

Dedicated Pin	100-Pin TQFP	144-Pin TQFP	169-Pin Ultra FineLine BGA	208-Pin PQFP (1)	256-Pin BGA	256-Pin FineLine BGA
INPUT/GCLK1	87	125	D8	184	L1	D9
INPUT/GCLRn	89	127	D6	182	K2	E8
INPUT/OE1	88	126	D7	183	K1	E9
INPUT/OE2/GCLK2	90	128	E7	181	K3	D8
TDI (2)	4	4	E4	176	A2	D4
TMS (2)	15	20	J4	127	B12	J6
TCK (2)	62	89	J10	30	V12	J11
TDO (2)	73	104	E10	189	Y2	D13
VREFA (3)	12	14	G4	128	C12	J4
VREFB (3)	60	87	H10	22	V10	H11
GNDINT	38, 86	52, 57, 124, 129	A7, E8, J7, N7	75, 82, 180, 185	J20, K4, K18, L2, L17	A8, C9, G9, K8, P9
GNDIO	11, 26, 43, 59, 74, 95	3, 13, 17, 33, 59, 64, 85, 105, 135	A3, A12, E1, F5, F13, H1, H9, J13, N2, N11	14, 32, 50, 51, 72, 94, 116, 134, 152, 158, 174, 200	A1, B2, B19, B20, C3, C18, D4, D17, U4, U17, V3, V18, V19, W2, W19, Y1, Y20	A3, B10, C2, D14, F6, G10, H8, J9, K7, L11, M3, P6, P10, R2, R3, T1, T15
VCCINT (2.5 V)	39, 91	51, 58, 123, 130	B7, E6, H7, M7	74, 83, 179, 186	J1, J19, L4, M19, M20	B9, C8, G8, K9, P8
VCCIO1 (1.8 V, 2.5 V, 3.3 V)	3, 18, 34	24, 50, 144	A2, F1, H5, J1, N3	85, 105, 107, 125, 143, 165	C4, C17, D3, D5, D16, D18, E4, E17	B3, B5, G3, G7, J8, L3, L6, T2, T3
VCCIO2 (1.8 V, 2.5 V, 3.3 V)	51, 66, 82	73, 76, 95, 115	A11, E13, F9, H13, N12	5, 23, 41, 63, 191, 207	T4, T17, U3, U5, U16, U18, V2, V4, V17	C14, E15, F11, G15, H9, K10, M15, P14
No Connect (N.C.)	—	—	—	—	—	—
Total User I/O Pins (4)	84	120	141	176	212	212

EPM7512B I/O Pins and I/O Standards
 100-Pin TQFP, 144-Pin TQFP, and 169-Pin Ultra FineLine BGA
 ver. 1.0

LAB	MC	100-Pin TQFP	IOGND Group for 100-Pin TQFP (200 mA)	IOVCC Group for 100-Pin TQFP	144-Pin TQFP	IOGND Group for 144-Pin TQFP (200 mA)	IOVCC Group for 144-Pin TQFP	I/O Bank
A	1	94	A	A (100 mA)	134	A	A (100 mA)	1
A	2	–	–	–	–	–	–	1
A	3	–	–	–	–	–	–	1
A	4	–	–	–	–	–	–	1
A	5	–	–	–	–	–	–	1
A	6	–	–	–	–	–	–	1
A	7	–	–	–	–	–	–	1
A	8	–	–	–	–	–	–	1
A	9	–	–	–	–	–	–	1
A	10	–	–	–	–	–	–	1
A	11	93	A	A (100 mA)	133	A	A (100 mA)	1
A	12	–	–	–	–	–	–	1
A	13	–	–	–	–	–	–	1
A	14	92	A	A (100 mA)	132	A	A (100 mA)	1
A	15	–	–	–	–	–	–	1
A	16	–	–	–	131	A	A (100 mA)	1
B	17	–	–	–	–	–	–	1
B	18	–	–	–	–	–	–	1
B	19	–	–	–	–	–	–	1
B	20	–	–	–	–	–	–	1
B	21	–	–	–	138	B	A (100 mA)	1
B	22	–	–	–	–	–	–	1
B	23	–	–	–	–	–	–	1
B	24	–	–	–	–	–	–	1
B	25	97	B	A (100 mA)	137	B	A (100 mA)	1
B	26	–	–	–	–	–	–	1
B	27	96	B	A (100 mA)	136	B	A (100 mA)	1
B	28	–	–	–	–	–	–	1
B	29	–	–	–	–	–	–	1
B	30	–	–	–	–	–	–	1
B	31	–	–	–	–	–	–	1
B	32	–	–	–	–	–	–	1
C	33	–	–	–	142	B	A (100 mA)	1
C	34	–	–	–	–	–	–	1
C	35	–	–	–	–	–	–	1
C	36	–	–	–	–	–	–	1
C	37	100	B	A (100 mA)	141	B	A (100 mA)	1
C	38	–	–	–	–	–	–	1
C	39	–	–	–	–	–	–	1
C	40	–	–	–	–	–	–	1
C	41	99	B	A (100 mA)	140	B	A (100 mA)	1
C	42	–	–	–	–	–	–	1
C	43	–	–	–	–	–	–	1
C	44	–	–	–	–	–	–	1
C	45	–	–	–	–	–	–	1
C	46	98	B	A (100 mA)	139	B	A (100 mA)	1
C	47	–	–	–	–	–	–	1

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LAB	MC	100-Pin TQFP	IOGND Group for 100-Pin TQFP (200 mA)	IOVCC Group for 100-Pin TQFP	144-Pin TQFP	IOGND Group for 144-Pin TQFP (200 mA)	IOVCC Group for 144-Pin TQFP	I/O Bank
C	48	–	–	–	–	–	–	1
D	49	–	–	–	2	B	B (200 mA)	1
D	50	–	–	–	–	–	–	1
D	51	–	–	–	–	–	–	1
D	52	–	–	–	–	–	–	1
D	53	–	–	–	1	B	B (200 mA)	1
D	54	–	–	–	–	–	–	1
D	55	–	–	–	–	–	–	1
D	56	–	–	–	–	–	–	1
D	57	–	–	–	–	–	–	1
D	58	–	–	–	–	–	–	1
D	59	2	B	A (100 mA)	–	–	–	1
D	60	–	–	–	–	–	–	1
D	61	–	–	–	–	–	–	1
D	62	–	–	–	–	–	–	1
D	63	–	–	–	–	–	–	1
D	64	1	B	A (100 mA)	143	B	A (100 mA)	1
E	65	–	–	–	–	–	–	1
E	66	–	–	–	–	–	–	1
E	67	–	–	–	7	C	B (200 mA)	1
E	68	–	–	–	–	–	–	1
E	69	–	–	–	–	–	–	1
E	70	–	–	–	–	–	–	1
E	71	–	–	–	–	–	–	1
E	72	–	–	–	–	–	–	1
E	73	–	–	–	–	–	–	1
E	74	–	–	–	–	–	–	1
E	75	6	B	B (200 mA)	6	C	B (200 mA)	1
E	76	–	–	–	–	–	–	1
E	77	–	–	–	–	–	–	1
E	78	5	B	B (200 mA)	5	C	B (200 mA)	1
E	79	–	–	–	–	–	–	1
E	80	4 (1)	B	B (200 mA)	4 (1)	C	B (200 mA)	1
F	81	–	–	–	–	–	–	1
F	82	–	–	–	–	–	–	1
F	83	–	–	–	–	–	–	1
F	84	–	–	–	–	–	–	1
F	85	9	B	B (200 mA)	11	C	B (200 mA)	1
F	86	–	–	–	–	–	–	1
F	87	–	–	–	–	–	–	1
F	88	–	–	–	–	–	–	1
F	89	–	–	–	–	–	–	1
F	90	–	–	–	–	–	–	1
F	91	8	B	B (200 mA)	10	C	B (200 mA)	1
F	92	–	–	–	–	–	–	1
F	93	–	–	–	–	–	–	1
F	94	7	B	B (200 mA)	9	C	B (200 mA)	1

EPM7512B I/O Pins and I/O Standards

100-Pin TQFP, 144-Pin TQFP, and 169-Pin Ultra FineLine BGA
ver. 1.0

LAB	MC	100-Pin TQFP	IOGND Group for 100-Pin TQFP (200 mA)	IOVCC Group for 100-Pin TQFP	144-Pin TQFP	IOGND Group for 144-Pin TQFP (200 mA)	IOVCC Group for 144-Pin TQFP	I/O Bank
F	95	–	–	–	–	–	–	1
F	96	–	–	–	8	C	B (200 mA)	1
G	97	–	–	–	–	–	–	1
G	98	–	–	–	–	–	–	1
G	99	–	–	–	15	D	B (200 mA)	1
G	100	–	–	–	–	–	–	1
G	101	12 (2)	C	B (200 mA)	14 (2)	D	B (200 mA)	1
G	102	–	–	–	–	–	–	1
G	103	–	–	–	–	–	–	1
G	104	–	–	–	–	–	–	1
G	105	–	–	–	–	–	–	1
G	106	–	–	–	–	–	–	1
G	107	–	–	–	–	–	–	1
G	108	–	–	–	–	–	–	1
G	109	–	–	–	–	–	–	1
G	110	10	B	B (200 mA)	12	C	B (200 mA)	1
G	111	–	–	–	–	–	–	1
G	112	–	–	–	–	–	–	1
H	113	14	C	B (200 mA)	19	E	B (200 mA)	1
H	114	–	–	–	–	–	–	1
H	115	–	–	–	–	–	–	1
H	116	–	–	–	–	–	–	1
H	117	13	C	B (200 mA)	18	E	B (200 mA)	1
H	118	–	–	–	–	–	–	1
H	119	–	–	–	–	–	–	1
H	120	–	–	–	–	–	–	1
H	121	–	–	–	–	–	–	1
H	122	–	–	–	–	–	–	1
H	123	–	–	–	–	–	–	1
H	124	–	–	–	–	–	–	1
H	125	–	–	–	–	–	–	1
H	126	–	–	–	–	–	–	1
H	127	–	–	–	–	–	–	1
H	128	–	–	–	16	D	B (200 mA)	1
I	129	–	–	–	–	–	–	1
I	130	–	–	–	–	–	–	1
I	131	–	–	–	–	–	–	1
I	132	–	–	–	–	–	–	1
I	133	15 (1)	C	B (200 mA)	20 (1)	E	B (200 mA)	1
I	134	–	–	–	–	–	–	1
I	135	–	–	–	–	–	–	1
I	136	–	–	–	–	–	–	1
I	137	–	–	–	–	–	–	1
I	138	–	–	–	–	–	–	1
I	139	–	–	–	–	–	–	1
I	140	–	–	–	–	–	–	1
I	141	–	–	–	–	–	–	1

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LAB	MC	100-Pin TQFP	IOGND Group for 100-Pin TQFP (200 mA)	IOVCC Group for 100-Pin TQFP	144-Pin TQFP	IOGND Group for 144-Pin TQFP (200 mA)	IOVCC Group for 144-Pin TQFP	I/O Bank
I	142	–	–	–	–	–	–	1
I	143	–	–	–	–	–	–	1
I	144	–	–	–	–	–	–	1
J	145	–	–	–	–	–	–	1
J	146	–	–	–	–	–	–	1
J	147	–	–	–	–	–	–	1
J	148	–	–	–	–	–	–	1
J	149	20	C	C (200 mA)	26	E	C (200 mA)	1
J	150	–	–	–	–	–	–	1
J	151	–	–	–	–	–	–	1
J	152	–	–	–	–	–	–	1
J	153	19	C	C (200 mA)	25	E	C (200 mA)	1
J	154	–	–	–	–	–	–	1
J	155	–	–	–	23	E	B (200 mA)	1
J	156	–	–	–	–	–	–	1
J	157	–	–	–	–	–	–	1
J	158	17	C	B (200 mA)	22	E	B (200 mA)	1
J	159	–	–	–	–	–	–	1
J	160	16	C	B (200 mA)	21	E	B (200 mA)	1
K	161	22	C	C (200 mA)	29	E	C (200 mA)	1
K	162	–	–	–	–	–	–	1
K	163	–	–	–	–	–	–	1
K	164	–	–	–	–	–	–	1
K	165	–	–	–	–	–	–	1
K	166	–	–	–	–	–	–	1
K	167	–	–	–	–	–	–	1
K	168	–	–	–	–	–	–	1
K	169	21	C	C (200 mA)	28	E	C (200 mA)	1
K	170	–	–	–	–	–	–	1
K	171	–	–	–	–	–	–	1
K	172	–	–	–	–	–	–	1
K	173	–	–	–	–	–	–	1
K	174	–	–	–	–	–	–	1
K	175	–	–	–	–	–	–	1
K	176	–	–	–	27	E	C (200 mA)	1
L	177	–	–	–	34	F	C (200 mA)	1
L	178	–	–	–	–	–	–	1
L	179	–	–	–	–	–	–	1
L	180	–	–	–	–	–	–	1
L	181	25	C	C (200 mA)	32	E	C (200 mA)	1
L	182	–	–	–	–	–	–	1
L	183	–	–	–	–	–	–	1
L	184	–	–	–	–	–	–	1
L	185	–	–	–	–	–	–	1
L	186	–	–	–	–	–	–	1
L	187	–	–	–	–	–	–	1
L	188	–	–	–	–	–	–	1

