



dsPIC33EP512MU814 and PIC24EP512GU814

dsPIC33EP512MU814 and PIC24EP512GU814 144-pin TQFP to 100-pin Graphics Plug-In Module (PIM) Information Sheet

OVERVIEW

The dsPIC33EP512MU814 and PIC24EP512GU814 PIMs are designed to demonstrate the capabilities of the dsPIC33EXXXMU8XX and PIC24EXXXMU8XX families of devices using the Explorer 16 Development Board (DM240001) and the Graphics PICtail™ Plus Daughter Board (AC164127).

The dsPIC33EP512MU814 and PIC24EP512GU814 devices are high performance 16-bit Digital Signal Controllers and Microcontrollers. These devices are equipped with Peripheral Pin Select (PPS) which allows many of the digital peripherals to be remapped to use any number of pins on the device.

Because the dsPIC33EP512MU814 and PIC24EP512GU814 devices are both in a 144-pin package, several of the pins are multiplexed with the 100-pin PIM sockets using zero Ohm resistors. Designers can utilize the Peripheral Pin Select (PPS) feature and add or remove these resistors depending on their configuration needs. Also, any spare I/O on the dsPIC33EP512MU814 and PIC24EP512GU814 devices are routed to test points (i.e., RA9, RA10, etc.) providing designers with full access to all available pins.

Table 1 shows the mapping between the 100-pin PIM interface board functions and the device pins.

TABLE 1: 144-PIN TO 100-PIN PIM

Device Pin #	dsPIC33EP512MU814 and PIC24EP512GU814 Functional Description	PIM Pin #
1	RP127/RG15	1
2	VDD	—
3	AN29/RP85/RE5	10
4	AN30/RP86/RE6	11
5	AN31/RP87/RE7	12
6	PMA8/RJ8	50
7	PMA9/RJ9	49
8	PMA10/RJ10	42
9	PMA11/RJ11	41
10	AN16/RP49/RC1	6
11	AN17/RP50/RC2	7
12	AN18/RP51/RC3	8
13	AN19/RP52/RC4	9
14	PMA12/RJ12	35
15	PMA13/RJ13	34
16	C1IND/RP118/RG6	Test Point
17	C1INC/RP119/RG7	Test Point
18	C2IND/RP120/RG8	Test Point
19	MCLR	13
20	C2INC/RP121/RG9	14
21	RJ14	Test Point
22	RJ15	Test Point
23	VSS	—
24	VDD	—
25	TMS/RP16/RA0	17

Device Pin #	dsPIC33EP512MU814 and PIC24EP512GU814 Functional Description	PIM Pin #
26	AN20/RP88/RE8	18
27	AN21/RP89/RE9	19
28	RK0	Test Point
29	RK1	Test Point
30	AN5/C1INA/VBUSON/RP37/RB5	20
31	AN4/C1INB/USBOEN/RP36/RB4	21
32	AN3/C2INA/VPIO/RP35/RB3	22
33	AN2/C2INB/VMIO/RP34/RB2	23
34	PGEC3/AN1/RP33/RB1	24
35	PGED3/AN0/RP32/RB0	25
36	VSS	—
37	PGEC1/AN6/RP38/RB6	26
38	PGED1/AN7/RCV/RP39/RB7	27
39	VREF-/RA9	Test Point
40	VREF+/RA10	Test Point
41	AVDD	30
42	AVSS	31
43	PMD0/RH0	93
44	PMD1/RH1	94
45	PMD2/RH2	98
46	PMD3/RH3	99
47	AN8/RP40/RB8	28
48	AN9/RP41/RB9	29
49	AN10/CVREF/RP42/RB10	Test Point
50	AN11/RP43/RB11	Test Point

Legend: Shaded cells indicate pins that are connected via a zero Ohm resistor and are populated as shown in the schematic.

