P77	P98	T12	AB19	520
V <sub>CCO</sub>	4	-	-	V <sub>CCO</sub> Bank 4*	V <sub>CCO</sub> Bank 4*	-
GND	-	-	-	GND*	GND*	-
I/O	4	-	P99	T13	Y17	523
I/O	4	-	-	N12	V16	526
I/O	4	-	-	-	W17	529
I/O	4	P76	P100	R13	AB20	532
I/O	4	-	-	P12	AA19	535
I/O	4	P75	P101	P13	AA20	541
I/O	4	P74	P102	T14	W18	544
GND	-	P73	P103	GND*	GND*	-
DONE	3	P72	P104	R14	Y19	547
V <sub>CCO</sub>	4	P71	P105	V <sub>CCO</sub> Bank 4*	V <sub>CCO</sub> Bank 4*	-
V <sub>CCO</sub>	3	P70	P105	V <sub>CCO</sub> Bank 3*	V <sub>CCO</sub> Bank 3*	-
PROGRAM	-	P69	P106	P15	W20	550
I/O (INIT)	3	P68	P107	N15	V19	551
I/O (D7)	3	P67	P108	N14	Y21	554
I/O	3	-	-	T15	W21	560
I/O	3	P66	P109	M13	U20	563
I/O	3	-	-	-	U19	566
I/O	3	-	-	R16	T18	569
I/O	3	-	P110	M14	W22	572

**XC2S100 Device Pinouts (Continued)**

XC2S100 Pad Name						Bndry Scan
Function	Bank	TQ144	PQ208	FG256	FG456	
GND	-	-	-	GND*	GND*	-
V <sub>CCO</sub>	3	-	-	V <sub>CCO</sub> Bank 3*	V <sub>CCO</sub> Bank 3*	-
I/O, V <sub>REF</sub>	3	P65	P111	L14	U21	575
I/O	3	-	P112	M15	T20	578
I/O	3	-	-	L12	T21	584
I/O	3	P64	P113	P16	R18	587
I/O	3	-	-	-	U22	590
I/O, V <sub>REF</sub>	3	P63	P114	L13	R19	593
I/O (D6)	3	P62	P115	N16	T22	596
GND	-	P61	P116	GND*	GND*	-
V <sub>CCO</sub>	3	-	P117	V <sub>CCO</sub> Bank 3*	V <sub>CCO</sub> Bank 3*	-
V <sub>CCINT</sub>	-	-	P118	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O (D5)	3	P60	P119	M16	R21	599
I/O	3	P59	P120	K14	P18	602
I/O	3	-	-	L16	P20	605
I/O	3	-	P121	K13	P21	608
I/O	3	-	P122	L15	N18	614
I/O	3	-	P123	K12	N20	617
GND	-	-	P124	GND*	GND*	-
I/O, V <sub>REF</sub>	3	P58	P125	K16	N21	620
I/O (D4)	3	P57	P126	J16	N22	623
I/O	3	-	-	J14	M19	626
I/O	3	P56	P127	K15	M20	629
V <sub>CCINT</sub>	-	P55	P128	E5	V <sub>CCINT</sub> *	-
I/O, TRDY	3	P54	P129	J15	M22	638
V <sub>CCO</sub>	3	P53	P130	V <sub>CCO</sub> Bank 3*	V <sub>CCO</sub> Bank 3*	-
V <sub>CCO</sub>	2	P53	P130	V <sub>CCO</sub> Bank 2*	V <sub>CCO</sub> Bank 2*	-
GND	-	P52	P131	GND*	GND*	-
I/O, IRDY	2	P51	P132	H16	L20	641
I/O	2	-	P133	H14	L17	644
I/O	2	P50	P134	H15	L21	650
I/O	2	-	-	J13	L22	653
I/O (D3)	2	P49	P135	G16	K20	656
I/O, V <sub>REF</sub>	2	P48	P136	H13	K21	659
GND	-	-	P137	GND*	GND*	-
I/O	2	-	P138	G14	K22	662
I/O	2	-	P139	G15	J21	665
I/O	2	-	P140	G12	J18	671

**XC2S100 Device Pinouts (Continued)**

XC2S100 Pad Name						Bndry Scan
Function	Bank	TQ144	PQ208	FG256	FG456	
I/O	2	-	-	F16	J22	674
I/O	2	P47	P141	G13	H19	677
I/O (D2)	2	P46	P142	F15	H20	680
V <sub>CCINT</sub>	-	-	P143	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
V <sub>CCO</sub>	2	-	P144	V <sub>CCO</sub> Bank 2*	V <sub>CCO</sub> Bank 2*	-
GND	-	P45	P145	GND*	GND*	-
I/O (D1)	2	P44	P146	E16	H22	683
I/O, V <sub>REF</sub>	2	P43	P147	F14	H18	686
I/O	2	-	-	-	G21	689
I/O	2	P42	P148	D16	G18	692
I/O	2	-	-	F12	G20	695
I/O	2	-	P149	E15	F19	701
I/O, V <sub>REF</sub>	2	P41	P150	F13	F21	704
V <sub>CCO</sub>	2	-	-	V <sub>CCO</sub> Bank 2*	V <sub>CCO</sub> Bank 2*	-
GND	-	-	-	GND*	GND*	-
I/O	2	-	P151	E14	F20	707
I/O	2	-	-	C16	F18	710
I/O	2	-	-	-	E21	713
I/O	2	P40	P152	E13	D22	716
I/O	2	-	-	B16	E20	719
I/O (DIN, D0)	2	P39	P153	D14	D20	725
I/O (DOUT, BUSY)	2	P38	P154	C15	C21	728
CCLK	2	P37	P155	D15	B22	731
V <sub>CCO</sub>	2	P36	P156	V <sub>CCO</sub> Bank 2*	V <sub>CCO</sub> Bank 2*	-
V <sub>CCO</sub>	1	P35	P156	V <sub>CCO</sub> Bank 1*	V <sub>CCO</sub> Bank 1*	-
TDO	2	P34	P157	B14	A21	-
GND	-	P33	P158	GND*	GND*	-
TDI	-	P32	P159	A15	B20	-
I/O ( $\overline{\text{CS}}$ )	1	P31	P160	B13	C19	0
I/O ( $\overline{\text{WRITE}}$ )	1	P30	P161	C13	A20	3
I/O	1	-	-	C12	D17	9
I/O	1	P29	P162	A14	A19	12
I/O	1	-	-	-	B18	15
I/O	1	-	-	D12	C17	18
I/O	1	-	P163	B12	D16	21
GND	-	-	-	GND*	GND*	-

## XC2S100 Device Pinouts (Continued)

XC2S100 Pad Name		TQ144	PQ208	FG256	FG456	Bndry Scan
Function	Bank					
V <sub>CCO</sub>	1	-	-	V <sub>CCO</sub> Bank 1*	V <sub>CCO</sub> Bank 1*	-
I/O, V <sub>REF</sub>	1	P28	P164	C11	A18	24
I/O	1	-	P165	A13	B17	27
I/O	1	-	-	D11	D15	33
I/O	1	-	P166	A12	C16	36
I/O	1	-	-	-	D14	39
I/O, V <sub>REF</sub>	1	P27	P167	E11	E14	42
I/O	1	P26	P168	B11	A16	45
GND	-	P25	P169	GND*	GND*	-
V <sub>CCO</sub>	1	-	P170	V <sub>CCO</sub> Bank 1*	V <sub>CCO</sub> Bank 1*	-
V <sub>CCINT</sub>	-	P24	P171	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O	1	P23	P172	A11	C15	48
I/O	1	P22	P173	C10	B15	51
I/O	1	-	-	-	F12	54
I/O	1	-	P174	B10	C14	57
I/O	1	-	P175	D10	D13	63
I/O	1	-	P176	A10	C13	66
GND	-	-	P177	GND*	GND*	-
I/O, V <sub>REF</sub>	1	P21	P178	B9	B13	69
I/O	1	-	P179	E10	E12	72
I/O	1	-	-	A9	B12	75
I/O	1	P20	P180	D9	D12	78
I/O	1	P19	P181	A8	D11	84
I, GCK2	1	P18	P182	C9	A11	90
GND	-	P17	P183	GND*	GND*	-
V <sub>CCO</sub>	1	P16	P184	V <sub>CCO</sub> Bank 1*	V <sub>CCO</sub> Bank 1*	-
V <sub>CCO</sub>	0	P16	P184	V <sub>CCO</sub> Bank 0*	V <sub>CCO</sub> Bank 0*	-
I, GCK3	0	P15	P185	B8	C11	91
V <sub>CCINT</sub>	-	P14	P186	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O	0	P13	P187	A7	A10	101
I/O	0	-	-	D8	B10	104