EPM7512B I/O Pins and I/O Standards

100-Pin TQFP, 144-Pin TQFP, and 169-Pin Ultra FineLine BGA
ver. 1.0

LAB	MC	100-Pin TQFP	IOGND Group for 100-Pin TQFP (200 mA)	IOVCC Group for 100-Pin TQFP	144-Pin TQFP	IOGND Group for 144-Pin TQFP (200 mA)	IOVCC Group for 144-Pin TQFP	I/O Bank
L	189	–	–	–	–	–	–	1
L	190	24	C	C (200 mA)	31	E	C (200 mA)	1
L	191	–	–	–	–	–	–	1
L	192	23	C	C (200 mA)	30	E	C (200 mA)	1
M	193	–	–	–	–	–	–	1
M	194	–	–	–	–	–	–	1
M	195	–	–	–	–	–	–	1
M	196	–	–	–	–	–	–	1
M	197	–	–	–	–	–	–	1
M	198	–	–	–	–	–	–	1
M	199	–	–	–	–	–	–	1
M	200	–	–	–	–	–	–	1
M	201	–	–	–	37	F	C (200 mA)	1
M	202	–	–	–	–	–	–	1
M	203	–	–	–	–	–	–	1
M	204	–	–	–	–	–	–	1
M	205	–	–	–	–	–	–	1
M	206	27	D	C (200 mA)	36	F	C (200 mA)	1
M	207	–	–	–	–	–	–	1
M	208	–	–	–	35	F	C (200 mA)	1
N	209	30	D	C (200 mA)	42	F	C (200 mA)	1
N	210	–	–	–	–	–	–	1
N	211	–	–	–	–	–	–	1
N	212	–	–	–	–	–	–	1
N	213	29	D	C (200 mA)	41	F	C (200 mA)	1
N	214	–	–	–	–	–	–	1
N	215	–	–	–	–	–	–	1
N	216	–	–	–	–	–	–	1
N	217	28	D	C (200 mA)	40	F	C (200 mA)	1
N	218	–	–	–	–	–	–	1
N	219	–	–	–	39	F	C (200 mA)	1
N	220	–	–	–	–	–	–	1
N	221	–	–	–	–	–	–	1
N	222	–	–	–	–	–	–	1
N	223	–	–	–	–	–	–	1
N	224	–	–	–	38	F	C (200 mA)	1
O	225	–	–	–	47	F	C (200 mA)	1
O	226	–	–	–	–	–	–	1
O	227	33	D	C (200 mA)	46	F	C (200 mA)	1
O	228	–	–	–	–	–	–	1
O	229	–	–	–	45	F	C (200 mA)	1
O	230	–	–	–	–	–	–	1
O	231	–	–	–	–	–	–	1
O	232	–	–	–	–	–	–	1
O	233	–	–	–	–	–	–	1
O	234	–	–	–	–	–	–	1
O	235	32	D	C (200 mA)	44	F	C (200 mA)	1

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100-Pin TQFP, 144-Pin TQFP, and 169-Pin Ultra FineLine BGA
ver. 1.0

LAB	MC	100-Pin TQFP	IOGND Group for 100-Pin TQFP (200 mA)	IOVCC Group for 100-Pin TQFP	144-Pin TQFP	IOGND Group for 144-Pin TQFP (200 mA)	IOVCC Group for 144-Pin TQFP	I/O Bank
O	236	–	–	–	–	–	–	1
O	237	–	–	–	–	–	–	1
O	238	–	–	–	–	–	–	1
O	239	–	–	–	–	–	–	1
O	240	31	D	C (200 mA)	43	F	C (200 mA)	1
P	241	36	D	D (58 mA)	54	F	D (58 mA)	1
P	242	–	–	–	–	–	–	1
P	243	–	–	–	–	–	–	1
P	244	–	–	–	–	–	–	1
P	245	–	–	–	–	–	–	1
P	246	–	–	–	–	–	–	1
P	247	–	–	–	–	–	–	1
P	248	–	–	–	–	–	–	1
P	249	35	D	D (58 mA)	53	F	D (58 mA)	1
P	250	–	–	–	–	–	–	1
P	251	–	–	–	–	–	–	1
P	252	–	–	–	–	–	–	1
P	253	–	–	–	–	–	–	1
P	254	–	–	–	49	F	C (200 mA)	1
P	255	–	–	–	–	–	–	1
P	256	–	–	–	48	F	C (200 mA)	1
Q	257	–	–	–	55	F	D (58 mA)	1
Q	258	–	–	–	–	–	–	1
Q	259	–	–	–	–	–	–	1
Q	260	–	–	–	–	–	–	1
Q	261	–	–	–	–	–	–	1
Q	262	–	–	–	–	–	–	1
Q	263	–	–	–	–	–	–	1
Q	264	–	–	–	–	–	–	1
Q	265	37	D	D (58 mA)	56	F	D (58 mA)	1
Q	266	–	–	–	–	–	–	1
Q	267	–	–	–	–	–	–	2
Q	268	–	–	–	–	–	–	2
Q	269	–	–	–	–	–	–	2
Q	270	40	D	E (100 mA)	60	G	E (100 mA)	2
Q	271	–	–	–	–	–	–	2
Q	272	–	–	–	61	G	E (100 mA)	2
R	273	41	D	E (100 mA)	62	G	E (100 mA)	2
R	274	–	–	–	–	–	–	2
R	275	42	D	E (100 mA)	63	G	E (100 mA)	2
R	276	–	–	–	–	–	–	2
R	277	–	–	–	–	–	–	2
R	278	–	–	–	–	–	–	2
R	279	–	–	–	–	–	–	2
R	280	–	–	–	–	–	–	2
R	281	–	–	–	–	–	–	2
R	282	–	–	–	–	–	–	2

EPM7512B I/O Pins and I/O Standards

100-Pin TQFP, 144-Pin TQFP, and 169-Pin Ultra FineLine BGA

ver. 1.0

LAB	MC	100-Pin TQFP	IOGND Group for 100-Pin TQFP (200 mA)	IOVCC Group for 100-Pin TQFP	144-Pin TQFP	IOGND Group for 144-Pin TQFP (200 mA)	IOVCC Group for 144-Pin TQFP	I/O Bank
R	283	44	E	E (100 mA)	65	H	E (100 mA)	2
R	284	–	–	–	–	–	–	2
R	285	–	–	–	–	–	–	2
R	286	–	–	–	–	–	–	2
R	287	–	–	–	–	–	–	2
R	288	–	–	–	–	–	–	2
S	289	–	–	–	66	H	E (100 mA)	2
S	290	–	–	–	–	–	–	2
S	291	–	–	–	–	–	–	2
S	292	–	–	–	–	–	–	2
S	293	45	E	E (100 mA)	67	H	E (100 mA)	2
S	294	–	–	–	–	–	–	2
S	295	–	–	–	–	–	–	2
S	296	–	–	–	–	–	–	2
S	297	–	–	–	68	H	E (100 mA)	2
S	298	–	–	–	–	–	–	2
S	299	46	E	E (100 mA)	69	H	E (100 mA)	2
S	300	–	–	–	–	–	–	2
S	301	–	–	–	–	–	–	2
S	302	–	–	–	–	–	–	2
S	303	–	–	–	–	–	–	2
S	304	–	–	–	70	H	E (100 mA)	2
T	305	–	–	–	–	–	–	2
T	306	–	–	–	–	–	–	2
T	307	–	–	–	–	–	–	2
T	308	–	–	–	–	–	–	2
T	309	–	–	–	–	–	–	2
T	310	–	–	–	–	–	–	2
T	311	–	–	–	–	–	–	2
T	312	–	–	–	–	–	–	2
T	313	47	E	E (100 mA)	71	H	E (100 mA)	2
T	314	–	–	–	–	–	–	2
T	315	48	E	E (100 mA)	72	H	E (100 mA)	2
T	316	–	–	–	–	–	–	2
T	317	–	–	–	–	–	–	2
T	318	–	–	–	–	–	–	2
T	319	–	–	–	–	–	–	2
T	320	49	E	E (200 mA)	74	H	F (200 mA)	2
U	321	50	E	E (200 mA)	75	H	F (200 mA)	2
U	322	–	–	–	–	–	–	2
U	323	–	–	–	–	–	–	2
U	324	–	–	–	–	–	–	2
U	325	–	–	–	–	–	–	2
U	326	–	–	–	–	–	–	2
U	327	–	–	–	–	–	–	2
U	328	–	–	–	–	–	–	2
U	329	–	–	–	–	–	–	2

EPM7512B I/O Pins and I/O Standards

100-Pin TQFP, 144-Pin TQFP, and 169-Pin Ultra FineLine BGA
ver. 1.0

LAB	MC	100-Pin TQFP	IOGND Group for 100-Pin TQFP (200 mA)	IOVCC Group for 100-Pin TQFP	144-Pin TQFP	IOGND Group for 144-Pin TQFP (200 mA)	IOVCC Group for 144-Pin TQFP	I/O Bank
U	330	–	–	–	–	–	–	2
U	331	–	–	–	–	–	–	2
U	332	–	–	–	–	–	–	2
U	333	–	–	–	–	–	–	2
U	334	52	E	F (200 mA)	77	H	G (200 mA)	2
U	335	–	–	–	–	–	–	2
U	336	53	E	F (200 mA)	78	H	G (200 mA)	2
V	337	54	E	F (200 mA)	79	H	G (200 mA)	2
V	338	–	–	–	–	–	–	2
V	339	55	E	F (200 mA)	80	H	G (200 mA)	2
V	340	–	–	–	–	–	–	2
V	341	–	–	–	–	–	–	2
V	342	–	–	–	–	–	–	2
V	343	–	–	–	–	–	–	2
V	344	–	–	–	–	–	–	2
V	345	56	E	F (200 mA)	81	H	G (200 mA)	2
V	346	–	–	–	–	–	–	2
V	347	–	–	–	–	–	–	2
V	348	–	–	–	–	–	–	2
V	349	–	–	–	–	–	–	2
V	350	–	–	–	–	–	–	2
V	351	–	–	–	–	–	–	2
V	352	–	–	–	–	–	–	2
W	353	57	E	F (200 mA)	82	H	G (200 mA)	2
W	354	–	–	–	–	–	–	2
W	355	–	–	–	–	–	–	2
W	356	–	–	–	–	–	–	2
W	357	–	–	–	83	H	G (200 mA)	2
W	358	–	–	–	–	–	–	2
W	359	–	–	–	–	–	–	2
W	360	–	–	–	–	–	–	2
W	361	58	E	F (200 mA)	84	H	G (200 mA)	2
W	362	–	–	–	–	–	–	2
W	363	–	–	–	86	I	G (200 mA)	2
W	364	–	–	–	–	–	–	2
W	365	–	–	–	–	–	–	2
W	366	60 (2)	F	F (200 mA)	87 (2)	I	G (200 mA)	2
W	367	–	–	–	–	–	–	2
W	368	61	F	F (200 mA)	88	I	G (200 mA)	2
X	369	62 (1)	F	F (200 mA)	89 (1)	I	G (200 mA)	2
X	370	–	–	–	–	–	–	2
X	371	–	–	–	–	–	–	2
X	372	–	–	–	–	–	–	2
X	373	–	–	–	–	–	–	2
X	374	–	–	–	–	–	–	2
X	375	–	–	–	–	–	–	2
X	376	–	–	–	–	–	–	2