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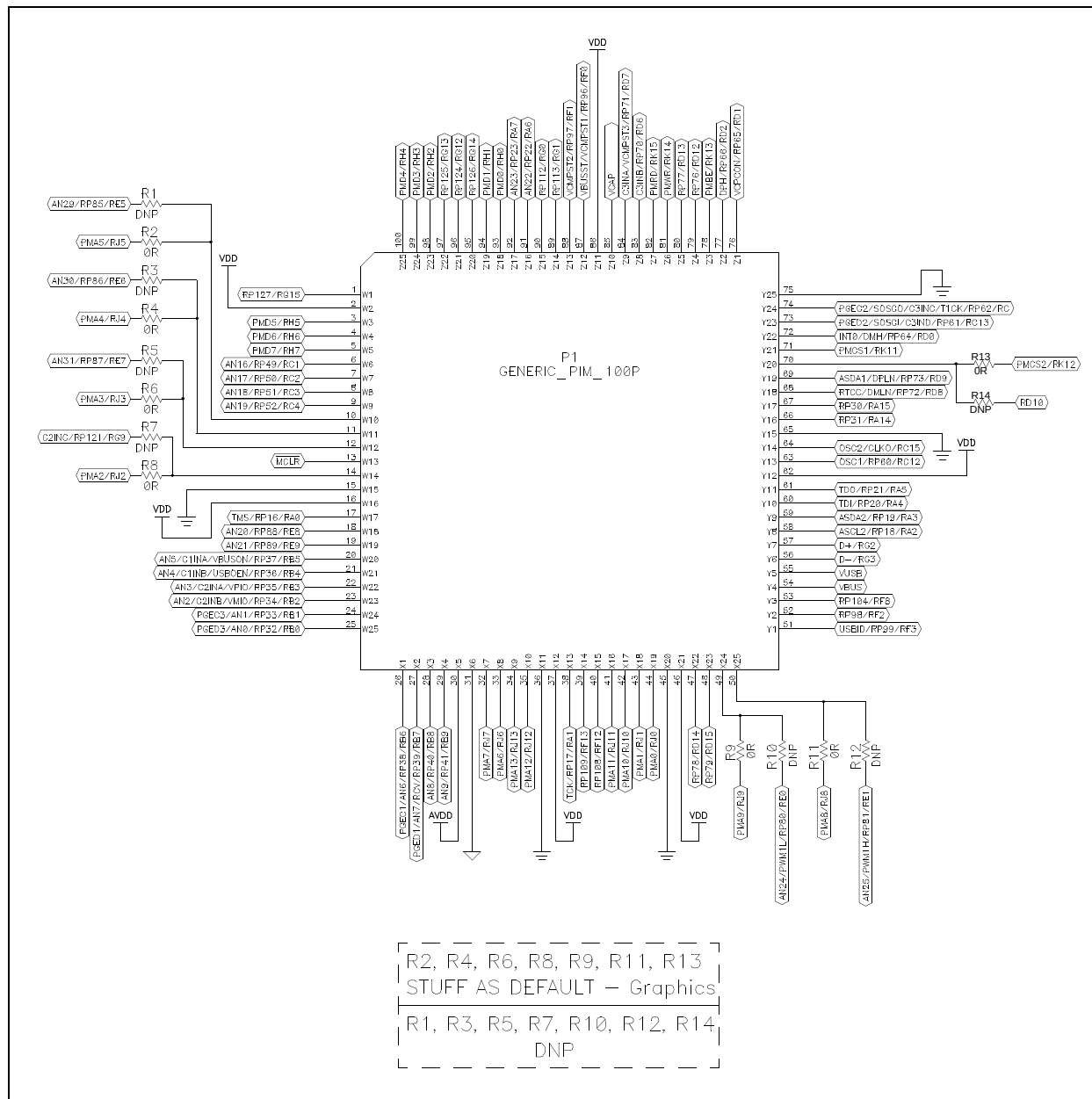
TABLE 1: 144-PIN TO 100-PIN PIM (CONTINUED)

