

3.7.10 High Speed DDR SRAM in 165 BGA

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Ball Assignment, Top View

	1	2	3	4	5	6	7	8	9	10	11
A	CQ#	NC,SA (72M)	NC,SA (18M)	W#	NW1#	K#	NC,SA (144M)	R#	SA	NC,SA (36M)	CQ
B	NC	NC	NC	SA	NC,SA (288M)	K	NW0#	SA	NC	NC	Q3
C	NC	NC	NC	VSS	SA	SA	SA	VSS	NC	NC	D3
D	NC	D4	NC	VSS	VSS	VSS	VSS	VSS	NC	NC	NC
E	NC	NC	Q4	VDDQ	VSS	VSS	VSS	VDDQ	NC	D2	Q2
F	NC	NC	NC	VDDQ	VDD	VSS	VDD	VDDQ	NC	NC	NC
G	NC	D5	Q5	VDDQ	VDD	VSS	VDD	VDDQ	NC	NC	NC
H	DOFF#	VREF	VDDQ	VDDQ	VDD	VSS	VDD	VDDQ	VDDQ	VREF	ZQ
J	NC	NC	NC	VDDQ	VDD	VSS	VDD	VDDQ	NC	Q1	D1
K	NC	NC	NC	VDDQ	VDD	VSS	VDD	VDDQ	NC	NC	NC
L	NC	D6	Q6	VDDQ	VSS	VSS	VSS	VDDQ	NC	NC	Q0
M	NC	NC	NC	VSS	VSS	VSS	VSS	VSS	NC	NC	D0
N	NC	D7	NC	VSS	SA	SA	SA	VSS	NC	NC	NC
P	NC	NC	Q7	SA	SA	C	SA	SA	NC	NC	NC
R	TDO	TCK	SA	SA	SA	C#	SA	SA	SA	TMS	TDI

11 x 15 Ball BGA - 13 mm x 15 mm body, 1 mm ball pitch
Package reference MO-216 var. CAB-1

Figure 3.7.10-1 — X8 B2 QUAD SRAM IN 165 BGA

Ball Assignment, Top View

	1	2	3	4	5	6	7	8	9	10	11
A	CQ#	NC,SA (72M)	NC,SA (18M)	W#	NW1#	K#	NC,SA (144M)	R#	SA	NC,SA (36M)	CQ
B	NC	NC	NC	SA	NC,SA (288M)	K	NW0#	SA	NC	NC	Q3
C	NC	NC	NC	VSS	SA	NC	SA	VSS	NC	NC	D3
D	NC	D4	NC	VSS	VSS	VSS	VSS	VSS	NC	NC	NC
E	NC	NC	Q4	VDDQ	VSS	VSS	VSS	VDDQ	NC	D2	Q2
F	NC	NC	NC	VDDQ	VDD	VSS	VDD	VDDQ	NC	NC	NC
G	NC	D5	Q5	VDDQ	VDD	VSS	VDD	VDDQ	NC	NC	NC
H	DOFF#	VREF	VDDQ	VDDQ	VDD	VSS	VDD	VDDQ	VDDQ	VREF	ZQ
J	NC	NC	NC	VDDQ	VDD	VSS	VDD	VDDQ	NC	Q1	D1
K	NC	NC	NC	VDDQ	VDD	VSS	VDD	VDDQ	NC	NC	NC
L	NC	D6	Q6	VDDQ	VSS	VSS	VSS	VDDQ	NC	NC	Q0
M	NC	NC	NC	VSS	VSS	VSS	VSS	VSS	NC	NC	D0
N	NC	D7	NC	VSS	SA	SA	SA	VSS	NC	NC	NC
P	NC	NC	Q7	SA	SA	C	SA	SA	NC	NC	NC
R	TDO	TCK	SA	SA	SA	C#	SA	SA	SA	TMS	TDI

11 x 15 Ball BGA - 13 mm x 15 mm body, 1 mm ball pitch
Package reference MO-216 var. CAB-1