EPM7512B I/O Pins and I/O Standards

100-Pin TQFP, 144-Pin TQFP, and 169-Pin Ultra FineLine BGA
ver. 1.0

LAB	MC	100-Pin TQFP	IOGND Group for 100-Pin TQFP (200 mA)	IOVCC Group for 100-Pin TQFP	144-Pin TQFP	IOGND Group for 144-Pin TQFP (200 mA)	IOVCC Group for 144-Pin TQFP	I/O Bank
X	377	–	–	–	–	–	–	2
X	378	–	–	–	–	–	–	2
X	379	–	–	–	–	–	–	2
X	380	–	–	–	–	–	–	2
X	381	–	–	–	–	–	–	2
X	382	–	–	–	–	–	–	2
X	383	–	–	–	–	–	–	2
X	384	63	F	F (200 mA)	90	I	G (200 mA)	2
Y	385	–	–	–	91	I	G (200 mA)	2
Y	386	–	–	–	–	–	–	2
Y	387	–	–	–	–	–	–	2
Y	388	–	–	–	–	–	–	2
Y	389	64	F	F (200 mA)	92	I	G (200 mA)	2
Y	390	–	–	–	–	–	–	2
Y	391	–	–	–	–	–	–	2
Y	392	–	–	–	–	–	–	2
Y	393	–	–	–	–	–	–	2
Y	394	–	–	–	–	–	–	2
Y	395	–	–	–	–	–	–	2
Y	396	–	–	–	–	–	–	2
Y	397	–	–	–	–	–	–	2
Y	398	–	–	–	–	–	–	2
Y	399	–	–	–	–	–	–	2
Y	400	65	F	F (200 mA)	93	I	G (200 mA)	2
Z	401	–	–	–	–	–	–	2
Z	402	–	–	–	–	–	–	2
Z	403	–	–	–	–	–	–	2
Z	404	–	–	–	–	–	–	2
Z	405	–	–	–	94	I	G (200 mA)	2
Z	406	–	–	–	–	–	–	2
Z	407	–	–	–	–	–	–	2
Z	408	–	–	–	–	–	–	2
Z	409	67	F	G (200 mA)	96	I	H (200 mA)	2
Z	410	–	–	–	–	–	–	2
Z	411	–	–	–	–	–	–	2
Z	412	–	–	–	–	–	–	2
Z	413	–	–	–	–	–	–	2
Z	414	68	F	G (200 mA)	97	I	H (200 mA)	2
Z	415	–	–	–	–	–	–	2
Z	416	–	–	–	–	–	–	2
AA	417	–	–	–	–	–	–	2
AA	418	–	–	–	–	–	–	2
AA	419	–	–	–	–	–	–	2
AA	420	–	–	–	–	–	–	2
AA	421	69	F	G (200 mA)	98	I	H (200 mA)	2
AA	422	–	–	–	–	–	–	2
AA	423	–	–	–	–	–	–	2

EPM7512B I/O Pins and I/O Standards

100-Pin TQFP, 144-Pin TQFP, and 169-Pin Ultra FineLine BGA
ver. 1.0

LAB	MC	100-Pin TQFP	IOGND Group for 100-Pin TQFP (200 mA)	IOVCC Group for 100-Pin TQFP	144-Pin TQFP	IOGND Group for 144-Pin TQFP (200 mA)	IOVCC Group for 144-Pin TQFP	I/O Bank
AA	424	–	–	–	–	–	–	2
AA	425	–	–	–	–	–	–	2
AA	426	–	–	–	–	–	–	2
AA	427	70	F	G (200 mA)	99	I	H (200 mA)	2
AA	428	–	–	–	–	–	–	2
AA	429	–	–	–	–	–	–	2
AA	430	71	F	G (200 mA)	100	I	H (200 mA)	2
AA	431	–	–	–	–	–	–	2
AA	432	–	–	–	101	I	H (200 mA)	2
BB	433	–	–	–	–	–	–	2
BB	434	–	–	–	–	–	–	2
BB	435	72	F	G (200 mA)	102	I	H (200 mA)	2
BB	436	–	–	–	–	–	–	2
BB	437	–	–	–	–	–	–	2
BB	438	–	–	–	–	–	–	2
BB	439	–	–	–	–	–	–	2
BB	440	–	–	–	–	–	–	2
BB	441	–	–	–	–	–	–	2
BB	442	–	–	–	–	–	–	2
BB	443	–	–	–	103	I	H (200 mA)	2
BB	444	–	–	–	–	–	–	2
BB	445	–	–	–	–	–	–	2
BB	446	73 (1)	F	G (200 mA)	104 (1)	I	H (200 mA)	2
BB	447	–	–	–	–	–	–	2
BB	448	75	A	G (200 mA)	106	A	H (200 mA)	2
CC	449	–	–	–	–	–	–	2
CC	450	–	–	–	–	–	–	2
CC	451	–	–	–	–	–	–	2
CC	452	–	–	–	–	–	–	2
CC	453	76	A	G (200 mA)	107	A	H (200 mA)	2
CC	454	–	–	–	–	–	–	2
CC	455	–	–	–	–	–	–	2
CC	456	–	–	–	–	–	–	2
CC	457	77	A	G (200 mA)	108	A	H (200 mA)	2
CC	458	–	–	–	–	–	–	2
CC	459	–	–	–	–	–	–	2
CC	460	–	–	–	–	–	–	2
CC	461	–	–	–	–	–	–	2
CC	462	–	–	–	–	–	–	2
CC	463	–	–	–	–	–	–	2
CC	464	78	A	G (200 mA)	109	A	H (200 mA)	2
DD	465	–	–	–	–	–	–	2
DD	466	–	–	–	–	–	–	2
DD	467	–	–	–	–	–	–	2
DD	468	–	–	–	–	–	–	2
DD	469	79	A	G (200 mA)	110	A	H (200 mA)	2
DD	470	–	–	–	–	–	–	2

EPM7512B I/O Pins and I/O Standards

100-Pin TQFP, 144-Pin TQFP, and 169-Pin Ultra FineLine BGA

ver. 1.0

LAB	MC	100-Pin TQFP	IOGND Group for 100-Pin TQFP (200 mA)	IOVCC Group for 100-Pin TQFP	144-Pin TQFP	IOGND Group for 144-Pin TQFP (200 mA)	IOVCC Group for 144-Pin TQFP	I/O Bank
DD	471	–	–	–	–	–	–	2
DD	472	–	–	–	–	–	–	2
DD	473	80	A	G (200 mA)	111	A	H (200 mA)	2
DD	474	–	–	–	–	–	–	2
DD	475	–	–	–	–	–	–	2
DD	476	–	–	–	–	–	–	2
DD	477	–	–	–	–	–	–	2
DD	478	–	–	–	112	A	H (200 mA)	2
DD	479	–	–	–	–	–	–	2
DD	480	–	–	–	–	–	–	2
EE	481	–	–	–	–	–	–	2
EE	482	–	–	–	–	–	–	2
EE	483	–	–	–	–	–	–	2
EE	484	–	–	–	–	–	–	2
EE	485	–	–	–	113	A	H (200 mA)	2
EE	486	–	–	–	–	–	–	2
EE	487	–	–	–	–	–	–	2
EE	488	–	–	–	–	–	–	2
EE	489	81	A	G (200 mA)	114	A	H (200 mA)	2
EE	490	–	–	–	–	–	–	2
EE	491	83	A	H (100 mA)	116	A	I (100 mA)	2
EE	492	–	–	–	–	–	–	2
EE	493	–	–	–	–	–	–	2
EE	494	–	–	–	117	A	I (100 mA)	2
EE	495	–	–	–	–	–	–	2
EE	496	–	–	–	–	–	–	2
FF	497	–	–	–	118	A	I (100 mA)	2
FF	498	–	–	–	–	–	–	2
FF	499	–	–	–	–	–	–	2
FF	500	–	–	–	–	–	–	2
FF	501	–	–	–	–	–	–	2
FF	502	–	–	–	–	–	–	2
FF	503	–	–	–	–	–	–	2
FF	504	–	–	–	–	–	–	2
FF	505	84	A	H (100 mA)	119	A	I (100 mA)	2
FF	506	–	–	–	–	–	–	2
FF	507	–	–	–	120	A	I (100 mA)	2
FF	508	–	–	–	–	–	–	2
FF	509	–	–	–	–	–	–	2
FF	510	–	–	–	121	A	I (100 mA)	2
FF	511	–	–	–	–	–	–	2
FF	512	85	A	H (100 mA)	122	A	I (100 mA)	2

EPM7512B I/O Pins and I/O Standards
 169-Pin Ultra FineLine BGA and 208-Pin PQFP
 ver. 1.0

LAB	MC	169-Pin Ultra FineLine BGA	IOGND Group for 169-Pin Ultra FineLine BGA (200 mA)	IOVCC Group for 169-Pin Ultra FineLine BGA	208-Pin PQFP (4)	IOGND Group for 208-Pin PQFP (200 mA)	IOVCC Group for 208-Pin PQFP	I/O Bank
A	1	C6	A	B (200 mA)	173	B	A (100 mA)	1
A	2	–	–	–	–	–	–	1
A	3	–	–	–	–	–	–	1
A	4	–	–	–	–	–	–	1
A	5	–	–	–	–	–	–	1
A	6	–	–	–	–	–	–	1
A	7	–	–	–	–	–	–	1
A	8	–	–	–	–	–	–	1
A	9	–	–	–	175	A	A (100 mA)	1
A	10	–	–	–	–	–	–	1
A	11	B6	A	A (100 mA)	176 (1)	A	A (100 mA)	1
A	12	–	–	–	–	–	–	1
A	13	–	–	–	–	–	–	1
A	14	A6	A	A (100 mA)	177	A	A (100 mA)	1
A	15	–	–	–	–	–	–	1
A	16	C7	A	A (100 mA)	178	A	A (100 mA)	1
B	17	–	–	–	169	B	A (100 mA)	1
B	18	–	–	–	–	–	–	1
B	19	–	–	–	–	–	–	1
B	20	–	–	–	–	–	–	1
B	21	B5	B	B (200 mA)	170	B	A (100 mA)	1
B	22	–	–	–	–	–	–	1
B	23	–	–	–	–	–	–	1
B	24	–	–	–	–	–	–	1
B	25	A5	B	B (200 mA)	171	B	A (100 mA)	1
B	26	–	–	–	–	–	–	1
B	27	F6	B	B (200 mA)	172	B	A (100 mA)	1
B	28	–	–	–	–	–	–	1
B	29	–	–	–	–	–	–	1
B	30	–	–	–	–	–	–	1
B	31	–	–	–	–	–	–	1
B	32	–	–	–	–	–	–	1
C	33	–	–	–	163	B	B (200 mA)	1
C	34	–	–	–	–	–	–	1
C	35	–	–	–	–	–	–	1
C	36	–	–	–	–	–	–	1
C	37	A4	B	B (200 mA)	164	B	B (200 mA)	1
C	38	–	–	–	–	–	–	1
C	39	–	–	–	–	–	–	1
C	40	–	–	–	–	–	–	1
C	41	D5	B	B (200 mA)	166	B	A (100 mA)	1
C	42	–	–	–	–	–	–	1
C	43	–	–	–	167	B	A (100 mA)	1
C	44	–	–	–	–	–	–	1
C	45	–	–	–	–	–	–	1

EPM7512B I/O Pins and I/O Standards
 169-Pin Ultra FineLine BGA and 208-Pin PQFP
 ver. 1.0

LAB	MC	169-Pin Ultra FineLine BGA	IOGND Group for 169-Pin Ultra FineLine BGA (200 mA)	IOVCC Group for 169-Pin Ultra FineLine BGA	208-Pin PQFP (4)	IOGND Group for 208-Pin PQFP (200 mA)	IOVCC Group for 208-Pin PQFP	I/O Bank
C	46	C5	B	B (200 mA)	168	B	A (100 mA)	1
C	47	–	–	–	–	–	–	1
C	48	–	–	–	–	–	–	1
D	49	C3	C	C (200 mA)	–	–	–	1
D	50	–	–	–	–	–	–	1
D	51	–	–	–	–	–	–	1
D	52	–	–	–	–	–	–	1
D	53	B3	C	C (200 mA)	–	–	–	1
D	54	–	–	–	–	–	–	1
D	55	–	–	–	–	–	–	1
D	56	–	–	–	–	–	–	1
D	57	–	–	–	159	B	B (200 mA)	1
D	58	–	–	–	–	–	–	1
D	59	C4	B	B (200 mA)	160	B	B (200 mA)	1
D	60	–	–	–	–	–	–	1
D	61	–	–	–	–	–	–	1
D	62	–	–	–	161	B	B (200 mA)	1
D	63	–	–	–	–	–	–	1
D	64	B4	B	B (200 mA)	162	B	B (200 mA)	1
E	65	C2	D	C (200mA)	–	–	–	1
E	66	–	–	–	–	–	–	1
E	67	C1	D	C (200 mA)	153	C	B (200 mA)	1
E	68	–	–	–	–	–	–	1
E	69	–	–	–	–	–	–	1
E	70	–	–	–	–	–	–	1
E	71	–	–	–	–	–	–	1
E	72	–	–	–	–	–	–	1
E	73	B1	D	C (200 mA)	154	C	B (200 mA)	1
E	74	–	–	–	–	–	–	1
E	75	A1	D	C (200 mA)	155	C	B (200 mA)	1
E	76	–	–	–	–	–	–	1
E	77	–	–	–	–	–	–	1
E	78	B2	D	C (200 mA)	156	C	B (200 mA)	1
E	79	–	–	–	–	–	–	1
E	80	E4	D	C (200 mA)	157	C	B (200 mA)	1
F	81	E2	E	C (200 mA)	147	D	B (200 mA)	1
F	82	–	–	–	–	–	–	1
F	83	–	–	–	148	D	B (200 mA)	1
F	84	–	–	–	–	–	–	1
F	85	D4	E	C (200 mA)	149	D	B (200 mA)	1
F	86	–	–	–	–	–	–	1
F	87	–	–	–	–	–	–	1
F	88	–	–	–	–	–	–	1
F	89	–	–	–	–	–	–	1
F	90	–	–	–	–	–	–	1