Device Pin #	dsPIC33EP512MU814 and PIC24EP512GU814 Functional Description	PIM Pin #	Device Pin #	dsPIC33EP512MU814 and PIC24EP512GU814 Functional Description	PIM Pin #
51	Vss	—	98	ASDA1/DPLN/RP73/RD9	69
52	VDD	—	99	ASCL1/RP74/RD10	70
53	PMRD/RK15	82	100	RP75/RD11	Test Point
54	PMWR/RK14	81	101	RH12	Test Point
55	PMBE/RK13	78	102	RH13	Test Point
56	TCK/RP17/RA1	38	103	RH14	Test Point
57	RP109/RF13	39	104	RH15	Test Point
58	RP108/RF12	40	105	INT0/DMH/RP64/RD0	72
59	AN12/RP44/RB12	Test Point	106	PGED2/SOSCI/C3IND/RP61/RC13	73
60	AN13/RP45/RB13	Test Point	107	PGEC2/SOSCO/C3INC/T1CK/RP62/RC14	74
61	AN14/RP46/RB14	Test Point	108	Vss	—
62	AN15/RP47/RB15	Test Point	109	VCPCON/RP65/RD1	76
63	Vss	—	110	DPH/RP66/RD2	77
64	VDD	—	111	RP67/RD3	Test Point
65	PMD4/RH4	100	112	VDD	—
66	PMD5/RH5	3	113	RP76/RD12	79
67	PMD6/RH6	4	114	RP77/RD13	80
68	PMD7/RH7	5	115	PMA0/RJ0	44
69	RP78/RD14	47	116	PMA1/RJ1	43
70	RP79/RD15	48	117	PMA2/RJ2	14
71	SDA2/RP100/RF4	Test Point	118	PMA3/RJ3	12
72	SCL2/RP101/RF5	Test Point	119	RP68/RD4	Test Point
73	Vss	—	120	RP69/RD5	Test Point
74	USBID/RP99/RF3	51	121	C3INB/RP70/RD6	83
75	RP98/RF2	52	122	C3INA/VCMPST3/RP71/RD7	84
76	RP104/RF8	53	123	VCAP	85
77	VBUS	54	124	VDD	—
78	VUSB	55	125	Vss	—
79	D-/RG3	56	126	VBUSST/VCMPST1/RP96/RF0	87
80	D+/RG2	57	127	VCMPST2/RP97/RF1	88
81	RH8	Test Point	128	RP113/RG1	89
82	RH9	Test Point	129	RP112/RG0	90
83	RH10	Test Point	130	AN22/RP22/RA6	91
84	RH11	Test Point	131	AN23/RP23/RA7	92
85	ASCL2/RP18/RA2	58	132	PMA4/RJ4	11
86	ASDA2/RP19/RA3	59	133	PMA5/RJ5	10
87	TDI/RP20/RA4	60	134	PMA6/RJ6	33
88	TDO/RP21/RA5	61	135	PMA7/RJ7	32
89	VDD	—	136	AN24/RP80/RE0	49
90	OSC1/RP60/RC12	63	137	AN25/RP81/RE1	50
91	OSC2/CLKO/RC15	64	138	RP126/RG14	95
92	Vss	—	139	RP124/RG12	96
93	PMCS2/RK12	70	140	RP125/RG13	97
94	PMCS1/RK11	71	141	Vss	—
95	RP31/RA14	66	142	AN26/RP82/RE2	Test Point
96	RP30/RA15	67	143	AN27/RP83/RE3	Test Point
97	RTCC/DMLN/RP72/RD8	68	144	AN28/RP84/RE4	Test Point

Legend: Shaded cells indicate pins that are connected via a zero Ohm resistor and are populated as shown in the schematic.

dsPIC33EP512MU814 and PIC24EP512GU814

FIGURE 2: 100-PIN PIM SOCKET SCHEMATIC



APPENDIX A: REVISION HISTORY

Revision A (May 2010)

This is the initial released version of this document.

Revision B (February 2011)

This revision includes the following updates:

- Modified the Functional Description for Device Pins 51 through 70 and removed VDDCORE from the Functional Description of Device Pin 123 in [Table 1](#)
- Additional formatting updates were incorporated throughout the document

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NOTES:

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