## XC2S100 Device Pinouts (Continued)

XC2S100 Pad Name		TQ144	PQ208	FG256	FG456	Bndry Scan
Function	Bank					
I/O	0	-	P188	A6	C10	107
I/O, V <sub>REF</sub>	0	P12	P189	B7	A9	110
GND	-	-	P190	GND*	GND*	-
I/O	0	-	P191	C8	B9	113
I/O	0	-	P192	D7	E10	116
I/O	0	-	P193	E7	A8	122
I/O	0	-	-	-	D9	125
I/O	0	P11	P194	C7	E9	128
I/O	0	P10	P195	B6	A7	131
V <sub>CCINT</sub>	-	P9	P196	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
V <sub>CCO</sub>	0	-	P197	V <sub>CCO</sub> Bank 0*	V <sub>CCO</sub> Bank 0*	-
GND	-	P8	P198	GND*	GND*	-
I/O	0	P7	P199	A5	B7	134
I/O, V <sub>REF</sub>	0	P6	P200	C6	E8	137
I/O	0	-	-	-	D8	140
I/O	0	-	P201	B5	C7	143
I/O	0	-	-	D6	D7	146
I/O	0	-	P202	A4	D6	152
I/O, V <sub>REF</sub>	0	P5	P203	B4	C6	155
V <sub>CCO</sub>	0	-	-	V <sub>CCO</sub> Bank 0*	V <sub>CCO</sub> Bank 0*	-
GND	-	-	-	GND*	GND*	-
I/O	0	-	P204	E6	B5	158
I/O	0	-	-	D5	E7	161
I/O	0	-	-	-	E6	164
I/O	0	P4	P205	A3	B4	167
I/O	0	-	-	C5	A3	170
I/O	0	P3	P206	B3	C5	176
TCK	-	P2	P207	C4	C4	-
V <sub>CCO</sub>	0	P1	P208	V <sub>CCO</sub> Bank 0*	V <sub>CCO</sub> Bank 0*	-
V <sub>CCO</sub>	7	P144	P208	V <sub>CCO</sub> Bank 7*	V <sub>CCO</sub> Bank 7*	-

11/02/00

## Notes:

1. Pads labelled GND\*, V<sub>CCINT</sub>\*, V<sub>CCO</sub> Bank 0\*, V<sub>CCO</sub> Bank 1\*, V<sub>CCO</sub> Bank 2\*, V<sub>CCO</sub> Bank 3\*, V<sub>CCO</sub> Bank 4\*, V<sub>CCO</sub> Bank 5\*, V<sub>CCO</sub> Bank 6\*, V<sub>CCO</sub> Bank 7\* are internally bonded to independent ground or power planes within the package.

**Additional XC2S100 Package Pins**
**TQ144**

Not Connected Pins					
P104	P105	-	-	-	-

11/02/00

**PQ208**

Not Connected Pins					
P55	P56	-	-	-	-

11/02/00

**FG256**

V <sub>CCINT</sub> Pins					
C3	C14	D4	D13	E5	E12
M5	M12	N4	N13	P3	P14
V <sub>CCO</sub> Bank 0 Pins					
E8	F8	-	-	-	-
V <sub>CCO</sub> Bank 1 Pins					
E9	F9	-	-	-	-
V <sub>CCO</sub> Bank 2 Pins					
H11	H12	-	-	-	-
V <sub>CCO</sub> Bank 3 Pins					
J11	J12	-	-	-	-
V <sub>CCO</sub> Bank 4 Pins					
L9	M9	-	-	-	-
V <sub>CCO</sub> Bank 5 Pins					
L8	M8	-	-	-	-
V <sub>CCO</sub> Bank 6 Pins					
J5	J6	-	-	-	-
V <sub>CCO</sub> Bank 7 Pins					
H5	H6	-	-	-	-
GND Pins					
A1	A16	B2	B15	F6	F7
F10	F11	G6	G7	G8	G9
G10	G11	H7	H8	H9	H10
J7	J8	J9	J10	K6	K7
K8	K9	K10	K11	L6	L7
L10	L11	R2	R15	T1	T16
Not Connected Pins					
P4	R4	-	-	-	-

11/02/00

**FG456**

V <sub>CCINT</sub> Pins					
E5	E18	F6	F17	G7	G8
G9	G14	G15	G16	H7	H16
J7	J16	P7	P16	R7	R16
T7	T8	T9	T14	T15	T16
U6	U17	V5	V18	-	-
V <sub>CCO</sub> Bank 0 Pins					
F10	F7	F8	F9	G10	G11

**Additional XC2S100 Package Pins (Continued)**

V <sub>CCO</sub> Bank 1 Pins					
F13	F14	F15	F16	G12	G13
V <sub>CCO</sub> Bank 2 Pins					
G17	H17	J17	K16	K17	L16
V <sub>CCO</sub> Bank 3 Pins					
M16	N16	N17	P17	R17	T17
V <sub>CCO</sub> Bank 4 Pins					
T12	T13	U13	U14	U15	U16
V <sub>CCO</sub> Bank 5 Pins					
T10	T11	U10	U7	U8	U9
V <sub>CCO</sub> Bank 6 Pins					
M7	N6	N7	P6	R6	T6
V <sub>CCO</sub> Bank 7 Pins					
G6	H6	J6	K6	K7	L7
GND Pins					
A1	A22	B2	B21	C3	C20
J9	J10	J11	J12	J13	J14
K9	K10	K11	K12	K13	K14
L9	L10	L11	L12	L13	L14
M9	M10	M11	M12	M13	M14
N9	N10	N11	N12	N13	N14
P9	P10	P11	P12	P13	P14
Y3	Y20	AA2	AA21	AB1	AB22
Not Connected Pins					
A2	A4	A5	A6	A12	A13
A14	A15	A17	B3	B6	B8
B11	B14	B16	B19	C1	C2
C8	C9	C12	C18	C22	D1
D4	D5	D10	D18	D19	D21
E4	E11	E13	E15	E16	E17
E19	E22	F4	F11	F22	G2
G3	G4	G19	G22	H1	H21
J1	J3	J4	J19	J20	K2
K18	K19	L2	L5	L18	L19
M2	M6	M17	M18	M21	N1
N5	N19	P1	P5	P19	P22
R1	R3	R20	R22	T5	T19
U3	U11	U18	V1	V2	V10
V12	V17	V3	V4	V6	V8
V20	V21	V22	W4	W5	W9
W13	W14	W15	W16	W19	Y5
Y14	Y18	Y22	AA1	AA3	AA6
AA9	AA10	AA11	AA16	AA17	AA18
AA22	AB3	AB4	AB7	AB8	AB12
AB14	AB21	-	-	-	-

11/02/00

## XC2S150 Device Pinouts

XC2S150 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
GND	-	P1	GND*	GND*	-
TMS	-	P2	D3	D3	-
I/O	7	P3	C2	B1	221
I/O	7	-	-	E4	224
I/O	7	-	-	C1	227
I/O	7	-	A2	F5	230
GND	-	-	GND*	GND*	-
I/O	7	P4	B1	D2	233
I/O	7	-	-	E3	236
I/O	7	-	-	F4	239
I/O	7	-	E3	G5	242
I/O	7	P5	D2	F3	245
GND	-	-	GND*	GND*	-
V <sub>CCO</sub>	7	-	V <sub>CCO</sub> Bank 7*	V <sub>CCO</sub> Bank 7*	-
I/O, V <sub>REF</sub>	7	P6	C1	E2	248
I/O	7	P7	F3	E1	251
I/O	7	-	-	G4	254
I/O	7	-	-	G3	257
I/O	7	-	E2	H5	260
I/O	7	P8	E4	F2	263
I/O	7	-	-	F1	266
I/O, V <sub>REF</sub>	7	P9	D1	H4	269
I/O	7	P10	E1	G1	272
GND	-	P11	GND*	GND*	-
V <sub>CCO</sub>	7	P12	V <sub>CCO</sub> Bank 7*	V <sub>CCO</sub> Bank 7*	-
V <sub>CCINT</sub>	-	P13	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O	7	P14	F2	H3	275
I/O	7	P15	G3	H2	278
I/O	7	-	-	H1	284
I/O	7	-	F1	J5	287
I/O	7	P16	F4	J2	290
I/O	7	-	-	J3	293
I/O	7	P17	F5	K5	299
I/O	7	P18	G2	K1	302
GND	-	P19	GND*	GND*	-
V <sub>CCO</sub>	7	-	V <sub>CCO</sub> Bank 7*	V <sub>CCO</sub> Bank 7*	-
I/O, V <sub>REF</sub>	7	P20	H3	K3	305
I/O	7	P21	G4	K4	308
I/O	7	-	H2	L6	311