EPM7512B I/O Pins and I/O Standards
 169-Pin Ultra FineLine BGA and 208-Pin PQFP
 ver. 1.0

LAB	MC	169-Pin Ultra FineLine BGA	IOGND Group for 169-Pin Ultra FineLine BGA (200 mA)	IOVCC Group for 169-Pin Ultra FineLine BGA	208-Pin PQFP (4)	IOGND Group for 208-Pin PQFP (200 mA)	IOVCC Group for 208-Pin PQFP	I/O Bank
F	91	D3	E	C (200 mA)	150	D	B (200 mA)	1
F	92	–	–	–	–	–	–	1
F	93	–	–	–	–	–	–	1
F	94	D2	E	C (200 mA)	151	D	B (200 mA)	1
F	95	–	–	–	–	–	–	1
F	96	D1	D	C (200 mA)	–	–	–	1
G	97	–	–	–	–	–	–	1
G	98	–	–	–	–	–	–	1
G	99	F2	F	D (200 mA)	141	D	C (200 mA)	1
G	100	–	–	–	–	–	–	1
G	101	G4	F	D (200 mA)	142	D	C (200 mA)	1
G	102	–	–	–	–	–	–	1
G	103	–	–	–	–	–	–	1
G	104	–	–	–	–	–	–	1
G	105	–	–	–	144	D	B (200 mA)	1
G	106	–	–	–	–	–	–	1
G	107	E5	E	C (200 mA)	145	D	B (200 mA)	1
G	108	–	–	–	–	–	–	1
G	109	–	–	–	–	–	–	1
G	110	E3	E	C (200 mA)	146	D	B (200 mA)	1
G	111	–	–	–	–	–	–	1
G	112	–	–	–	–	–	–	1
H	113	G2	G	D (200 mA)	135	D	C (200 mA)	1
H	114	–	–	–	–	–	–	1
H	115	–	–	–	136	D	C (200 mA)	1
H	116	–	–	–	–	–	–	1
H	117	G1	G	D (200 mA)	137	D	C (200 mA)	1
H	118	–	–	–	–	–	–	1
H	119	–	–	–	–	–	–	1
H	120	–	–	–	–	–	–	1
H	121	–	–	–	–	–	–	1
H	122	–	–	–	–	–	–	1
H	123	F4	F	D (200 mA)	138	D	C (200 mA)	1
H	124	–	–	–	–	–	–	1
H	125	–	–	–	–	–	–	1
H	126	–	–	–	139	D	C (200 mA)	1
H	127	–	–	–	–	–	–	1
H	128	F3	F	D (200 mA)	140	D	C (200 mA)	1
I	129	G6	H	D (200 mA)	–	–	–	1
I	130	–	–	–	–	–	–	1
I	131	–	–	–	129	E	C (200 mA)	1
I	132	–	–	–	–	–	–	1
I	133	J4	H	D (200 mA)	130 (1)	E	C (200 mA)	1
I	134	–	–	–	–	–	–	1
I	135	–	–	–	–	–	–	1

LAB	MC	169-Pin Ultra FineLine BGA	IOGND Group for 169-Pin Ultra FineLine BGA (200 mA)	IOVCC Group for 169-Pin Ultra FineLine BGA	208-Pin PQFP (4)	IOGND Group for 208-Pin PQFP (200 mA)	IOVCC Group for 208-Pin PQFP	I/O Bank
I	136	–	–	–	–	–	–	1
I	137	–	–	–	131	E	C (200 mA)	1
I	138	–	–	–	–	–	–	1
I	139	G5	H	D (200 mA)	–	–	–	1
I	140	–	–	–	–	–	–	1
I	141	–	–	–	–	–	–	1
I	142	–	–	–	132	E	C (200 mA)	1
I	143	–	–	–	–	–	–	1
I	144	G3	H	D (200 mA)	133	E	C (200 mA)	1
J	145	–	–	–	122	E	D (200 mA)	1
J	146	–	–	–	–	–	–	1
J	147	–	–	–	–	–	–	1
J	148	–	–	–	–	–	–	1
J	149	J2	H	E (200 mA)	123	E	D (200 mA)	1
J	150	–	–	–	–	–	–	1
J	151	–	–	–	–	–	–	1
J	152	–	–	–	–	–	–	1
J	153	H4	H	E (200 mA)	124	E	D (200 mA)	1
J	154	–	–	–	–	–	–	1
J	155	H3	H	D (200 mA)	126	E	C (200 mA)	1
J	156	–	–	–	–	–	–	1
J	157	–	–	–	–	–	–	1
J	158	H2	H	D (200 mA)	127 (1)	E	C (200 mA)	1
J	159	–	–	–	–	–	–	1
J	160	G7	H	D (200 mA)	128 (2)	E	C (200 mA)	1
K	161	K4	I	E (200 mA)	115	F	D (200 mA)	1
K	162	–	–	–	–	–	–	1
K	163	–	–	–	117	E	D (200 mA)	1
K	164	–	–	–	–	–	–	1
K	165	K1	H	E (200 mA)	118	E	D (200 mA)	1
K	166	–	–	–	–	–	–	1
K	167	–	–	–	–	–	–	1
K	168	–	–	–	–	–	–	1
K	169	J5	H	E (200 mA)	119	E	D (200 mA)	1
K	170	–	–	–	–	–	–	1
K	171	–	–	–	–	–	–	1
K	172	–	–	–	–	–	–	1
K	173	–	–	–	–	–	–	1
K	174	–	–	–	120	E	D (200 mA)	1
K	175	–	–	–	–	–	–	1
K	176	J3	H	E (200 mA)	121	E	D (200 mA)	1
L	177	L1	J	E (200 mA)	109	F	D (200 mA)	1
L	178	–	–	–	–	–	–	1
L	179	–	–	–	–	–	–	1
L	180	–	–	–	–	–	–	1

LAB	MC	169-Pin Ultra FineLine BGA	IOGND Group for 169-Pin Ultra FineLine BGA (200 mA)	IOVCC Group for 169-Pin Ultra FineLine BGA	208-Pin PQFP (4)	IOGND Group for 208-Pin PQFP (200 mA)	IOVCC Group for 208-Pin PQFP	I/O Bank
L	181	L2	I	E (200 mA)	110	F	D (200 mA)	1
L	182	–	–	–	–	–	–	1
L	183	–	–	–	–	–	–	1
L	184	–	–	–	–	–	–	1
L	185	–	–	–	111	F	D (200 mA)	1
L	186	–	–	–	–	–	–	1
L	187	–	–	–	112	F	D (200 mA)	1
L	188	–	–	–	–	–	–	1
L	189	–	–	–	–	–	–	1
L	190	K2	I	E (200 mA)	113	F	D (200 mA)	1
L	191	–	–	–	–	–	–	1
L	192	K3	I	E (200 mA)	114	F	D (200 mA)	1
M	193	–	–	–	101	F	F (200 mA)	1
M	194	–	–	–	–	–	–	1
M	195	–	–	–	–	–	–	1
M	196	–	–	–	–	–	–	1
M	197	M3	J	E (200 mA)	102	F	F (200 mA)	1
M	198	–	–	–	–	–	–	1
M	199	–	–	–	–	–	–	1
M	200	–	–	–	–	–	–	1
M	201	M2	J	G (200 mA)	103	F	F (200 mA)	1
M	202	–	–	–	–	–	–	1
M	203	–	–	–	104	F	F (200 mA)	1
M	204	–	–	–	–	–	–	1
M	205	–	–	–	–	–	–	1
M	206	N1	J	F (200 mA)	106	F	E (200 mA)	1
M	207	–	–	–	–	–	–	1
M	208	M1	J	E (200 mA)	108	F	D (200 mA)	1
N	209	N5	J	G (200 mA)	95	F	F (200 mA)	1
N	210	–	–	–	–	–	–	1
N	211	–	–	–	–	–	–	1
N	212	–	–	–	–	–	–	1
N	213	L4	J	G (200 mA)	96	F	F (200 mA)	1
N	214	–	–	–	–	–	–	1
N	215	–	–	–	–	–	–	1
N	216	–	–	–	–	–	–	1
N	217	M4	J	G (200 mA)	97	F	F (200 mA)	1
N	218	–	–	–	–	–	–	1
N	219	N4	J	G (200 mA)	98	F	F (200 mA)	1
N	220	–	–	–	–	–	–	1
N	221	–	–	–	–	–	–	1
N	222	–	–	–	99	F	F (200 mA)	1
N	223	–	–	–	–	–	–	1
N	224	L3	J	G (200 mA)	100	F	F (200 mA)	1
O	225	M6	K	G (200 mA)	88	G	F (200 mA)	1

LAB	MC	169-Pin Ultra FineLine BGA	IOGND Group for 169-Pin Ultra FineLine BGA (200 mA)	IOVCC Group for 169-Pin Ultra FineLine BGA	208-Pin PQFP (4)	IOGND Group for 208-Pin PQFP (200 mA)	IOVCC Group for 208-Pin PQFP	I/O Bank
O	226	–	–	–	–	–	–	1
O	227	N6	K	G (200 mA)	89	G	F (200 mA)	1
O	228	–	–	–	–	–	–	1
O	229	K5	K	G (200 mA)	90	G	F (200 mA)	1
O	230	–	–	–	–	–	–	1
O	231	–	–	–	–	–	–	1
O	232	–	–	–	–	–	–	1
O	233	–	–	–	91	G	F (200 mA)	1
O	234	–	–	–	–	–	–	1
O	235	L5	K	G (200 mA)	92	G	F (200 mA)	1
O	236	–	–	–	–	–	–	1
O	237	–	–	–	–	–	–	1
O	238	–	–	–	–	–	–	1
O	239	–	–	–	–	–	–	1
O	240	M5	K	G (200 mA)	93	G	F (200 mA)	1
P	241	H6	K	H (58 mA)	79	G	G (58 mA)	1
P	242	–	–	–	–	–	–	1
P	243	–	–	–	–	–	–	1
P	244	–	–	–	–	–	–	1
P	245	–	–	–	80	G	G (58 mA)	1
P	246	–	–	–	–	–	–	1
P	247	–	–	–	–	–	–	1
P	248	–	–	–	–	–	–	1
P	249	J6	K	H (58 mA)	81	G	G (58 mA)	1
P	250	–	–	–	–	–	–	1
P	251	–	–	–	84	G	G (58 mA)	1
P	252	–	–	–	–	–	–	1
P	253	–	–	–	–	–	–	1
P	254	K6	K	G (200 mA)	86	G	F (200 mA)	1
P	255	–	–	–	–	–	–	1
P	256	L6	K	G (200 mA)	87	G	F (200 mA)	1
Q	257	K7	K	H (58 mA)	78	G	G (58 mA)	1
Q	258	–	–	–	–	–	–	1
Q	259	–	–	–	–	–	–	1
Q	260	–	–	–	–	–	–	1
Q	261	–	–	–	77	G	G (58 mA)	1
Q	262	–	–	–	–	–	–	1
Q	263	–	–	–	–	–	–	1
Q	264	–	–	–	–	–	–	1
Q	265	L7	K	H (58 mA)	76	G	G (58 mA)	1
Q	266	–	–	–	–	–	–	1
Q	267	–	–	–	73	G	H (100 mA)	2
Q	268	–	–	–	–	–	–	2
Q	269	–	–	–	–	–	–	2
Q	270	H8	L	I (100 mA)	71	H	H (100 mA)	2