Figure 3.7.10-2 — X8 B4 QUAD SRAM IN 165 BGA

Ball Assignment, Top View

	1	2	3	4	5	6	7	8	9	10	11
A	CQ#	NC,SA (72M)	NC,SA (18M)	W#	NW1#	K#	NC,SA (144M)	LD#	SA	NC,SA (36M)	CQ
B	NC	NC	NC	SA	NC,SA (288M)	K	NW0#	SA	NC	NC	DQ3
C	NC	NC	NC	VSS	SA	SA	SA	VSS	NC	NC	NC
D	NC	NC	NC	VSS	VSS	VSS	VSS	VSS	NC	NC	NC
E	NC	NC	DQ4	VDDQ	VSS	VSS	VSS	VDDQ	NC	NC	DQ2
F	NC	NC	NC	VDDQ	VDD	VSS	VDD	VDDQ	NC	NC	NC
G	NC	NC	DQ5	VDDQ	VDD	VSS	VDD	VDDQ	NC	NC	NC
H	DOFF#	VREF	VDDQ	VDDQ	VDD	VSS	VDD	VDDQ	VDDQ	VREF	ZQ
J	NC	NC	NC	VDDQ	VDD	VSS	VDD	VDDQ	NC	DQ1	NC
K	NC	NC	NC	VDDQ	VDD	VSS	VDD	VDDQ	NC	NC	NC
L	NC	DQ6	NC	VDDQ	VSS	VSS	VSS	VDDQ	NC	NC	DQ0
M	NC	NC	NC	VSS	VSS	VSS	VSS	VSS	NC	NC	NC
N	NC	NC	NC	VSS	SA	SA	SA	VSS	NC	NC	NC
P	NC	NC	DQ7	SA	SA	C	SA	SA	NC	NC	NC
R	TDO	TCK	SA	SA	SA	C#	SA	SA	SA	TMS	TDI

11 x 15 Ball BGA - 13 mm x 15 mm body, 1 mm ball pitch
Package reference MO-216 var. CAB-1

Figure 3.7.10-3 — X8 B2 CIO DDR SRAM IN 165 BGA

Ball Assignment, Top View

	1	2	3	4	5	6	7	8	9	10	11
A	CQ#	NC,SA (72M)	NC,SA (18M)	W#	NW1#	K#	NC,SA (144M)	LD#	SA	NC,SA (36M)	CQ
B	NC	NC	NC	SA	NC,SA (288M)	K	NW0#	SA	NC	NC	DQ3
C	NC	NC	NC	VSS	SA	NC	SA	VSS	NC	NC	NC
D	NC	NC	NC	VSS	VSS	VSS	VSS	VSS	NC	NC	NC
E	NC	NC	DQ4	VDDQ	VSS	VSS	VSS	VDDQ	NC	NC	DQ2
F	NC	NC	NC	VDDQ	VDD	VSS	VDD	VDDQ	NC	NC	NC
G	NC	NC	DQ5	VDDQ	VDD	VSS	VDD	VDDQ	NC	NC	NC
H	DOFF#	VREF	VDDQ	VDDQ	VDD	VSS	VDD	VDDQ	VDDQ	VREF	ZQ
J	NC	NC	NC	VDDQ	VDD	VSS	VDD	VDDQ	NC	DQ1	NC
K	NC	NC	NC	VDDQ	VDD	VSS	VDD	VDDQ	NC	NC	NC
L	NC	DQ6	NC	VDDQ	VSS	VSS	VSS	VDDQ	NC	NC	DQ0
M	NC	NC	NC	VSS	VSS	VSS	VSS	VSS	NC	NC	NC
N	NC	NC	NC	VSS	SA	SA	SA	VSS	NC	NC	NC
P	NC	NC	DQ7	SA	SA	C	SA	SA	NC	NC	NC
R	TDO	TCK	SA	SA	SA	C#	SA	SA	SA	TMS	TDI

11 x 15 Ball BGA - 13 mm x 15 mm body, 1 mm ball pitch
Package reference MO-216 var. CAB-1