## XC2S150 Device Pinouts (Continued)

XC2S150 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
I/O	7	P22	G5	L1	314
I/O	7	-	-	L5	317
I/O	7	P23	H4	L4	320
I/O, IRDY	7	P24	G1	L3	323
GND	-	P25	GND*	GND*	-
V <sub>CCO</sub>	7	P26	V <sub>CCO</sub> Bank 7*	V <sub>CCO</sub> Bank 7*	-
V <sub>CCO</sub>	6	P26	V <sub>CCO</sub> Bank 6*	V <sub>CCO</sub> Bank 6*	-
I/O, TRDY	6	P27	J2	M1	326
V <sub>CCINT</sub>	-	P28	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O	6	-	-	M6	332
I/O	6	P29	H1	M3	335
I/O	6	-	J4	M4	338
I/O	6	P30	J1	M5	341
I/O, V <sub>REF</sub>	6	P31	J3	N2	344
V <sub>CCO</sub>	6	-	V <sub>CCO</sub> Bank 6*	V <sub>CCO</sub> Bank 6*	-
GND	-	P32	GND*	GND*	-
I/O	6	P33	K5	N3	347
I/O	6	P34	K2	N4	350
I/O	6	-	-	N5	356
I/O	6	P35	K1	P2	359
I/O	6	-	K3	P4	362
I/O	6	-	-	R1	365
I/O	6	P36	L1	P3	371
I/O	6	P37	L2	R2	374
V <sub>CCINT</sub>	-	P38	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
V <sub>CCO</sub>	6	P39	V <sub>CCO</sub> Bank 6*	V <sub>CCO</sub> Bank 6*	-
GND	-	P40	GND*	GND*	-
I/O	6	P41	K4	T1	377
I/O, V <sub>REF</sub>	6	P42	M1	R4	380
I/O	6	-	-	T2	383
I/O	6	P43	L4	U1	386
I/O	6	-	M2	R5	389
I/O	6	-	-	V1	392
I/O	6	-	-	T5	395
I/O	6	P44	L3	U2	398
I/O, V <sub>REF</sub>	6	P45	N1	T3	401
V <sub>CCO</sub>	6	-	V <sub>CCO</sub> Bank 6*	V <sub>CCO</sub> Bank 6*	-
GND	-	-	GND*	GND*	-



**XC2S150 Device Pinouts (Continued)**

XC2S150 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
I/O	6	P46	P1	T4	404
I/O	6	-	L5	W1	407
I/O	6	-	-	V2	410
I/O	6	-	-	U4	413
I/O	6	P47	N2	Y1	416
GND	-	-	GND*	GND*	-
I/O	6	-	M4	W2	419
I/O	6	-	-	V3	422
I/O	6	-	-	V4	425
I/O	6	P48	R1	Y2	428
I/O	6	P49	M3	W3	431
M1	-	P50	P2	U5	434
GND	-	P51	GND*	GND*	-
M0	-	P52	N3	AB2	435
V <sub>CCO</sub>	6	P53	V <sub>CCO</sub> Bank 6*	V <sub>CCO</sub> Bank 6*	-
V <sub>CCO</sub>	5	P53	V <sub>CCO</sub> Bank 5*	V <sub>CCO</sub> Bank 5*	-
M2	-	P54	R3	Y4	436
I/O	5	-	-	W5	443
I/O	5	-	-	AB3	446
I/O	5	-	N5	V7	449
GND	-	-	GND*	GND*	-
I/O	5	P57	T2	Y6	452
I/O	5	-	-	AA4	455
I/O	5	-	-	AB4	458
I/O	5	-	P5	W6	461
I/O	5	P58	T3	Y7	464
GND	-	-	GND*	GND*	-
V <sub>CCO</sub>	5	-	V <sub>CCO</sub> Bank 5*	V <sub>CCO</sub> Bank 5*	-
I/O, V <sub>REF</sub>	5	P59	T4	AA5	467
I/O	5	P60	M6	AB5	470
I/O	5	-	-	V8	473
I/O	5	-	-	AA6	476
I/O	5	-	T5	AB6	479
I/O	5	P61	N6	AA7	482
I/O	5	-	-	W7	485
I/O, V <sub>REF</sub>	5	P62	R5	W8	488
I/O	5	P63	P6	Y8	491
GND	-	P64	GND*	GND*	-

**XC2S150 Device Pinouts (Continued)**

XC2S150 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
V <sub>CCO</sub>	5	P65	V <sub>CCO</sub> Bank 5*	V <sub>CCO</sub> Bank 5*	-
V <sub>CCINT</sub>	-	P66	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O	5	P67	R6	AA8	494
I/O	5	P68	M7	V9	497
I/O	5	-	-	W9	503
I/O	5	-	-	AB9	506
I/O	5	P69	N7	Y9	509
I/O	5	-	-	V10	512
I/O	5	P70	T6	W10	518
I/O	5	P71	P7	AB10	521
GND	-	P72	GND*	GND*	-
V <sub>CCO</sub>	5	-	V <sub>CCO</sub> Bank 5*	V <sub>CCO</sub> Bank 5*	-
I/O, V <sub>REF</sub>	5	P73	P8	Y10	524
I/O	5	P74	R7	V11	527
I/O	5	-	T7	W11	530
I/O	5	P75	T8	AB11	533
I/O	5	-	-	U11	536
V <sub>CCINT</sub>	-	P76	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I, GCK1	5	P77	R8	Y11	545
V <sub>CCO</sub>	5	P78	V <sub>CCO</sub> Bank 5*	V <sub>CCO</sub> Bank 5*	-
V <sub>CCO</sub>	4	P78	V <sub>CCO</sub> Bank 4*	V <sub>CCO</sub> Bank 4*	-
GND	-	P79	GND*	GND*	-
I, GCK0	4	P80	N8	W12	546
I/O	4	P81	N9	U12	550
I/O	4	-	-	V12	553
I/O	4	P82	R9	Y12	556
I/O	4	-	N10	AA12	559
I/O	4	P83	T9	AB13	562
I/O, V <sub>REF</sub>	4	P84	P9	AA13	565
V <sub>CCO</sub>	4	-	V <sub>CCO</sub> Bank 4*	V <sub>CCO</sub> Bank 4*	-
GND	-	P85	GND*	GND*	-
I/O	4	P86	M10	Y13	568
I/O	4	P87	R10	V13	571
I/O	4	-	-	W14	577
I/O	4	P88	P10	AA14	580
I/O	4	-	-	V14	583
I/O	4	-	-	Y14	586
I/O	4	P89	T10	AB15	592

## XC2S150 Device Pinouts (Continued)

XC2S150 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
I/O	4	P90	R11	AA15	595
V <sub>CCINT</sub>	-	P91	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
V <sub>CCO</sub>	4	P92	V <sub>CCO</sub> Bank 4*	V <sub>CCO</sub> Bank 4*	-
GND	-	P93	GND*	GND*	-
I/O	4	P94	M11	Y15	598
I/O, V <sub>REF</sub>	4	P95	T11	AB16	601
I/O	4	-	-	AB17	604
I/O	4	P96	N11	V15	607
I/O	4	-	R12	Y16	610
I/O	4	-	-	AA17	613
I/O	4	-	-	W16	616
I/O	4	P97	P11	AB18	619
I/O, V <sub>REF</sub>	4	P98	T12	AB19	622
V <sub>CCO</sub>	4	-	V <sub>CCO</sub> Bank 4*	V <sub>CCO</sub> Bank 4*	-
GND	-	-	GND*	GND*	-
I/O	4	P99	T13	Y17	625
I/O	4	-	N12	V16	628
I/O	4	-	-	AA18	631
I/O	4	-	-	W17	634
I/O	4	P100	R13	AB20	637
GND	-	-	GND*	GND*	-
I/O	4	-	P12	AA19	640
I/O	4	-	-	V17	643
I/O	4	-	-	Y18	646
I/O	4	P101	P13	AA20	649
I/O	4	P102	T14	W18	652
GND	-	P103	GND*	GND*	-
DONE	3	P104	R14	Y19	655
V <sub>CCO</sub>	4	P105	V <sub>CCO</sub> Bank 4*	V <sub>CCO</sub> Bank 4*	-
V <sub>CCO</sub>	3	P105	V <sub>CCO</sub> Bank 3*	V <sub>CCO</sub> Bank 3*	-
PROGRAM	-	P106	P15	W20	658
I/O ( $\overline{\text{INIT}}$ )	3	P107	N15	V19	659
I/O (D7)	3	P108	N14	Y21	662
I/O	3	-	-	V20	665
I/O	3	-	-	AA22	668
I/O	3	-	T15	W21	671
GND	-	-	GND*	GND*	-
I/O	3	P109	M13	U20	674