LAB	MC	169-Pin Ultra FineLine BGA	IOGND Group for 169-Pin Ultra FineLine BGA (200 mA)	IOVCC Group for 169-Pin Ultra FineLine BGA	208-Pin PQFP (4)	IOGND Group for 208-Pin PQFP (200 mA)	IOVCC Group for 208-Pin PQFP	I/O Bank
Q	271	–	–	–	–	–	–	2
Q	272	J8	–	I (100 mA)	70	H	H (100 mA)	2
R	273	K8	L	I (100 mA)	69	H	H (100 mA)	2
R	274	–	–	–	–	–	–	2
R	275	L8	L	I (100 mA)	68	H	H (100 mA)	2
R	276	–	–	–	–	–	–	2
R	277	–	–	–	67	H	H (100 mA)	2
R	278	–	–	–	–	–	–	2
R	279	–	–	–	–	–	–	2
R	280	–	–	–	–	–	–	2
R	281	–	–	–	66	H	H (100 mA)	2
R	282	–	–	–	–	–	–	2
R	283	M8	L	I (100 mA)	65	H	H (100 mA)	2
R	284	–	–	–	–	–	–	2
R	285	–	–	–	–	–	–	2
R	286	–	–	–	–	–	–	2
R	287	–	–	–	–	–	–	2
R	288	N8	L	I (200 mA)	64	H	H (100 mA)	2
S	289	K9	L	J (200 mA)	62	H	I (200 mA)	2
S	290	–	–	–	–	–	–	2
S	291	–	–	–	–	–	–	2
S	292	–	–	–	–	–	–	2
S	293	L9	L	J (200 mA)	61	H	I (200 mA)	2
S	294	–	–	–	–	–	–	2
S	295	–	–	–	–	–	–	2
S	296	–	–	–	–	–	–	2
S	297	M9	L	J (200 mA)	60	H	I (200 mA)	2
S	298	–	–	–	–	–	–	2
S	299	N9	L	J (200 mA)	59	H	I (200 mA)	2
S	300	–	–	–	–	–	–	2
S	301	–	–	–	–	–	–	2
S	302	–	–	–	58	H	I (200 mA)	2
S	303	–	–	–	–	–	–	2
S	304	L10	L	J (200 mA)	57	H	I (200 mA)	2
T	305	M10	L	J (200 mA)	56	H	I (200 mA)	2
T	306	–	–	–	–	–	–	2
T	307	–	–	–	–	–	–	2
T	308	–	–	–	–	–	–	2
T	309	–	–	–	55	H	I (200 mA)	2
T	310	–	–	–	–	–	–	2
T	311	–	–	–	–	–	–	2
T	312	–	–	–	–	–	–	2
T	313	N10	L	J (200 mA)	54	H	I (200 mA)	2
T	314	–	–	–	–	–	–	2
T	315	L11	L	J (200 mA)	53	H	I (200 mA)	2

LAB	MC	169-Pin Ultra FineLine BGA	IOGND Group for 169-Pin Ultra FineLine BGA (200 mA)	IOVCC Group for 169-Pin Ultra FineLine BGA	208-Pin PQFP (4)	IOGND Group for 208-Pin PQFP (200 mA)	IOVCC Group for 208-Pin PQFP	I/O Bank
T	316	–	–	–	–	–	–	2
T	317	–	–	–	–	–	–	2
T	318	M11	L	K (200 mA)	52	H	I (200 mA)	2
T	319	–	–	–	–	–	–	2
T	320	N13	M	K (200 mA)	49	I	I (200 mA)	2
U	321	M12	M	K (200 mA)	48	I	I (200 mA)	2
U	322	–	–	–	–	–	–	2
U	323	–	–	–	–	–	–	2
U	324	–	–	–	–	–	–	2
U	325	–	–	–	47	I	I (200 mA)	2
U	326	–	–	–	–	–	–	2
U	327	–	–	–	–	–	–	2
U	328	–	–	–	–	–	–	2
U	329	M13	M	L (200 mA)	46	I	I (200 mA)	2
U	330	–	–	–	–	–	–	2
U	331	–	–	–	45	I	I (200 mA)	2
U	332	–	–	–	–	–	–	2
U	333	–	–	–	–	–	–	2
U	334	L12	M	L (200 mA)	44	I	I (200 mA)	2
U	335	–	–	–	–	–	–	2
U	336	L13	M	L (200 mA)	43	I	I (200 mA)	2
V	337	K10	M	L (200 mA)	42	I	I (200 mA)	2
V	338	–	–	–	–	–	–	2
V	339	K11	M	M (200 mA)	40	I	J (200 mA)	2
V	340	–	–	–	–	–	–	2
V	341	–	–	–	39	I	J (200 mA)	2
V	342	–	–	–	–	–	–	2
V	343	–	–	–	–	–	–	2
V	344	–	–	–	–	–	–	2
V	345	K12	M	M (200 mA)	38	I	J (200 mA)	2
V	346	–	–	–	–	–	–	2
V	347	–	–	–	–	–	–	2
V	348	–	–	–	–	–	–	2
V	349	–	–	–	–	–	–	2
V	350	K13	M	M (200 mA)	37	I	J (200 mA)	2
V	351	–	–	–	–	–	–	2
V	352	–	–	–	36	I	J (200 mA)	2
W	353	J9	M	M (200 mA)	35	I	J (200 mA)	2
W	354	–	–	–	–	–	–	2
W	355	–	–	–	–	–	–	2
W	356	–	–	–	–	–	–	2
W	357	G10	M	M (200 mA)	34	I	J (200 mA)	2
W	358	–	–	–	–	–	–	2
W	359	–	–	–	–	–	–	2
W	360	–	–	–	–	–	–	2

LAB	MC	169-Pin Ultra FineLine BGA	IOGND Group for 169-Pin Ultra FineLine BGA (200 mA)	IOVCC Group for 169-Pin Ultra FineLine BGA	208-Pin PQFP (4)	IOGND Group for 208-Pin PQFP (200 mA)	IOVCC Group for 208-Pin PQFP	I/O Bank
W	361	J11	M	M (200 mA)	33	I	J (200 mA)	2
W	362	–	–	–	–	–	–	2
W	363	J12	N	M (200 mA)	31	J	J (200 mA)	2
W	364	–	–	–	–	–	–	2
W	365	–	–	–	–	–	–	2
W	366	H10	N	M (200 mA)	30 (1)	J	J (200 mA)	2
W	367	–	–	–	–	–	–	2
W	368	H11	N	M (200 mA)	29	J	J (200 mA)	2
X	369	J10	N	M (200 mA)	–	–	–	2
X	370	–	–	–	–	–	–	2
X	371	–	–	–	28	J	J (200 mA)	2
X	372	–	–	–	–	–	–	2
X	373	H12	N	M (200 mA)	27	J	J (200 mA)	2
X	374	–	–	–	–	–	–	2
X	375	–	–	–	–	–	–	2
X	376	–	–	–	–	–	–	2
X	377	–	–	–	26	J	J (200 mA)	2
X	378	–	–	–	–	–	–	2
X	379	G11	N	M (200 mA)	–	–	–	2
X	380	–	–	–	–	–	–	2
X	381	–	–	–	–	–	–	2
X	382	–	–	–	25	J	J (200 mA)	2
X	383	–	–	–	–	–	–	2
X	384	G12	N	M (200 mA)	24	J	J (200 mA)	2
Y	385	G13	N	N (200 mA)	22 (2)	J	K (200 mA)	2
Y	386	–	–	–	–	–	–	2
Y	387	–	–	–	21	J	K (200 mA)	2
Y	388	–	–	–	–	–	–	2
Y	389	G9	N	N (200 mA)	20	J	K (200 mA)	2
Y	390	–	–	–	–	–	–	2
Y	391	–	–	–	–	–	–	2
Y	392	–	–	–	–	–	–	2
Y	393	–	–	–	–	–	–	2
Y	394	–	–	–	–	–	–	2
Y	395	G8	N	N (200 mA)	19	J	K (200 mA)	2
Y	396	–	–	–	–	–	–	2
Y	397	–	–	–	–	–	–	2
Y	398	–	–	–	18	J	K (200 mA)	2
Y	399	–	–	–	–	–	–	2
Y	400	F12	N	N (200 mA)	17	J	K (200 mA)	2
Z	401	F11	N	N (200 mA)	–	–	–	2
Z	402	–	–	–	–	–	–	2
Z	403	–	–	–	16	J	K (200 mA)	2
Z	404	–	–	–	–	–	–	2
Z	405	E12	N	N (200 mA)	15	J	K (200 mA)	2

LAB	MC	169-Pin Ultra FineLine BGA	IOGND Group for 169-Pin Ultra FineLine BGA (200 mA)	IOVCC Group for 169-Pin Ultra FineLine BGA	208-Pin PQFP (4)	IOGND Group for 208-Pin PQFP (200 mA)	IOVCC Group for 208-Pin PQFP	I/O Bank
Z	406	–	–	–	–	–	–	2
Z	407	–	–	–	–	–	–	2
Z	408	–	–	–	–	–	–	2
Z	409	E11	O	O (200 mA)	13	K	K (200 mA)	2
Z	410	–	–	–	–	–	–	2
Z	411	–	–	–	12	K	K (200 mA)	2
Z	412	–	–	–	–	–	–	2
Z	413	–	–	–	–	–	–	2
Z	414	F10	O	O (200 mA)	11	K	K (200 mA)	2
Z	415	–	–	–	–	–	–	2
Z	416	–	–	–	–	–	–	2
AA	417	–	–	–	10	K	K (200 mA)	2
AA	418	–	–	–	–	–	–	2
AA	419	–	–	–	9	K	K (200 mA)	2
AA	420	–	–	–	–	–	–	2
AA	421	E9	O	O (200 mA)	8	K	K (200 mA)	2
AA	422	–	–	–	–	–	–	2
AA	423	–	–	–	–	–	–	2
AA	424	–	–	–	–	–	–	2
AA	425	–	–	–	–	–	–	2
AA	426	–	–	–	–	–	–	2
AA	427	D10	O	O (200 mA)	7	K	K (200 mA)	2
AA	428	–	–	–	–	–	–	2
AA	429	–	–	–	–	–	–	2
AA	430	D11	O	O (200 mA)	6	K	K (200 mA)	2
AA	431	–	–	–	–	–	–	2
AA	432	D12	O	P (200 mA)	–	–	–	2
BB	433	–	–	–	–	–	–	2
BB	434	–	–	–	–	–	–	2
BB	435	D13	O	P (200 mA)	4	K	L (200 mA)	2
BB	436	–	–	–	–	–	–	2
BB	437	C12	O	P (200 mA)	–	–	–	2
BB	438	–	–	–	–	–	–	2
BB	439	–	–	–	–	–	–	2
BB	440	–	–	–	–	–	–	2
BB	441	C13	O	P (200 mA)	3	K	L (200 mA)	2
BB	442	–	–	–	–	–	–	2
BB	443	B13	O	P (200 mA)	2	K	L (200 mA)	2
BB	444	–	–	–	–	–	–	2
BB	445	–	–	–	–	–	–	2
BB	446	E10	O	P (200 mA)	1	K	L (200 mA)	2
BB	447	–	–	–	–	–	–	2
BB	448	A13	P	P (200 mA)	208	K	L (200 mA)	2
CC	449	–	–	–	–	–	–	2
CC	450	–	–	–	–	–	–	2

LAB	MC	169-Pin Ultra FineLine BGA	IOGND Group for 169-Pin Ultra FineLine BGA (200 mA)	IOVCC Group for 169-Pin Ultra FineLine BGA	208-Pin PQFP (4)	IOGND Group for 208-Pin PQFP (200 mA)	IOVCC Group for 208-Pin PQFP	I/O Bank
CC	451	–	–	–	–	–	–	2
CC	452	–	–	–	–	–	–	2
CC	453	–	–	–	–	–	–	2
CC	454	–	–	–	–	–	–	2
CC	455	–	–	–	–	–	–	2
CC	456	–	–	–	–	–	–	2
CC	457	B12	P	Q (200 mA)	206	K	M (200 mA)	2
CC	458	–	–	–	–	–	–	2
CC	459	–	–	–	205	K	M (200 mA)	2
CC	460	–	–	–	–	–	–	2
CC	461	–	–	–	–	–	–	2
CC	462	C11	P	Q (200 mA)	204	K	M (200 mA)	2
CC	463	–	–	–	–	–	–	2
CC	464	B11	P	Q (200 mA)	203	K	M (200 mA)	2
DD	465	–	–	–	202	K	M (200 mA)	2
DD	466	–	–	–	–	–	–	2
DD	467	–	–	–	–	–	–	2
DD	468	–	–	–	–	–	–	2
DD	469	C10	P	Q (200 mA)	201	K	M (200 mA)	2
DD	470	–	–	–	–	–	–	2
DD	471	–	–	–	–	–	–	2
DD	472	–	–	–	–	–	–	2
DD	473	B10	P	Q (200 mA)	199	A	M (200 mA)	2
DD	474	–	–	–	–	–	–	2
DD	475	–	–	–	198	A	M (200 mA)	2
DD	476	–	–	–	–	–	–	2
DD	477	–	–	–	–	–	–	2
DD	478	A10	P	Q (200 mA)	197	A	M (200 mA)	2
DD	479	–	–	–	–	–	–	2
DD	480	–	–	–	–	–	–	2
EE	481	–	–	–	196	A	M (200 mA)	2
EE	482	–	–	–	–	–	–	2
EE	483	–	–	–	–	–	–	2
EE	484	–	–	–	–	–	–	2
EE	485	D9	P	Q (200 mA)	195	A	M (200 mA)	2
EE	486	–	–	–	–	–	–	2
EE	487	–	–	–	–	–	–	2
EE	488	–	–	–	–	–	–	2
EE	489	C9	P	Q (200 mA)	194	A	M (200 mA)	2
EE	490	–	–	–	–	–	–	2
EE	491	B9	P	R (100 mA)	193	A	M (200 mA)	2
EE	492	–	–	–	–	–	–	2
EE	493	–	–	–	–	–	–	2
EE	494	A9	P	R (100 mA)	–	–	–	2
EE	495	–	–	–	–	–	–	2