Figure 3.7.10-4 — X8 B4 CIO DDR SRAM IN 165 BGA

Ball Assignment, Top View

	1	2	3	4	5	6	7	8	9	10	11
A	CQ#	NC,SA (72M)	NC,SA (18M)	W#	NW1#	K#	NC,SA (144M)	LD#	SA	NC,SA (36M)	CQ
B	NC	NC	NC	SA	NC,SA (288M)	K	NW0#	SA	NC	NC	Q3
C	NC	NC	NC	VSS	SA	SA	SA	VSS	NC	NC	D3
D	NC	D4	NC	VSS	VSS	VSS	VSS	VSS	NC	NC	NC
E	NC	NC	Q4	VDDQ	VSS	VSS	VSS	VDDQ	NC	D2	Q2
F	NC	NC	NC	VDDQ	VDD	VSS	VDD	VDDQ	NC	NC	NC
G	NC	D5	Q5	VDDQ	VDD	VSS	VDD	VDDQ	NC	NC	NC
H	DOFF#	VREF	VDDQ	VDDQ	VDD	VSS	VDD	VDDQ	VDDQ	VREF	ZQ
J	NC	NC	NC	VDDQ	VDD	VSS	VDD	VDDQ	NC	Q1	D1
K	NC	NC	NC	VDDQ	VDD	VSS	VDD	VDDQ	NC	NC	NC
L	NC	D6	Q6	VDDQ	VSS	VSS	VSS	VDDQ	NC	NC	Q0
M	NC	NC	NC	VSS	VSS	VSS	VSS	VSS	NC	NC	D0
N	NC	D7	NC	VSS	SA	SA	SA	VSS	NC	NC	NC
P	NC	NC	Q7	SA	SA	C	SA	SA	NC	NC	NC
R	TDO	TCK	SA	SA	SA	C#	SA	SA	SA	TMS	TDI

11 x 15 Ball BGA - 13 mm x 15 mm body, 1 mm ball pitch
Package reference MO-216 var. CAB-1

Figure 3.7.10-5 — X8 B2 SIO DDR IN 165 BGA

Ball Assignment, Top View

	1	2	3	4	5	6	7	8	9	10	11
A	CQ#	NC,SA (72M)	NC,SA (18M)	W#	NC	K#	NC,SA (144M)	R#	SA	NC,SA (36M)	CQ
B	NC	NC	NC	SA	NC,SA (288M)	K	BW#	SA	NC	NC	Q4
C	NC	NC	NC	VSS	SA	SA	SA	VSS	NC	NC	D4
D	NC	D5	NC	VSS	VSS	VSS	VSS	VSS	NC	NC	NC
E	NC	NC	Q5	VDDQ	VSS	VSS	VSS	VDDQ	NC	D3	Q3
F	NC	NC	NC	VDDQ	VDD	VSS	VDD	VDDQ	NC	NC	NC
G	NC	D6	Q6	VDDQ	VDD	VSS	VDD	VDDQ	NC	NC	NC
H	DOFF#	VREF	VDDQ	VDDQ	VDD	VSS	VDD	VDDQ	VDDQ	VREF	ZQ
J	NC	NC	NC	VDDQ	VDD	VSS	VDD	VDDQ	NC	Q2	D2
K	NC	NC	NC	VDDQ	VDD	VSS	VDD	VDDQ	NC	NC	NC
L	NC	Q7	D7	VDDQ	VSS	VSS	VSS	VDDQ	NC	NC	Q1
M	NC	NC	NC	VSS	VSS	VSS	VSS	VSS	NC	NC	D1
N	NC	D8	NC	VSS	SA	SA	SA	VSS	NC	NC	NC
P	NC	NC	Q8	SA	SA	C	SA	SA	NC	D0	Q0
R	TDO	TCK	SA	SA	SA	C#	SA	SA	SA	TMS	TDI

11 x 15 Ball BGA - 13 mm x 15 mm body, 1 mm ball pitch
Package reference MO-216 var. CAB-1

Figure 3.7.10-6 — X9 B2 QUAD SRAM IN 165 BGA