## XC2S150 Device Pinouts (Continued)

XC2S150 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
I/O	3	-	-	U19	677
I/O	3	-	-	V21	680
I/O	3	-	R16	T18	683
I/O	3	P110	M14	W22	686
GND	-	-	GND*	GND*	-
V <sub>CCO</sub>	3	-	V <sub>CCO</sub> Bank 3*	V <sub>CCO</sub> Bank 3*	-
I/O, V <sub>REF</sub>	3	P111	L14	U21	689
I/O	3	P112	M15	T20	692
I/O	3	-	-	T19	695
I/O	3	-	-	V22	698
I/O	3	-	L12	T21	701
I/O	3	P113	P16	R18	704
I/O	3	-	-	U22	707
I/O, V <sub>REF</sub>	3	P114	L13	R19	710
I/O (D6)	3	P115	N16	T22	713
GND	-	P116	GND*	GND*	-
V <sub>CCO</sub>	3	P117	V <sub>CCO</sub> Bank 3*	V <sub>CCO</sub> Bank 3*	-
V <sub>CCINT</sub>	-	P118	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O (D5)	3	P119	M16	R21	716
I/O	3	P120	K14	P18	719
I/O	3	-	-	P19	725
I/O	3	-	L16	P20	728
I/O	3	P121	K13	P21	731
I/O	3	-	-	N19	734
I/O	3	P122	L15	N18	740
I/O	3	P123	K12	N20	743
GND	-	P124	GND*	GND*	-
V <sub>CCO</sub>	3	-	V <sub>CCO</sub> Bank 3*	V <sub>CCO</sub> Bank 3*	-
I/O, V <sub>REF</sub>	3	P125	K16	N21	746
I/O (D4)	3	P126	J16	N22	749
I/O	3	-	J14	M19	752
I/O	3	P127	K15	M20	755
I/O	3	-	-	M18	758
V <sub>CCINT</sub>	-	P128	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O, TRDY	3	P129	J15	M22	764
V <sub>CCO</sub>	3	P130	V <sub>CCO</sub> Bank 3*	V <sub>CCO</sub> Bank 3*	-
V <sub>CCO</sub>	2	P130	V <sub>CCO</sub> Bank 2*	V <sub>CCO</sub> Bank 2*	-
GND	-	P131	GND*	GND*	-

**XC2S150 Device Pinouts (Continued)**

XC2S150 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
I/O, IRDY	2	P132	H16	L20	767
I/O	2	P133	H14	L17	770
I/O	2	-	-	L18	773
I/O	2	P134	H15	L21	776
I/O	2	-	J13	L22	779
I/O (D3)	2	P135	G16	K20	782
I/O, V <sub>REF</sub>	2	P136	H13	K21	785
V <sub>CCO</sub>	2	-	V <sub>CCO</sub> Bank 2*	V <sub>CCO</sub> Bank 2*	-
GND	-	P137	GND*	GND*	-
I/O	2	P138	G14	K22	788
I/O	2	P139	G15	J21	791
I/O	2	-	-	J20	797
I/O	2	P140	G12	J18	800
I/O	2	-	F16	J22	803
I/O	2	-	-	J19	806
I/O	2	P141	G13	H19	812
I/O (D2)	2	P142	F15	H20	815
V <sub>CCINT</sub>	-	P143	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
V <sub>CCO</sub>	2	P144	V <sub>CCO</sub> Bank 2*	V <sub>CCO</sub> Bank 2*	-
GND	-	P145	GND*	GND*	-
I/O (D1)	2	P146	E16	H22	818
I/O, V <sub>REF</sub>	2	P147	F14	H18	821
I/O	2	-	-	G21	824
I/O	2	P148	D16	G18	827
I/O	2	-	F12	G20	830
I/O	2	-	-	G19	833
I/O	2	-	-	F22	836
I/O	2	P149	E15	F19	839
I/O, V <sub>REF</sub>	2	P150	F13	F21	842
V <sub>CCO</sub>	2	-	V <sub>CCO</sub> Bank 2*	V <sub>CCO</sub> Bank 2*	-
GND	-	-	GND*	GND*	-
I/O	2	P151	E14	F20	845
I/O	2	-	C16	F18	848
I/O	2	-	-	E22	851
I/O	2	-	-	E21	854
I/O	2	P152	E13	D22	857
GND	-	-	GND*	GND*	-
I/O	2	-	B16	E20	860
I/O	2	-	-	D21	863

**XC2S150 Device Pinouts (Continued)**

XC2S150 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
I/O	2	-	-	C22	866
I/O (DIN, D0)	2	P153	D14	D20	869
I/O (DOUT, BUSY)	2	P154	C15	C21	872
CCLK	2	P155	D15	B22	875
V <sub>CCO</sub>	2	P156	V <sub>CCO</sub> Bank 2*	V <sub>CCO</sub> Bank 2*	-
V <sub>CCO</sub>	1	P156	V <sub>CCO</sub> Bank 1*	V <sub>CCO</sub> Bank 1*	-
TDO	2	P157	B14	A21	-
GND	-	P158	GND*	GND*	-
TDI	-	P159	A15	B20	-
I/O ( $\overline{\text{CS}}$ )	1	P160	B13	C19	0
I/O ( $\overline{\text{WRITE}}$ )	1	P161	C13	A20	3
I/O	1	-	-	B19	6
I/O	1	-	-	C18	9
I/O	1	-	C12	D17	12
GND	-	-	GND*	GND*	-
I/O	1	P162	A14	A19	15
I/O	1	-	-	B18	18
I/O	1	-	-	E16	21
I/O	1	-	D12	C17	24
I/O	1	P163	B12	D16	27
GND	-	-	GND*	GND*	-
V <sub>CCO</sub>	1	-	V <sub>CCO</sub> Bank 1*	V <sub>CCO</sub> Bank 1*	-
I/O, V <sub>REF</sub>	1	P164	C11	A18	30
I/O	1	P165	A13	B17	33
I/O	1	-	-	E15	36
I/O	1	-	-	A17	39
I/O	1	-	D11	D15	42
I/O	1	P166	A12	C16	45
I/O	1	-	-	D14	48
I/O, V <sub>REF</sub>	1	P167	E11	E14	51
I/O	1	P168	B11	A16	54
GND	-	P169	GND*	GND*	-
V <sub>CCO</sub>	1	P170	V <sub>CCO</sub> Bank 1*	V <sub>CCO</sub> Bank 1*	-
V <sub>CCINT</sub>	-	P171	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O	1	P172	A11	C15	57
I/O	1	P173	C10	B15	60
I/O	1	-	-	A15	66
I/O	1	-	-	F12	69

## XC2S150 Device Pinouts (Continued)

XC2S150 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
I/O	1	P174	B10	C14	72
I/O	1	-	-	B14	75
I/O	1	P175	D10	D13	81
I/O	1	P176	A10	C13	84
GND	-	P177	GND*	GND*	-
V <sub>CCO</sub>	1	-	V <sub>CCO</sub> Bank 1*	V <sub>CCO</sub> Bank 1*	-
I/O, V <sub>REF</sub>	1	P178	B9	B13	87
I/O	1	P179	E10	E12	90
I/O	1	-	A9	B12	93
I/O	1	P180	D9	D12	96
I/O	1	-	-	C12	99
I/O	1	P181	A8	D11	102
I, GCK2	1	P182	C9	A11	108
GND	-	P183	GND*	GND*	-
V <sub>CCO</sub>	1	P184	V <sub>CCO</sub> Bank 1*	V <sub>CCO</sub> Bank 1*	-
V <sub>CCO</sub>	0	P184	V <sub>CCO</sub> Bank 0*	V <sub>CCO</sub> Bank 0*	-
I, GCK3	0	P185	B8	C11	109
V <sub>CCINT</sub>	-	P186	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O	0	-	-	E11	116
I/O	0	P187	A7	A10	119
I/O	0	-	D8	B10	122
I/O	0	P188	A6	C10	125
I/O, V <sub>REF</sub>	0	P189	B7	A9	128
V <sub>CCO</sub>	0	-	V <sub>CCO</sub> Bank 0*	V <sub>CCO</sub> Bank 0*	-
GND	-	P190	GND*	GND*	-
I/O	0	P191	C8	B9	131
I/O	0	P192	D7	E10	134
I/O	0	-	-	D10	140
I/O	0	P193	E7	A8	143
I/O	0	-	-	D9	146
I/O	0	-	-	B8	149
I/O	0	P194	C7	E9	155
I/O	0	P195	B6	A7	158