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 169-Pin Ultra FineLine BGA and 208-Pin PQFP
 ver. 1.0

LAB	MC	169-Pin Ultra FineLine BGA	IOGND Group for 169-Pin Ultra FineLine BGA (200 mA)	IOVCC Group for 169-Pin Ultra FineLine BGA	208-Pin PQFP (4)	IOGND Group for 208-Pin PQFP (200 mA)	IOVCC Group for 208-Pin PQFP	I/O Bank
EE	496	–	–	–	–	–	–	2
FF	497	F8	P	R (100 mA)	192	A	M (200 mA)	2
FF	498	–	–	–	–	–	–	2
FF	499	–	–	–	–	–	–	2
FF	500	–	–	–	–	–	–	2
FF	501	–	–	–	–	–	–	2
FF	502	–	–	–	–	–	–	2
FF	503	–	–	–	–	–	–	2
FF	504	–	–	–	–	–	–	2
FF	505	C8	A	R (100 mA)	190	A	N (100 mA)	2
FF	506	–	–	–	–	–	–	2
FF	507	B8	A	R (100 mA)	189 (1)	A	N (100 mA)	2
FF	508	–	–	–	–	–	–	2
FF	509	–	–	–	–	–	–	2
FF	510	A8	A	R (100 mA)	188	A	N (100 mA)	2
FF	511	–	–	–	–	–	–	2
FF	512	F7	A	R (100 mA)	187	A	N (100 mA)	2

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 256-Pin BGA and 256-Pin FineLine BGA
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LAB	MC	256-Pin BGA	IOGND Group for 256-Pin BGA (200 mA)	IOVCC Group for 256-Pin BGA	256-Pin FineLine BGA	IOGND Group for 256-Pin FineLine BGA (200 mA)	IOVCC Group for 256-Pin FineLine BGA	I/O Bank
A	1	H3	B	B (200 mA)	D7	B	B (200 mA)	1
A	2	–	–	–	–	–	–	1
A	3	–	–	–	–	–	–	1
A	4	–	–	–	–	–	–	1
A	5	H2	B	B (200 mA)	C7	B	B (200 mA)	1
A	6	–	–	–	–	–	–	1
A	7	–	–	–	–	–	–	1
A	8	–	–	–	–	–	–	1
A	9	H1	A	A (100 mA)	B7	A	A (100 mA)	1
A	10	–	–	–	–	–	–	1
A	11	J4	A	A (100 mA)	A7	A	A (100 mA)	1
A	12	–	–	–	–	–	–	1
A	13	–	–	–	–	–	–	1
A	14	J3	A	A (100 mA)	F8	A	A (100 mA)	1
A	15	–	–	–	–	–	–	1
A	16	J2	A	A (100 mA)	B8	A	A (100 mA)	1
B	17	G4	C	B (200 mA)	D6	C	B (200 mA)	1
B	18	–	–	–	–	–	–	1
B	19	–	–	–	–	–	–	1
B	20	–	–	–	–	–	–	1
B	21	F1	C	B (200 mA)	C6	C	B (200 mA)	1
B	22	–	–	–	–	–	–	1
B	23	–	–	–	–	–	–	1
B	24	–	–	–	–	–	–	1
B	25	G3	C	B (200 mA)	B6	C	B (200 mA)	1
B	26	–	–	–	–	–	–	1
B	27	G2	C	B (200 mA)	A6	C	B (200 mA)	1
B	28	–	–	–	–	–	–	1
B	29	–	–	–	–	–	–	1
B	30	G1	B	B (200 mA)	F7	B	B (200 mA)	1
B	31	–	–	–	–	–	–	1
B	32	H4	B	B (200 mA)	E7	B	B (200 mA)	1
C	33	F4	C	C (200 mA)	E4	C	C (200 mA)	1
C	34	–	–	–	–	–	–	1
C	35	–	–	–	–	–	–	1
C	36	–	–	–	–	–	–	1
C	37	E3	C	C (200 mA)	C5	C	C (200 mA)	1
C	38	–	–	–	–	–	–	1
C	39	–	–	–	–	–	–	1
C	40	–	–	–	–	–	–	1
C	41	E2	C	B (200 mA)	A5	C	B (200 mA)	1
C	42	–	–	–	–	–	–	1
C	43	F3	C	B (200 mA)	D5	C	B (200 mA)	1
C	44	–	–	–	–	–	–	1

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 256-Pin BGA and 256-Pin FineLine BGA
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LAB	MC	256-Pin BGA	IOGND Group for 256-Pin BGA (200 mA)	IOVCC Group for 256-Pin BGA	256-Pin FineLine BGA	IOGND Group for 256-Pin FineLine BGA (200 mA)	IOVCC Group for 256-Pin FineLine BGA	I/O Bank
C	45	–	–	–	–	–	–	1
C	46	E1	C	B (200 mA)	E5	C	B (200 mA)	1
C	47	–	–	–	–	–	–	1
C	48	F2	C	B (200 mA)	E6	C	B (200 mA)	1
D	49	B3	D	D (200 mA)	B2	D	D (200 mA)	1
D	50	–	–	–	–	–	–	1
D	51	–	–	–	–	–	–	1
D	52	–	–	–	–	–	–	1
D	53	C2	D	D (200 mA)	A2	D	D (200 mA)	1
D	54	–	–	–	–	–	–	1
D	55	–	–	–	–	–	–	1
D	56	–	–	–	–	–	–	1
D	57	B1	C	C (200 mA)	B4	C	C (200 mA)	1
D	58	–	–	–	–	–	–	1
D	59	C1	C	C (200 mA)	A4	C	C (200 mA)	1
D	60	–	–	–	–	–	–	1
D	61	–	–	–	–	–	–	1
D	62	D2	C	C (200 mA)	C4	C	C (200 mA)	1
D	63	–	–	–	–	–	–	1
D	64	D1	C	C (200 mA)	C3	C	C (200 mA)	1
E	65	B5	E	D (200 mA)	E3	E	D (200 mA)	1
E	66	–	–	–	–	–	–	1
E	67	C5	E	D (200 mA)	C1	E	D (200 mA)	1
E	68	–	–	–	–	–	–	1
E	69	D6	E	D (200 mA)	B1	E	D (200 mA)	1
E	70	–	–	–	–	–	–	1
E	71	–	–	–	–	–	–	1
E	72	–	–	–	–	–	–	1
E	73	A4	E	D (200 mA)	A1	E	D (200 mA)	1
E	74	–	–	–	–	–	–	1
E	75	B4	E	D (200 mA)	D2	E	D (200 mA)	1
E	76	–	–	–	–	–	–	1
E	77	–	–	–	–	–	–	1
E	78	A3	E	D (200 mA)	D3	E	D (200 mA)	1
E	79	–	–	–	–	–	–	1
E	80	A2 (1)	E	D (200 mA)	D4 (1)	E	D (200 mA)	1
F	81	B7	F	D (200 mA)	F2	F	D (200 mA)	1
F	82	–	–	–	–	–	–	1
F	83	C7	F	D (200 mA)	F3	F	D (200 mA)	1
F	84	–	–	–	–	–	–	1
F	85	A6	F	D (200 mA)	F1	F	D (200 mA)	1
F	86	–	–	–	–	–	–	1
F	87	–	–	–	–	–	–	1
F	88	–	–	–	–	–	–	1

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 256-Pin BGA and 256-Pin FineLine BGA
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LAB	MC	256-Pin BGA	IOGND Group for 256-Pin BGA (200 mA)	IOVCC Group for 256-Pin BGA	256-Pin FineLine BGA	IOGND Group for 256-Pin FineLine BGA (200 mA)	IOVCC Group for 256-Pin FineLine BGA	I/O Bank
F	89	D7	F	D (200 mA)	F4	F	D (200 mA)	1
F	90	–	–	–	–	–	–	1
F	91	B6	F	D (200 mA)	E1	F	D (200 mA)	1
F	92	–	–	–	–	–	–	1
F	93	–	–	–	–	–	–	1
F	94	A5	F	D (200 mA)	D1	F	D (200 mA)	1
F	95	–	–	–	–	–	–	1
F	96	C6	E	D (200 mA)	E2	E	D (200 mA)	1
G	97	C9	G	E (200 mA)	H6	G	E (200 mA)	1
G	98	–	–	–	–	–	–	1
G	99	D9	G	E (200 mA)	G5	G	E (200 mA)	1
G	100	–	–	–	–	–	–	1
G	101	A8	G	E (200 mA)	G4	G	E (200 mA)	1
G	102	–	–	–	–	–	–	1
G	103	–	–	–	–	–	–	1
G	104	–	–	–	–	–	–	1
G	105	B8	F	D (200 mA)	G2	F	D (200 mA)	1
G	106	–	–	–	–	–	–	1
G	107	C8	F	D (200 mA)	G1	F	D (200 mA)	1
G	108	–	–	–	–	–	–	1
G	109	–	–	–	–	–	–	1
G	110	D8	F	D (200 mA)	G6	F	D (200 mA)	1
G	111	–	–	–	–	–	–	1
G	112	A7	F	D (200 mA)	F5	F	D (200 mA)	1
H	113	A11	H	E (200 mA)	J1	H	E (200 mA)	1
H	114	–	–	–	–	–	–	1
H	115	A10	H	E (200 mA)	H7	H	E (200 mA)	1
H	116	–	–	–	–	–	–	1
H	117	B10	H	E (200 mA)	H5	H	E (200 mA)	1
H	118	–	–	–	–	–	–	1
H	119	–	–	–	–	–	–	1
H	120	–	–	–	–	–	–	1
H	121	D10	H	E (200 mA)	H2	H	E (200 mA)	1
H	122	–	–	–	–	–	–	1
H	123	C10	G	E (200 mA)	H3	G	E (200 mA)	1
H	124	–	–	–	–	–	–	1
H	125	–	–	–	–	–	–	1
H	126	A9	G	E (200 mA)	H1	G	E (200 mA)	1
H	127	–	–	–	–	–	–	1
H	128	B9	G	E (200 mA)	H4	G	E (200 mA)	1
I	129	D12	I	E (200 mA)	K1	I	E (200 mA)	1
I	130	–	–	–	–	–	–	1
I	131	C12 (2)	I	E (200 mA)	J7	I	E (200 mA)	1
I	132	–	–	–	–	–	–	1

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 256-Pin BGA and 256-Pin FineLine BGA
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LAB	MC	256-Pin BGA	IOGND Group for 256-Pin BGA (200 mA)	IOVCC Group for 256-Pin BGA	256-Pin FineLine BGA	IOGND Group for 256-Pin FineLine BGA (200 mA)	IOVCC Group for 256-Pin FineLine BGA	I/O Bank
I	133	B12 (1)	I	E (200 mA)	J6 (1)	I	E (200 mA)	1
I	134	–	–	–	–	–	–	1
I	135	–	–	–	–	–	–	1
I	136	–	–	–	–	–	–	1
I	137	A12	I	E (200 mA)	J5	I	E (200 mA)	1
I	138	–	–	–	–	–	–	1
I	139	D11	I	E (200 mA)	J4 (2)	I	E (200 mA)	1
I	140	–	–	–	–	–	–	1
I	141	–	–	–	–	–	–	1
I	142	C11	I	E (200 mA)	J3	I	E (200 mA)	1
I	143	–	–	–	–	–	–	1
I	144	B11	I	E (200 mA)	J2	I	E (200 mA)	1
J	145	C14	I	F (200 mA)	L2	I	F (200 mA)	1
J	146	–	–	–	–	–	–	1
J	147	B14	I	F (200 mA)	L1	I	F (200 mA)	1
J	148	–	–	–	–	–	–	1
J	149	A14	I	F (200 mA)	K6	I	F (200 mA)	1
J	150	–	–	–	–	–	–	1
J	151	–	–	–	–	–	–	1
J	152	–	–	–	–	–	–	1
J	153	D13	I	F (200 mA)	K5	I	F (200 mA)	1
J	154	–	–	–	–	–	–	1
J	155	C13	I	E (200 mA)	K4	I	E (200 mA)	1
J	156	–	–	–	–	–	–	1
J	157	–	–	–	–	–	–	1
J	158	B13	I	E (200 mA)	K3	I	E (200 mA)	1
J	159	–	–	–	–	–	–	1
J	160	A13	I	E (200 mA)	K2	I	E (200 mA)	1
K	161	B16	J	F (200 mA)	N4	J	F (200 mA)	1
K	162	–	–	–	–	–	–	1
K	163	C15	I	F (200 mA)	M2	I	F (200 mA)	1
K	164	–	–	–	–	–	–	1
K	165	A17	I	F (200 mA)	M1	I	F (200 mA)	1
K	166	–	–	–	–	–	–	1
K	167	–	–	–	–	–	–	1
K	168	–	–	–	–	–	–	1
K	169	B15	I	F (200 mA)	M4	I	F (200 mA)	1
K	170	–	–	–	–	–	–	1
K	171	D14	I	F (200 mA)	M5	I	F (200 mA)	1
K	172	–	–	–	–	–	–	1
K	173	–	–	–	–	–	–	1
K	174	A16	I	F (200 mA)	L5	I	F (200 mA)	1
K	175	–	–	–	–	–	–	1
K	176	A15	I	F (200 mA)	L4	I	F (200 mA)	1

LAB	MC	256-Pin BGA	IOGND Group for 256-Pin BGA (200 mA)	IOVCC Group for 256-Pin BGA	256-Pin FineLine BGA	IOGND Group for 256-Pin FineLine BGA (200 mA)	IOVCC Group for 256-Pin FineLine BGA	I/O Bank
L	177	A20	K	F (200 mA)	R1	J	F (200 mA)	1
L	178	–	–	–	–	–	–	1
L	179	–	–	–	–	–	–	1
L	180	–	–	–	–	–	–	1
L	181	A19	J	F (200 mA)	P2	J	F (200 mA)	1
L	182	–	–	–	–	–	–	1
L	183	–	–	–	–	–	–	1
L	184	–	–	–	–	–	–	1
L	185	B17	J	F (200 mA)	N3	J	F (200 mA)	1
L	186	–	–	–	–	–	–	1
L	187	A18	J	F (200 mA)	N2	J	F (200 mA)	1
L	188	–	–	–	–	–	–	1
L	189	–	–	–	–	–	–	1
L	190	D15	J	F (200 mA)	P1	J	F (200 mA)	1
L	191	–	–	–	–	–	–	1
L	192	C16	J	F (200 mA)	N1	J	F (200 mA)	1
M	193	E18	K	H (200 mA)	P5	J	G (200 mA)	1
M	194	–	–	–	–	–	–	1
M	195	–	–	–	–	–	–	1
M	196	–	–	–	–	–	–	1
M	197	D20	K	H (200 mA)	N5	J	G (200 mA)	1
M	198	–	–	–	–	–	–	1
M	199	–	–	–	–	–	–	1
M	200	–	–	–	–	–	–	1
M	201	D19	K	H (200 mA)	T4	J	G (200 mA)	1
M	202	–	–	–	–	–	–	1
M	203	C20	K	H (200 mA)	R4	J	G (200 mA)	1
M	204	–	–	–	–	–	–	1
M	205	–	–	–	–	–	–	1
M	206	C19	K	G (200 mA)	P4	J	F (200 mA)	1
M	207	–	–	–	–	–	–	1
M	208	B18	K	F (200 mA)	P3	J	F (200 mA)	1
N	209	G17	K	I (200 mA)	R6	J	H (200 mA)	1
N	210	–	–	–	–	–	–	1
N	211	–	–	–	–	–	–	1
N	212	–	–	–	–	–	–	1
N	213	F19	K	I (200 mA)	T6	J	H (200 mA)	1
N	214	–	–	–	–	–	–	1
N	215	–	–	–	–	–	–	1
N	216	–	–	–	–	–	–	1
N	217	E20	K	I (200 mA)	N6	J	H (200 mA)	1
N	218	–	–	–	–	–	–	1
N	219	F18	K	I (200 mA)	M6	J	H (200 mA)	1
N	220	–	–	–	–	–	–	1

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LAB	MC	256-Pin BGA	IOGND Group for 256-Pin BGA (200 mA)	IOVCC Group for 256-Pin BGA	256-Pin FineLine BGA	IOGND Group for 256-Pin FineLine BGA (200 mA)	IOVCC Group for 256-Pin FineLine BGA	I/O Bank
N	221	–	–	–	–	–	–	1
N	222	E19	K	I (200 mA)	R5	J	H (200 mA)	1
N	223	–	–	–	–	–	–	1
N	224	F17	K	H (200 mA)	T5	J	G (200 mA)	1
O	225	H19	L	I (200 mA)	R7	K	H (200 mA)	1
O	226	–	–	–	–	–	–	1
O	227	H18	L	I (200 mA)	P7	K	H (200 mA)	1
O	228	–	–	–	–	–	–	1
O	229	H17	L	I (200 mA)	T7	K	H (200 mA)	1
O	230	–	–	–	–	–	–	1
O	231	–	–	–	–	–	–	1
O	232	–	–	–	–	–	–	1
O	233	G20	L	I (200 mA)	L8	K	H (200 mA)	1
O	234	–	–	–	–	–	–	1
O	235	G19	L	I (200 mA)	N7	K	H (200 mA)	1
O	236	–	–	–	–	–	–	1
O	237	–	–	–	–	–	–	1
O	238	G18	L	I (200 mA)	M7	K	H (200 mA)	1
O	239	–	–	–	–	–	–	1
O	240	F20	L	I (200 mA)	L7	K	H (200 mA)	1
P	241	K20	L	J (58 mA)	M9	K	I (58 mA)	1
P	242	–	–	–	–	–	–	1
P	243	–	–	–	–	–	–	1
P	244	–	–	–	–	–	–	1
P	245	K19	L	J (58 mA)	L9	K	I (58 mA)	1
P	246	–	–	–	–	–	–	1
P	247	–	–	–	–	–	–	1
P	248	–	–	–	–	–	–	1
P	249	K17	L	J (58 mA)	R8	K	I (58 mA)	1
P	250	–	–	–	–	–	–	1
P	251	J18	L	J (58 mA)	T8	K	I (58 mA)	1
P	252	–	–	–	–	–	–	1
P	253	–	–	–	–	–	–	1
P	254	J17	L	I (200 mA)	N8	K	H (200 mA)	1
P	255	–	–	–	–	–	–	1
P	256	H20	L	I (200 mA)	M8	K	H (200 mA)	1
Q	257	L20	L	J (58 mA)	N9	K	I (58 mA)	1
Q	258	–	–	–	–	–	–	1
Q	259	–	–	–	–	–	–	1
Q	260	–	–	–	–	–	–	1
Q	261	L19	L	J (58 mA)	T9	K	I (58 mA)	1
Q	262	–	–	–	–	–	–	1
Q	263	–	–	–	–	–	–	1
Q	264	–	–	–	–	–	–	1

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LAB	MC	256-Pin BGA	IOGND Group for 256-Pin BGA (200 mA)	IOVCC Group for 256-Pin BGA	256-Pin FineLine BGA	IOGND Group for 256-Pin FineLine BGA (200 mA)	IOVCC Group for 256-Pin FineLine BGA	I/O Bank
Q	265	L18	L	J (58 mA)	R9	K	I (58 mA)	1
Q	266	–	–	–	–	–	–	1
Q	267	M18	L	K (100 mA)	L10	K	J (100 mA)	2
Q	268	–	–	–	–	–	–	2
Q	269	–	–	–	–	–	–	2
Q	270	M17	M	K (100 mA)	M10	L	J (100 mA)	2
Q	271	–	–	–	–	–	–	2
Q	272	N20	M	K (100 mA)	N10	L	J (100 mA)	2
R	273	N19	M	K (100 mA)	R10	L	J (100 mA)	2
R	274	–	–	–	–	–	–	2
R	275	N18	M	K (100 mA)	T10	L	J (100 mA)	2
R	276	–	–	–	–	–	–	2
R	277	N17	N	K (100 mA)	M11	M	J (100 mA)	2
R	278	–	–	–	–	–	–	2
R	279	–	–	–	–	–	–	2
R	280	–	–	–	–	–	–	2
R	281	P20	N	K (100 mA)	N11	M	J (100 mA)	2
R	282	–	–	–	–	–	–	2
R	283	P19	N	K (100 mA)	P11	M	J (100 mA)	2
R	284	–	–	–	–	–	–	2
R	285	–	–	–	–	–	–	2
R	286	P18	N	K (100 mA)	R11	M	J (100 mA)	2
R	287	–	–	–	–	–	–	2
R	288	R20	N	K (100 mA)	T11	M	J (100 mA)	2
S	289	P17	N	L (200 mA)	K11	M	K (200 mA)	2
S	290	–	–	–	–	–	–	2
S	291	–	–	–	–	–	–	2
S	292	–	–	–	–	–	–	2
S	293	R19	N	L (200 mA)	M12	M	K (200 mA)	2
S	294	–	–	–	–	–	–	2
S	295	–	–	–	–	–	–	2
S	296	–	–	–	–	–	–	2
S	297	T20	N	L (200 mA)	N12	M	K (200 mA)	2
S	298	–	–	–	–	–	–	2
S	299	R18	N	L (200 mA)	T12	M	K (200 mA)	2
S	300	–	–	–	–	–	–	2
S	301	–	–	–	–	–	–	2
S	302	T19	N	L (200 mA)	R12	M	K (200 mA)	2
S	303	–	–	–	–	–	–	2
S	304	T18	N	L (200 mA)	T13	M	K (200 mA)	2
T	305	R17	N	L (200 mA)	P12	M	K (200 mA)	2
T	306	–	–	–	–	–	–	2
T	307	–	–	–	–	–	–	2
T	308	–	–	–	–	–	–	2

LAB	MC	256-Pin BGA	IOGND Group for 256-Pin BGA (200 mA)	IOVCC Group for 256-Pin BGA	256-Pin FineLine BGA	IOGND Group for 256-Pin FineLine BGA (200 mA)	IOVCC Group for 256-Pin FineLine BGA	I/O Bank
T	309	U20	N	L (200 mA)	T14	M	K (200 mA)	2
T	310	–	–	–	–	–	–	2
T	311	–	–	–	–	–	–	2
T	312	–	–	–	–	–	–	2
T	313	U19	N	L (200 mA)	P13	M	K (200 mA)	2
T	314	–	–	–	–	–	–	2
T	315	V20	N	L (200 mA)	R13	M	K (200 mA)	2
T	316	–	–	–	–	–	–	2
T	317	–	–	–	–	–	–	2
T	318	W20	N	M (200 mA)	R14	M	L (200 mA)	2
T	319	–	–	–	–	–	–	2
T	320	W18	O	M (200 mA)	R15	N	L (200 mA)	2
U	321	Y19	O	M (200 mA)	P15	N	L (200 mA)	2
U	322	–	–	–	–	–	–	2
U	323	–	–	–	–	–	–	2
U	324	–	–	–	–	–	–	2
U	325	Y18	O	N (200 mA)	N15	N	L (200 mA)	2
U	326	–	–	–	–	–	–	2
U	327	–	–	–	–	–	–	2
U	328	–	–	–	–	–	–	2
U	329	W17	O	N (200 mA)	T16	N	L (200 mA)	2
U	330	–	–	–	–	–	–	2
U	331	Y17	O	N (200 mA)	R16	N	L (200 mA)	2
U	332	–	–	–	–	–	–	2
U	333	–	–	–	–	–	–	2
U	334	U15	O	N (200 mA)	P16	N	L (200 mA)	2
U	335	–	–	–	–	–	–	2
U	336	V16	O	N (200 mA)	N14	N	L (200 mA)	2
V	337	W16	O	N (200 mA)	N16	N	L (200 mA)	2
V	338	–	–	–	–	–	–	2
V	339	V15	O	O (200 mA)	M14	N	M (200 mA)	2
V	340	–	–	–	–	–	–	2
V	341	Y16	O	O (200 mA)	N13	N	M (200 mA)	2
V	342	–	–	–	–	–	–	2
V	343	–	–	–	–	–	–	2
V	344	–	–	–	–	–	–	2
V	345	W15	O	O (200 mA)	M16	N	M (200 mA)	2
V	346	–	–	–	–	–	–	2
V	347	U14	O	O (200 mA)	M13	N	M (200 mA)	2
V	348	–	–	–	–	–	–	2
V	349	–	–	–	–	–	–	2
V	350	Y15	O	O (200 mA)	L14	N	M (200 mA)	2
V	351	–	–	–	–	–	–	2
V	352	V14	O	O (200 mA)	L15	N	M (200 mA)	2