## XC2S150 Device Pinouts (Continued)

XC2S150 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
V <sub>CCINT</sub>	-	P196	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
V <sub>CCO</sub>	0	P197	V <sub>CCO</sub> Bank 0*	V <sub>CCO</sub> Bank 0*	-
GND	-	P198	GND*	GND*	-
I/O	0	P199	A5	B7	161
I/O, V <sub>REF</sub>	0	P200	C6	E8	164
I/O	0	-	-	D8	167
I/O	0	P201	B5	C7	170
I/O	0	-	D6	D7	173
I/O	0	-	-	B6	176
I/O	0	-	-	A5	179
I/O	0	P202	A4	D6	182
I/O, V <sub>REF</sub>	0	P203	B4	C6	185
V <sub>CCO</sub>	0	-	V <sub>CCO</sub> Bank 0*	V <sub>CCO</sub> Bank 0*	-
GND	-	-	GND*	GND*	-
I/O	0	P204	E6	B5	188
I/O	0	-	D5	E7	191
I/O	0	-	-	A4	194
I/O	0	-	-	E6	197
I/O	0	P205	A3	B4	200
GND	-	-	GND*	GND*	-
I/O	0	-	C5	A3	203
I/O	0	-	-	B3	206
I/O	0	-	-	D5	209
I/O	0	P206	B3	C5	212
TCK	-	P207	C4	C4	-
V <sub>CCO</sub>	0	P208	V <sub>CCO</sub> Bank 0*	V <sub>CCO</sub> Bank 0*	-
V <sub>CCO</sub>	7	P208	V <sub>CCO</sub> Bank 7*	V <sub>CCO</sub> Bank 7*	-

11/02/00

**Notes:**

1. Pads labelled GND\*, V<sub>CCINT</sub>\*, V<sub>CCO</sub> Bank 0\*, V<sub>CCO</sub> Bank 1\*, V<sub>CCO</sub> Bank 2\*, V<sub>CCO</sub> Bank 3\*, V<sub>CCO</sub> Bank 4\*, V<sub>CCO</sub> Bank 5\*, V<sub>CCO</sub> Bank 6\*, V<sub>CCO</sub> Bank 7\* are internally bonded to independent ground or power planes within the package.

**Additional XC2S150 Package Pins**
**PQ208**

Not Connected Pins					
P55	P56	-	-	-	-

11/02/00

**FG256**

V <sub>CCINT</sub> Pins					
C3	C14	D4	D13	E5	E12
M5	M12	N4	N13	P3	P14
V <sub>CCO</sub> Bank 0 Pins					
E8	F8	-	-	-	-
V <sub>CCO</sub> Bank 1 Pins					
E9	F9	-	-	-	-
V <sub>CCO</sub> Bank 2 Pins					
H11	H12	-	-	-	-
V <sub>CCO</sub> Bank 3 Pins					
J11	J12	-	-	-	-
V <sub>CCO</sub> Bank 4 Pins					
L9	M9	-	-	-	-
V <sub>CCO</sub> Bank 5 Pins					
L8	M8	-	-	-	-
V <sub>CCO</sub> Bank 6 Pins					
J5	J6	-	-	-	-
V <sub>CCO</sub> Bank 7 Pins					
H5	H6	-	-	-	-
GND Pins					
A1	A16	B2	B15	F6	F7
F10	F11	G6	G7	G8	G9
G10	G11	H7	H8	H9	H10
J7	J8	J9	J10	K6	K7
K8	K9	K10	K11	L6	L7
L10	L11	R2	R15	T1	T16
Not Connected Pins					
P4	R4	-	-	-	-

11/02/00

**Additional XC2S150 Package Pins (Continued)**
**FG456**

V <sub>CCINT</sub> Pins					
E5	E18	F6	F17	G7	G8
G9	G14	G15	G16	H7	H16
J7	J16	P7	P16	R7	R16
T7	T8	T9	T14	T15	T16
U6	U17	V5	V18	-	-
V <sub>CCO</sub> BANK 0 Pins					
F7	F8	F9	F10	G10	G11
V <sub>CCO</sub> Bank 1 Pins					
F13	F14	F15	F16	G12	G13
V <sub>CCO</sub> Bank 2 Pins					
G17	H17	J17	K16	K17	L16
V <sub>CCO</sub> Bank 3 Pins					
M16	N16	N17	P17	R17	T17
V <sub>CCO</sub> Bank 4 Pins					
T12	T13	U13	U14	U15	U16
V <sub>CCO</sub> Bank 5 Pins					
T10	T11	U7	U8	U9	U10
V <sub>CCO</sub> Bank 6 Pins					
M7	N6	N7	P6	R6	T6
V <sub>CCO</sub> Bank 7 Pins					
G6	H6	J6	K6	K7	L7
GND Pins					
A1	A22	B2	B21	C3	C20
J9	J10	J11	J12	J13	J14
K9	K10	K11	K12	K13	K14
L9	L10	L11	L12	L13	L14
M9	M10	M11	M12	M13	M14
N9	N10	N11	N12	N13	N14
P9	P10	P11	P12	P13	P14
Y3	Y20	AA2	AA21	AB1	AB22
Not Connected Pins					
A2	A6	A12	A13	A14	B11
B16	C2	C8	C9	D1	D4
D18	D19	E13	E17	E19	F11
G2	G22	H21	J1	J4	K2
K18	K19	L2	L19	M2	M17
M21	N1	P1	P5	P22	R3
R20	R22	U3	U18	V6	W4
W13	W15	W19	Y5	Y22	AA1
AA3	AA9	AA10	AA11	AA16	AB7
AB8	AB12	AB14	AB21	-	-

11/02/00

## XC2S200 Device Pinouts

XC2S200 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
GND	-	P1	GND*	GND*	-
TMS	-	P2	D3	D3	-
I/O	7	P3	C2	B1	257
I/O	7	-	-	E4	263
I/O	7	-	-	C1	266
I/O	7	-	A2	F5	269
GND	-	-	GND*	GND*	-
I/O, V <sub>REF</sub>	7	P4	B1	D2	272
I/O	7	-	-	E3	275
I/O	7	-	-	F4	281
GND	-	-	GND*	GND*	-
I/O	7	-	E3	G5	284
I/O	7	P5	D2	F3	287
GND	-	-	GND*	GND*	-
V <sub>CCO</sub>	7	-	V <sub>CCO</sub> Bank 7*	V <sub>CCO</sub> Bank 7*	-
I/O, V <sub>REF</sub>	7	P6	C1	E2	290
I/O	7	P7	F3	E1	293
I/O	7	-	-	G4	296
I/O	7	-	-	G3	299
I/O	7	-	E2	H5	302
GND	-	-	GND*	GND*	-
I/O	7	P8	E4	F2	305
I/O	7	-	-	F1	308
I/O, V <sub>REF</sub>	7	P9	D1	H4	314
I/O	7	P10	E1	G1	317
GND	-	P11	GND*	GND*	-
V <sub>CCO</sub>	7	P12	V <sub>CCO</sub> Bank 7*	V <sub>CCO</sub> Bank 7*	-
V <sub>CCINT</sub>	-	P13	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O	7	P14	F2	H3	320
I/O	7	P15	G3	H2	323
I/O	7	-	-	J4	326
I/O	7	-	-	H1	329
I/O	7	-	F1	J5	332
GND	-	-	GND*	GND*	-
I/O	7	P16	F4	J2	335
I/O	7	-	-	J3	338
I/O	7	-	-	J1	341
I/O	7	P17	F5	K5	344
I/O	7	P18	G2	K1	347
GND	-	P19	GND*	GND*	-