LAB	MC	256-Pin BGA	IOGND Group for 256-Pin BGA (200 mA)	IOVCC Group for 256-Pin BGA	256-Pin FineLine BGA	IOGND Group for 256-Pin FineLine BGA (200 mA)	IOVCC Group for 256-Pin FineLine BGA	I/O Bank
W	353	W14	O	O (200 mA)	L16	N	M (200 mA)	2
W	354	–	–	–	–	–	–	2
W	355	Y14	O	O (200 mA)	L13	N	M (200 mA)	2
W	356	–	–	–	–	–	–	2
W	357	U13	O	O (200 mA)	L12	N	M (200 mA)	2
W	358	–	–	–	–	–	–	2
W	359	–	–	–	–	–	–	2
W	360	–	–	–	–	–	–	2
W	361	V13	O	O (200 mA)	K12	N	M (200 mA)	2
W	362	–	–	–	–	–	–	2
W	363	W13	P	O (200 mA)	K14	O	M (200 mA)	2
W	364	–	–	–	–	–	–	2
W	365	–	–	–	–	–	–	2
W	366	Y13	P	O (200 mA)	K15	O	M (200 mA)	2
W	367	–	–	–	–	–	–	2
W	368	U12	P	O (200 mA)	K16	O	M (200 mA)	2
X	369	V12 (1)	P	O (200 mA)	J11 (1)	O	M (200 mA)	2
X	370	–	–	–	–	–	–	2
X	371	W12	P	O (200 mA)	J12	O	M (200 mA)	2
X	372	–	–	–	–	–	–	2
X	373	Y12	P	O (200 mA)	J13	O	M (200 mA)	2
X	374	–	–	–	–	–	–	2
X	375	–	–	–	–	–	–	2
X	376	–	–	–	–	–	–	2
X	377	V11	P	O (200 mA)	J14	O	M (200 mA)	2
X	378	–	–	–	–	–	–	2
X	379	U11	P	O (200 mA)	J15	O	M (200 mA)	2
X	380	–	–	–	–	–	–	2
X	381	–	–	–	–	–	–	2
X	382	W11	P	O (200 mA)	K13	O	M (200 mA)	2
X	383	–	–	–	–	–	–	2
X	384	Y11	P	O (200 mA)	J16	O	M (200 mA)	2
Y	385	Y10	P	P (200 mA)	H10	O	N (200 mA)	2
Y	386	–	–	–	–	–	–	2
Y	387	W10	P	P (200 mA)	H11 (2)	O	N (200 mA)	2
Y	388	–	–	–	–	–	–	2
Y	389	V10 (2)	P	P (200 mA)	H12	O	N (200 mA)	2
Y	390	–	–	–	–	–	–	2
Y	391	–	–	–	–	–	–	2
Y	392	–	–	–	–	–	–	2
Y	393	U10	P	P (200 mA)	H15	O	N (200 mA)	2
Y	394	–	–	–	–	–	–	2
Y	395	Y9	P	P (200 mA)	H16	O	N (200 mA)	2
Y	396	–	–	–	–	–	–	2

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LAB	MC	256-Pin BGA	IOGND Group for 256-Pin BGA (200 mA)	IOVCC Group for 256-Pin BGA	256-Pin FineLine BGA	IOGND Group for 256-Pin FineLine BGA (200 mA)	IOVCC Group for 256-Pin FineLine BGA	I/O Bank
Y	397	–	–	–	–	–	–	2
Y	398	W9	P	P (200 mA)	H14	O	N (200 mA)	2
Y	399	–	–	–	–	–	–	2
Y	400	V9	P	P (200 mA)	H13	O	N (200 mA)	2
Z	401	U9	P	P (200 mA)	G12	O	N (200 mA)	2
Z	402	–	–	–	–	–	–	2
Z	403	Y8	P	P (200 mA)	G13	O	N (200 mA)	2
Z	404	–	–	–	–	–	–	2
Z	405	W8	P	P (200 mA)	G14	O	N (200 mA)	2
Z	406	–	–	–	–	–	–	2
Z	407	–	–	–	–	–	–	2
Z	408	–	–	–	–	–	–	2
Z	409	V8	Q	Q (200 mA)	G16	P	O (200 mA)	2
Z	410	–	–	–	–	–	–	2
Z	411	U8	Q	Q (200 mA)	G11	P	O (200 mA)	2
Z	412	–	–	–	–	–	–	2
Z	413	–	–	–	–	–	–	2
Z	414	Y7	Q	Q (200 mA)	F12	P	O (200 mA)	2
Z	415	–	–	–	–	–	–	2
Z	416	W7	Q	Q (200 mA)	F13	P	O (200 mA)	2
AA	417	V7	Q	Q (200 mA)	F14	P	O (200 mA)	2
AA	418	–	–	–	–	–	–	2
AA	419	Y6	Q	Q (200 mA)	F15	P	O (200 mA)	2
AA	420	–	–	–	–	–	–	2
AA	421	U7	Q	Q (200 mA)	F16	P	O (200 mA)	2
AA	422	–	–	–	–	–	–	2
AA	423	–	–	–	–	–	–	2
AA	424	–	–	–	–	–	–	2
AA	425	W6	Q	Q (200 mA)	E12	P	O (200 mA)	2
AA	426	–	–	–	–	–	–	2
AA	427	Y5	Q	Q (200 mA)	E13	P	O (200 mA)	2
AA	428	–	–	–	–	–	–	2
AA	429	–	–	–	–	–	–	2
AA	430	V6	Q	Q (200 mA)	E14	P	O (200 mA)	2
AA	431	–	–	–	–	–	–	2
AA	432	W5	Q	R (200 mA)	E16	P	P (200 mA)	2
BB	433	V5	Q	R (200 mA)	D16	P	P (200 mA)	2
BB	434	–	–	–	–	–	–	2
BB	435	U6	Q	R (200 mA)	C16	P	P (200 mA)	2
BB	436	–	–	–	–	–	–	2
BB	437	Y4	Q	R (200 mA)	B16	P	P (200 mA)	2
BB	438	–	–	–	–	–	–	2
BB	439	–	–	–	–	–	–	2
BB	440	–	–	–	–	–	–	2

LAB	MC	256-Pin BGA	IOGND Group for 256-Pin BGA (200 mA)	IOVCC Group for 256-Pin BGA	256-Pin FineLine BGA	IOGND Group for 256-Pin FineLine BGA (200 mA)	IOVCC Group for 256-Pin FineLine BGA	I/O Bank
BB	441	W4	Q	R (200 mA)	A16	P	P (200 mA)	2
BB	442	–	–	–	–	–	–	2
BB	443	Y3	Q	R (200 mA)	D15	P	P (200 mA)	2
BB	444	–	–	–	–	–	–	2
BB	445	–	–	–	–	–	–	2
BB	446	Y2 (1)	Q	R (200 mA)	D13 (1)	P	P (200 mA)	2
BB	447	–	–	–	–	–	–	2
BB	448	W3	R	R (200 mA)	C15	Q	P (200 mA)	2
CC	449	W1	R	S (200 mA)	B15	Q	Q (200 mA)	2
CC	450	–	–	–	–	–	–	2
CC	451	–	–	–	–	–	–	2
CC	452	–	–	–	–	–	–	2
CC	453	V1	R	S (200 mA)	A15	Q	Q (200 mA)	2
CC	454	–	–	–	–	–	–	2
CC	455	–	–	–	–	–	–	2
CC	456	–	–	–	–	–	–	2
CC	457	U2	R	S (200 mA)	B14	Q	Q (200 mA)	2
CC	458	–	–	–	–	–	–	2
CC	459	U1	R	S (200 mA)	A14	Q	Q (200 mA)	2
CC	460	–	–	–	–	–	–	2
CC	461	–	–	–	–	–	–	2
CC	462	T3	R	S (200 mA)	B13	Q	Q (200 mA)	2
CC	463	–	–	–	–	–	–	2
CC	464	R4	R	S (200 mA)	A13	Q	Q (200 mA)	2
DD	465	T2	R	S (200 mA)	C13	Q	Q (200 mA)	2
DD	466	–	–	–	–	–	–	2
DD	467	–	–	–	–	–	–	2
DD	468	–	–	–	–	–	–	2
DD	469	R3	R	S (200 mA)	D12	Q	Q (200 mA)	2
DD	470	–	–	–	–	–	–	2
DD	471	–	–	–	–	–	–	2
DD	472	–	–	–	–	–	–	2
DD	473	T1	S	S (200 mA)	C12	R	Q (200 mA)	2
DD	474	–	–	–	–	–	–	2
DD	475	R2	S	S (200 mA)	B12	R	Q (200 mA)	2
DD	476	–	–	–	–	–	–	2
DD	477	–	–	–	–	–	–	2
DD	478	P4	S	S (200 mA)	A12	R	Q (200 mA)	2
DD	479	–	–	–	–	–	–	2
DD	480	R1	S	S (200 mA)	E11	R	Q (200 mA)	2
EE	481	P3	S	S (200 mA)	D11	R	Q (200 mA)	2
EE	482	–	–	–	–	–	–	2
EE	483	–	–	–	–	–	–	2
EE	484	–	–	–	–	–	–	2

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LAB	MC	256-Pin BGA	IOGND Group for 256-Pin BGA (200 mA)	IOVCC Group for 256-Pin BGA	256-Pin FineLine BGA	IOGND Group for 256-Pin FineLine BGA (200 mA)	IOVCC Group for 256-Pin FineLine BGA	I/O Bank
EE	485	P2	S	S (200 mA)	C11	R	Q (200 mA)	2
EE	486	–	–	–	–	–	–	2
EE	487	–	–	–	–	–	–	2
EE	488	–	–	–	–	–	–	2
EE	489	P1	S	S (200 mA)	A11	R	Q (200 mA)	2
EE	490	–	–	–	–	–	–	2
EE	491	N4	S	T (200 mA)	B11	R	R (200 mA)	2
EE	492	–	–	–	–	–	–	2
EE	493	–	–	–	–	–	–	2
EE	494	N3	S	T (200 mA)	F10	R	R (200 mA)	2
EE	495	–	–	–	–	–	–	2
EE	496	N2	S	T (200 mA)	E10	R	R (200 mA)	2
FF	497	N1	S	T (200 mA)	D10	R	R (200 mA)	2
FF	498	–	–	–	–	–	–	2
FF	499	–	–	–	–	–	–	2
FF	500	–	–	–	–	–	–	2
FF	501	M4	S	T (200 mA)	C10	R	R (200 mA)	2
FF	502	–	–	–	–	–	–	2
FF	503	–	–	–	–	–	–	2
FF	504	–	–	–	–	–	–	2
FF	505	M3	A	U (100 mA)	A10	A	S (100 mA)	2
FF	506	–	–	–	–	–	–	2
FF	507	M2	A	U (100 mA)	J10	A	S (100 mA)	2
FF	508	–	–	–	–	–	–	2
FF	509	–	–	–	–	–	–	2
FF	510	M1	A	U (100 mA)	F9	A	S (100 mA)	2
FF	511	–	–	–	–	–	–	2
FF	512	L3	A	U (100 mA)	A9	A	S (100 mA)	2

Notes:

- (1) Vertical migration in the 208-pin package within MAX 7000B devices is supported without any special considerations. However, vertical migration in this package from other MAX 7000 devices to MAX 7000B devices requires one additional pin-out consideration. Pins 51, 105, 158, and 207 are No-Connect pins in the EPM7256A, EPM7256AE, and EPM7256S devices. However, these pins are either VCCIO or GNDIO pins for the EPM7256B, EPM7512B, and EPM7512AE devices. On devices with 512 macrocells, these four pins must be connected as shown. On devices with 256 macrocells, users can select from either of two options to simplify their vertical migration to the EPM7256B device. The first option is to leave these four pins on the EPM7256B device unconnected. The second option is to connect these four pins on the EPM7256A, EPM7256AE, and EPM7256S devices to the VCCIO/GNDIO pins as indicated for the EPM7256B device.
- (2) This pin may function as either a JTAG port or a user I/O pin. If the device is configured to use the JTAG ports for in-system programming, this pin is not available as a user I/O pin.
- (3) This pin may function as either a VREF pin or a user I/O pin. If this pin is programmed to be a VREF pin for using the advanced I/O standards, this pin is not available as a user I/O pin.
- (4) The user I/O pin count includes dedicated input pins and all I/O pins.