## XC2S200 Device Pinouts (Continued)

XC2S200 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
V <sub>CCO</sub>	7	-	V <sub>CCO</sub> Bank 7*	V <sub>CCO</sub> Bank 7*	-
I/O, V <sub>REF</sub>	7	P20	H3	K3	350
I/O	7	P21	G4	K4	353
I/O	7	-	-	K2	359
I/O	7	-	H2	L6	362
I/O	7	P22	G5	L1	365
I/O	7	-	-	L5	368
I/O	7	P23	H4	L4	374
I/O, IRDY	7	P24	G1	L3	377
GND	-	P25	GND*	GND*	-
V <sub>CCO</sub>	7	P26	V <sub>CCO</sub> Bank 7*	V <sub>CCO</sub> Bank 7*	-
V <sub>CCO</sub>	6	P26	V <sub>CCO</sub> Bank 6*	V <sub>CCO</sub> Bank 6*	-
I/O, TRDY	6	P27	J2	M1	380
V <sub>CCINT</sub>	-	P28	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O	6	-	-	M6	389
I/O	6	P29	H1	M3	392
I/O	6	-	J4	M4	395
I/O	6	-	-	N1	398
I/O	6	P30	J1	M5	404
I/O, V <sub>REF</sub>	6	P31	J3	N2	407
V <sub>CCO</sub>	6	-	V <sub>CCO</sub> Bank 6*	V <sub>CCO</sub> Bank 6*	-
GND	-	P32	GND*	GND*	-
I/O	6	P33	K5	N3	410
I/O	6	P34	K2	N4	413
I/O	6	-	-	P1	416
I/O	6	-	-	N5	419
I/O	6	P35	K1	P2	422
GND	-	-	GND*	GND*	-
I/O	6	-	K3	P4	425
I/O	6	-	-	R1	428
I/O	6	-	-	P5	431
I/O	6	P36	L1	P3	434
I/O	6	P37	L2	R2	437
V <sub>CCINT</sub>	-	P38	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
V <sub>CCO</sub>	6	P39	V <sub>CCO</sub> Bank 6*	V <sub>CCO</sub> Bank 6*	-
GND	-	P40	GND*	GND*	-
I/O	6	P41	K4	T1	440
I/O, V <sub>REF</sub>	6	P42	M1	R4	443

**XC2S200 Device Pinouts (Continued)**

XC2S200 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
I/O	6	-	-	T2	449
I/O	6	P43	L4	U1	452
GND	-	-	GND*	GND*	-
I/O	6	-	M2	R5	455
I/O	6	-	-	V1	458
I/O	6	-	-	T5	461
I/O	6	P44	L3	U2	464
I/O, V <sub>REF</sub>	6	P45	N1	T3	467
V <sub>CCO</sub>	6	-	V <sub>CCO</sub> Bank 6*	V <sub>CCO</sub> Bank 6*	-
GND	-	-	GND*	GND*	-
I/O	6	P46	P1	T4	470
I/O	6	-	L5	W1	473
GND	-	-	GND*	GND*	-
I/O	6	-	-	V2	476
I/O	6	-	-	U4	482
I/O, V <sub>REF</sub>	6	P47	N2	Y1	485
GND	-	-	GND*	GND*	-
I/O	6	-	M4	W2	488
I/O	6	-	-	V3	491
I/O	6	-	-	V4	494
I/O	6	P48	R1	Y2	500
I/O	6	P49	M3	W3	503
M1	-	P50	P2	U5	506
GND	-	P51	GND*	GND*	-
M0	-	P52	N3	AB2	507
V <sub>CCO</sub>	6	P53	V <sub>CCO</sub> Bank 6*	V <sub>CCO</sub> Bank 6*	-
V <sub>CCO</sub>	5	P53	V <sub>CCO</sub> Bank 5*	V <sub>CCO</sub> Bank 5*	-
M2	-	P54	R3	Y4	508
I/O	5	-	-	W5	518
I/O	5	-	-	AB3	521
I/O	5	-	N5	V7	524
GND	-	-	GND*	GND*	-
I/O, V <sub>REF</sub>	5	P57	T2	Y6	527
I/O	5	-	-	AA4	530
I/O	5	-	-	AB4	536
I/O	5	-	P5	W6	539
I/O	5	P58	T3	Y7	542
GND	-	-	GND*	GND*	-

**XC2S200 Device Pinouts (Continued)**

XC2S200 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
V <sub>CCO</sub>	5	-	V <sub>CCO</sub> Bank 5*	V <sub>CCO</sub> Bank 5*	-
I/O, V <sub>REF</sub>	5	P59	T4	AA5	545
I/O	5	P60	M6	AB5	548
I/O	5	-	-	V8	551
I/O	5	-	-	AA6	554
I/O	5	-	T5	AB6	557
GND	-	-	GND*	GND*	-
I/O	5	P61	N6	AA7	560
I/O	5	-	-	W7	563
I/O, V <sub>REF</sub>	5	P62	R5	W8	569
I/O	5	P63	P6	Y8	572
GND	-	P64	GND*	GND*	-
V <sub>CCO</sub>	5	P65	V <sub>CCO</sub> Bank 5*	V <sub>CCO</sub> Bank 5*	-
V <sub>CCINT</sub>	-	P66	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O	5	P67	R6	AA8	575
I/O	5	P68	M7	V9	578
I/O	5	-	-	AB8	581
I/O	5	-	-	W9	584
I/O	5	-	-	AB9	587
GND	-	-	GND*	GND*	-
I/O	5	P69	N7	Y9	590
I/O	5	-	-	V10	593
I/O	5	-	-	AA9	596
I/O	5	P70	T6	W10	599
I/O	5	P71	P7	AB10	602
GND	-	P72	GND*	GND*	-
V <sub>CCO</sub>	5	-	V <sub>CCO</sub> Bank 5*	V <sub>CCO</sub> Bank 5*	-
I/O, V <sub>REF</sub>	5	P73	P8	Y10	605
I/O	5	P74	R7	V11	608
I/O	5	-	-	AA10	614
I/O	5	-	T7	W11	617
I/O	5	P75	T8	AB11	620
I/O	5	-	-	U11	623
V <sub>CCINT</sub>	-	P76	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I, GCK1	5	P77	R8	Y11	635
V <sub>CCO</sub>	5	P78	V <sub>CCO</sub> Bank 5*	V <sub>CCO</sub> Bank 5*	-
V <sub>CCO</sub>	4	P78	V <sub>CCO</sub> Bank 4*	V <sub>CCO</sub> Bank 4*	-
GND	-	P79	GND*	GND*	-

## XC2S200 Device Pinouts (Continued)

XC2S200 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
I, GCK0	4	P80	N8	W12	636
I/O	4	P81	N9	U12	640
I/O	4	-	-	V12	646
I/O	4	P82	R9	Y12	649
I/O	4	-	N10	AA12	652
I/O	4	-	-	W13	655
I/O	4	P83	T9	AB13	661
I/O, V <sub>REF</sub>	4	P84	P9	AA13	664
V <sub>CC0</sub>	4	-	V <sub>CC0</sub> Bank 4*	V <sub>CC0</sub> Bank 4*	-
GND	-	P85	GND*	GND*	-
I/O	4	P86	M10	Y13	667
I/O	4	P87	R10	V13	670
I/O	4	-	-	AB14	673
I/O	4	-	-	W14	676
I/O	4	P88	P10	AA14	679
GND	-	-	GND*	GND*	-
I/O	4	-	-	V14	682
I/O	4	-	-	Y14	685
I/O	4	-	-	W15	688
I/O	4	P89	T10	AB15	691
I/O	4	P90	R11	AA15	694
V <sub>CCINT</sub>	-	P91	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
V <sub>CC0</sub>	4	P92	V <sub>CC0</sub> Bank 4*	V <sub>CC0</sub> Bank 4*	-
GND	-	P93	GND*	GND*	-
I/O	4	P94	M11	Y15	697
I/O, V <sub>REF</sub>	4	P95	T11	AB16	700
I/O	4	-	-	AB17	706
I/O	4	P96	N11	V15	709
GND	-	-	GND*	GND*	-
I/O	4	-	R12	Y16	712
I/O	4	-	-	AA17	715
I/O	4	-	-	W16	718
I/O	4	P97	P11	AB18	721
I/O, V <sub>REF</sub>	4	P98	T12	AB19	724
V <sub>CC0</sub>	4	-	V <sub>CC0</sub> Bank 4*	V <sub>CC0</sub> Bank 4*	-
GND	-	-	GND*	GND*	-
I/O	4	P99	T13	Y17	727
I/O	4	-	N12	V16	730
I/O	4	-	-	AA18	733

## XC2S200 Device Pinouts (Continued)

XC2S200 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
I/O	4	-	-	W17	739
I/O, V <sub>REF</sub>	4	P100	R13	AB20	742
GND	-	-	GND*	GND*	-
I/O	4	-	P12	AA19	745
I/O	4	-	-	V17	748
I/O	4	-	-	Y18	751
I/O	4	P101	P13	AA20	757
I/O	4	P102	T14	W18	760
GND	-	P103	GND*	GND*	-
DONE	3	P104	R14	Y19	763
V <sub>CC0</sub>	4	P105	V <sub>CC0</sub> Bank 4*	V <sub>CC0</sub> Bank 4*	-
V <sub>CC0</sub>	3	P105	V <sub>CC0</sub> Bank 3*	V <sub>CC0</sub> Bank 3*	-
PROGRAM	-	P106	P15	W20	766
I/O (INIT)	3	P107	N15	V19	767
I/O (D7)	3	P108	N14	Y21	770
I/O	3	-	-	V20	776
I/O	3	-	-	AA22	779
I/O	3	-	T15	W21	782
GND	-	-	GND*	GND*	-
I/O, V <sub>REF</sub>	3	P109	M13	U20	785
I/O	3	-	-	U19	788
I/O	3	-	-	V21	794
GND	-	-	GND*	GND*	-
I/O	3	-	R16	T18	797
I/O	3	P110	M14	W22	800
GND	-	-	GND*	GND*	-
V <sub>CC0</sub>	3	-	V <sub>CC0</sub> Bank 3*	V <sub>CC0</sub> Bank 3*	-
I/O, V <sub>REF</sub>	3	P111	L14	U21	803
I/O	3	P112	M15	T20	806
I/O	3	-	-	T19	809
I/O	3	-	-	V22	812
I/O	3	-	L12	T21	815
GND	-	-	GND*	GND*	-
I/O	3	P113	P16	R18	818
I/O	3	-	-	U22	821
I/O, V <sub>REF</sub>	3	P114	L13	R19	827
I/O (D6)	3	P115	N16	T22	830
GND	-	P116	GND*	GND*	-



**XC2S200 Device Pinouts (Continued)**

XC2S200 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
V <sub>CCO</sub>	3	P117	V <sub>CCO</sub> Bank 3*	V <sub>CCO</sub> Bank 3*	-
V <sub>CCINT</sub>	-	P118	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O (D5)	3	P119	M16	R21	833
I/O	3	P120	K14	P18	836
I/O	3	-	-	R22	839
I/O	3	-	-	P19	842
I/O	3	-	L16	P20	845
GND	-	-	GND*	GND*	-
I/O	3	P121	K13	P21	848
I/O	3	-	-	N19	851
I/O	3	-	-	P22	854
I/O	3	P122	L15	N18	857
I/O	3	P123	K12	N20	860
GND	-	P124	GND*	GND*	-
V <sub>CCO</sub>	3	-	V <sub>CCO</sub> Bank 3*	V <sub>CCO</sub> Bank 3*	-
I/O, V <sub>REF</sub>	3	P125	K16	N21	863
I/O (D4)	3	P126	J16	N22	866
I/O	3	-	-	M17	872
I/O	3	-	J14	M19	875
I/O	3	P127	K15	M20	878
I/O	3	-	-	M18	881
V <sub>CCINT</sub>	-	P128	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O, TRDY	3	P129	J15	M22	890
V <sub>CCO</sub>	3	P130	V <sub>CCO</sub> Bank 3*	V <sub>CCO</sub> Bank 3*	-
V <sub>CCO</sub>	2	P130	V <sub>CCO</sub> Bank 2*	V <sub>CCO</sub> Bank 2*	-
GND	-	P131	GND*	GND*	-
I/O, IRDY	2	P132	H16	L20	893
I/O	2	P133	H14	L17	896
I/O	2	-	-	L18	902
I/O	2	P134	H15	L21	905
I/O	2	-	J13	L22	908
I/O	2	-	-	K19	911
I/O (D3)	2	P135	G16	K20	917
I/O, V <sub>REF</sub>	2	P136	H13	K21	920
V <sub>CCO</sub>	2	-	V <sub>CCO</sub> Bank 2*	V <sub>CCO</sub> Bank 2*	-
GND	-	P137	GND*	GND*	-
I/O	2	P138	G14	K22	923
I/O	2	P139	G15	J21	926

**XC2S200 Device Pinouts (Continued)**

XC2S200 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
I/O	2	-	-	K18	929
I/O	2	-	-	J20	932
I/O	2	P140	G12	J18	935
GND	-	-	GND*	GND*	-
I/O	2	-	F16	J22	938
I/O	2	-	-	J19	941
I/O	2	-	-	H21	944
I/O	2	P141	G13	H19	947
I/O (D2)	2	P142	F15	H20	950
V <sub>CCINT</sub>	-	P143	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
V <sub>CCO</sub>	2	P144	V <sub>CCO</sub> Bank 2*	V <sub>CCO</sub> Bank 2*	-
GND	-	P145	GND*	GND*	-
I/O (D1)	2	P146	E16	H22	953
I/O, V <sub>REF</sub>	2	P147	F14	H18	956
I/O	2	-	-	G21	962
I/O	2	P148	D16	G18	965
GND	-	-	GND*	GND*	-
I/O	2	-	F12	G20	968
I/O	2	-	-	G19	971
I/O	2	-	-	F22	974
I/O	2	P149	E15	F19	977
I/O, V <sub>REF</sub>	2	P150	F13	F21	980
V <sub>CCO</sub>	2	-	V <sub>CCO</sub> Bank 2*	V <sub>CCO</sub> Bank 2*	-
GND	-	-	GND*	GND*	-
I/O	2	P151	E14	F20	983
I/O	2	-	C16	F18	986
GND	-	-	GND*	GND*	-
I/O	2	-	-	E22	989
I/O	2	-	-	E21	995
I/O, V <sub>REF</sub>	2	P152	E13	D22	998
GND	-	-	GND*	GND*	-
I/O	2	-	B16	E20	1001
I/O	2	-	-	D21	1004
I/O	2	-	-	C22	1007
I/O (DIN, D0)	2	P153	D14	D20	1013
I/O (DOUT, BUSY)	2	P154	C15	C21	1016
CCLK	2	P155	D15	B22	1019
V <sub>CCO</sub>	2	P156	V <sub>CCO</sub> Bank 2*	V <sub>CCO</sub> Bank 2*	-

## XC2S200 Device Pinouts (Continued)

XC2S200 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
V <sub>CCO</sub>	1	P156	V <sub>CCO</sub> Bank 1*	V <sub>CCO</sub> Bank 1*	-
TDO	2	P157	B14	A21	-
GND	-	P158	GND*	GND*	-
TDI	-	P159	A15	B20	-
I/O ( $\overline{\text{CS}}$ )	1	P160	B13	C19	0
I/O ( $\overline{\text{WRITE}}$ )	1	P161	C13	A20	3
I/O	1	-	-	B19	9
I/O	1	-	-	C18	12
I/O	1	-	C12	D17	15
GND	-	-	GND*	GND*	-
I/O, V <sub>REF</sub>	1	P162	A14	A19	18
I/O	1	-	-	B18	21
I/O	1	-	-	E16	27
I/O	1	-	D12	C17	30
I/O	1	P163	B12	D16	33
GND	-	-	GND*	GND*	-
V <sub>CCO</sub>	1	-	V <sub>CCO</sub> Bank 1*	V <sub>CCO</sub> Bank 1*	-
I/O, V <sub>REF</sub>	1	P164	C11	A18	36
I/O	1	P165	A13	B17	39
I/O	1	-	-	E15	42
I/O	1	-	-	A17	45
I/O	1	-	D11	D15	48
GND	-	-	GND*	GND*	-
I/O	1	P166	A12	C16	51
I/O	1	-	-	D14	54
I/O, V <sub>REF</sub>	1	P167	E11	E14	60
I/O	1	P168	B11	A16	63
GND	-	P169	GND*	GND*	-
V <sub>CCO</sub>	1	P170	V <sub>CCO</sub> Bank 1*	V <sub>CCO</sub> Bank 1*	-
V <sub>CCINT</sub>	-	P171	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O	1	P172	A11	C15	66
I/O	1	P173	C10	B15	69
I/O	1	-	-	E13	72
I/O	1	-	-	A15	75
I/O	1	-	-	F12	78
GND	-	-	GND*	GND*	-
I/O	1	P174	B10	C14	81
I/O	1	-	-	B14	84
I/O	1	-	-	A14	87

## XC2S200 Device Pinouts (Continued)

XC2S200 Pad Name		PQ208	FG256	FG456	Bndry Scan
Function	Bank				
I/O	1	P175	D10	D13	90
I/O	1	P176	A10	C13	93
GND	-	P177	GND*	GND*	-
V <sub>CCO</sub>	1	-	V <sub>CCO</sub> Bank 1*	V <sub>CCO</sub> Bank 1*	-
I/O, V <sub>REF</sub>	1	P178	B9	B13	96
I/O	1	P179	E10	E12	99
I/O	1	-	-	A13	105
I/O	1	-	A9	B12	108
I/O	1	P180	D9	D12	111
I/O	1	-	-	C12	114
I/O	1	P181	A8	D11	120
I, GCK2	1	P182	C9	A11	126
GND	-	P183	GND*	GND*	-
V <sub>CCO</sub>	1	P184	V <sub>CCO</sub> Bank 1*	V <sub>CCO</sub> Bank 1*	-
V <sub>CCO</sub>	0	P184	V <sub>CCO</sub> Bank 0*	V <sub>CCO</sub> Bank 0*	-
I, GCK3	0	P185	B8	C11	127
V <sub>CCINT</sub>	-	P186	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
I/O	0	-	-	E11	137
I/O	0	P187	A7	A10	140
I/O	0	-	D8	B10	143
I/O	0	-	-	F11	146
I/O	0	P188	A6	C10	152
I/O, V <sub>REF</sub>	0	P189	B7	A9	155
V <sub>CCO</sub>	0	-	V <sub>CCO</sub> Bank 0*	V <sub>CCO</sub> Bank 0*	-
GND	-	P190	GND*	GND*	-
I/O	0	P191	C8	B9	158
I/O	0	P192	D7	E10	161
I/O	0	-	-	C9	164
I/O	0	-	-	D10	167
I/O	0	P193	E7	A8	170
GND	-	-	GND*	GND*	-
I/O	0	-	-	D9	173
I/O	0	-	-	B8	176
I/O	0	-	-	C8	179
I/O	0	P194	C7	E9	182
I/O	0	P195	B6	A7	185
V <sub>CCINT</sub>	-	P196	V <sub>CCINT</sub> *	V <sub>CCINT</sub> *	-
V <sub>CCO</sub>	0	P197	V <sub>CCO</sub> Bank 0*	V <sub>CCO</sub> Bank 0*	-

**XC2S200 Device Pinouts (Continued)**

XC2S200 Pad Name					Bndry Scan
Function	Bank	PQ208	FG256	FG456	
GND	-	P198	GND*	GND*	-
I/O	0	P199	A5	B7	188
I/O, V <sub>REF</sub>	0	P200	C6	E8	191
I/O	0	-	-	D8	197
I/O	0	P201	B5	C7	200
GND	-	-	GND*	GND*	-
I/O	0	-	D6	D7	203
I/O	0	-	-	B6	206
I/O	0	-	-	A5	209
I/O	0	P202	A4	D6	212
I/O, V <sub>REF</sub>	0	P203	B4	C6	215
V <sub>CCO</sub>	0	-	V <sub>CCO</sub> Bank 0*	V <sub>CCO</sub> Bank 0*	-
GND	-	-	GND*	GND*	-
I/O	0	P204	E6	B5	218
I/O	0	-	D5	E7	221
I/O	0	-	-	A4	224
I/O	0	-	-	E6	230
I/O, V <sub>REF</sub>	0	P205	A3	B4	233
GND	-	-	GND*	GND*	-
I/O	0	-	C5	A3	236
I/O	0	-	-	B3	239
I/O	0	-	-	D5	242
I/O	0	P206	B3	C5	248
TCK	-	P207	C4	C4	-
V <sub>CCO</sub>	0	P208	V <sub>CCO</sub> Bank 0*	V <sub>CCO</sub> Bank 0*	-
V <sub>CCO</sub>	7	P208	V <sub>CCO</sub> Bank 7*	V <sub>CCO</sub> Bank 7*	-

11/02/00

**Notes:**

1. Pads labelled GND\*, V<sub>CCINT</sub>\*, V<sub>CCO</sub> Bank 0\*, V<sub>CCO</sub> Bank 1\*, V<sub>CCO</sub> Bank 2\*, V<sub>CCO</sub> Bank 3\*, V<sub>CCO</sub> Bank 4\*, V<sub>CCO</sub> Bank 5\*, V<sub>CCO</sub> Bank 6\*, V<sub>CCO</sub> Bank 7\* are internally bonded to independent ground or power planes within the package.

**Additional XC2S200 Package Pins**
**PQ208**

Not Connected Pins					
P55	P56	-	-	-	-

11/02/00

**FG256**

V <sub>CCINT</sub> Pins					
C3	C14	D4	D13	E5	E12
M5	M12	N4	N13	P3	P14
V <sub>CCO</sub> Bank 0 Pins					
E8	F8	-	-	-	-
V <sub>CCO</sub> Bank 1 Pins					
E9	F9	-	-	-	-
V <sub>CCO</sub> Bank 2 Pins					
H11	H12	-	-	-	-
V <sub>CCO</sub> Bank 3 Pins					
J11	J12	-	-	-	-
V <sub>CCO</sub> Bank 4 Pins					
L9	M9	-	-	-	-
V <sub>CCO</sub> Bank 5 Pins					
L8	M8	-	-	-	-
V <sub>CCO</sub> Bank 6 Pins					
J5	J6	-	-	-	-
V <sub>CCO</sub> Bank 7 Pins					
H5	H6	-	-	-	-
GND Pins					
A1	A16	B2	B15	F6	F7
F10	F11	G6	G7	G8	G9
G10	G11	H7	H8	H9	H10
J7	J8	J9	J10	K6	K7
K8	K9	K10	K11	L6	L7
L10	L11	R2	R15	T1	T16
Not Connected Pins					
P4	R4	-	-	-	-

11/02/00

**Additional XC2S200 Package Pins (Continued)**

FG456					
V <sub>CCINT</sub> Pins					
E5	E18	F6	F17	G7	G8
G9	G14	G15	G16	H7	H16
J7	J16	P7	P16	R7	R16
T7	T8	T9	T14	T15	T16
U6	U17	V5	V18	-	-
V <sub>CCO</sub> BANK 0 Pins					
F7	F8	F9	F10	G10	G11
V <sub>CCO</sub> Bank 1 Pins					
F13	F14	F15	F16	G12	G13
V <sub>CCO</sub> Bank 2 Pins					
G17	H17	J17	K16	K17	L16
V <sub>CCO</sub> Bank 3 Pins					
M16	N16	N17	P17	R17	T17
V <sub>CCO</sub> Bank 4 Pins					
T12	T13	U13	U14	U15	U16
V <sub>CCO</sub> Bank 5 Pins					
T10	T11	U7	U8	U9	U10
V <sub>CCO</sub> Bank 6 Pins					
M7	N6	N7	P6	R6	T6
V <sub>CCO</sub> Bank 7 Pins					
G6	H6	J6	K6	K7	L7

**Additional XC2S200 Package Pins (Continued)**

GND Pins					
A1	A22	B2	B21	C3	C20
J9	J10	J11	J12	J13	J14
K9	K10	K11	K12	K13	K14
L9	L10	L11	L12	L13	L14
M9	M10	M11	M12	M13	M14
N9	N10	N11	N12	N13	N14
P9	P10	P11	P12	P13	P14
Y3	Y20	AA2	AA21	AB1	AB22
Not Connected Pins					
A2	A6	A12	B11	B16	C2
D1	D4	D18	D19	E17	E19
G2	G22	L2	L19	M2	M21
R3	R20	U3	U18	V6	W4
W19	Y5	Y22	AA1	AA3	AA11
AA16	AB7	AB12	AB21	-	-

11/02/00

**Revision History**

Version No.	Date	Description
2.0	09/18/00	Sectioned the Spartan-II Family data sheet into four modules. Corrected all known errors in the pinout tables.
2.1	10/04/00	Added notes requiring PWDN to be tied to V <sub>CCINT</sub> when unused.
2.2	11/02/00	Removed the Power Down feature.

**The Spartan-II Family Data Sheet**

 DS001-1, *Spartan-II 2.5V FPGA Family: [Introduction and Ordering Information](#)* (Module 1)

 DS001-2, *Spartan-II 2.5V FPGA Family: [Functional Description](#)* (Module 2)

 DS001-3, *Spartan-II 2.5V FPGA Family: [DC and Switching Characteristics](#)* (Module 3)

 DS001-4, *Spartan-II 2.5V FPGA Family: [Pinout Tables](#)* (Module 4)