



# dsPIC33FJ16MC102 and PIC24FJ16MC102

## dsPIC33FJ16MC102 and PIC24FJ16MC102 PIM Information Sheet

The dsPIC33FJ16MC102 and PIC24FJ16MC102 plug-in modules (PIMs) (Part No. MA330026 and MA240026) are designed to demonstrate the capabilities of the dsPIC33FJ16MC102 and PIC24FJ16MC102 motor control devices using the dsPICDEM MCLV Development Board (DM330021) or dsPICDEM MCHV Development Board (DM330023).

The dsPIC33FJ16MC102 device is an ultra low cost high-performance 16-bit digital signal controller within a small 28-pin 6x6 mm QFN package. The PIC24FJ16MC102 device offers the same functionality as the dsPIC33FJ16MC102, with the exception of DSP capabilities.

Both 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.

The PIMs take advantage of PPS by using zero ohm resistors to connect the I/O to the Development Board. Simply removing the zero ohm resistors and using the

test points associated with each I/O pin (i.e., RP0, RP1, etc.), allows the designer to reroute the pin to any of the available pins on the Development Board. This capability enables easier and faster design times.

Table 1 shows the mapping between the Development Board functions and the device pins.

**Note: Use of this PIM with the MCHV development board (DM330023).** The MCHV Development Board, 10-00871 Revision 4 or earlier (see product label), must be upgraded to support this PIM. Please contact the local Microchip sales office to obtain this free upgrade.

**TABLE 1: 28-PIN TO 100-PIN PINOUT**

Device Pin #	dsPIC33FJ16MC102 and PIC24FJ16MC102	PIM Pin Number	Functional Description
1	PGED1/AN2/C2INA/C1INC/CTMUC/RP0/CN4/RB0	35, 28	DC Bus/POT
2	PGEC1/AN3/CVREFIN/CVREFOUT/C2INB/C1IND/RP1/CN5/RB1	20, 41	POT/Phase 1 Voltage Feedback
3	AN4/C3INC/C2INC/RP2/CN6/RB2	83, 42	Switch 1/Phase 2 Voltage Feedback
4	AN5/C3IND/C2IND/RP3/CN7/RB3	84, 43	Switch 2/Phase 3 Voltage Feedback
5	Vss	15	Ground reference for logic and I/O pins
6	OSCI/CLKI/CN30/RA2	63	OSCI
7	OSCO/CLKO/CN29/RA3	64	OSCO
8	PGED3/SOSCI/RP4/CN1/RB4	27	Debug
9	PGEC3/SOSCO/T1CK/CN0/RA4	26	Debug
10	VDD	16	Positive supply for peripheral logic and I/O pins
11	FLTB1/ASDA1/RP5/CN27/RB5	20, 68, 83	QEB/Hall Sensor A/Switch 1
12	FLTA1/ASCL1/RP6/CN24/RB6	18	Fault 1A
13	SCK1/INT0/RP7/CN23/RB7	22, 70	Index/Hall Sensor C
14	SCL1/SDO1/RP8/CN22/RB8	21, 69, 84	QEA/Hall Sensor B/Switch 2
15	SDA1/SDI1/RP9/CN21/RB9	19, 71	Fault Reset/PWM Enable
16	Vss	36	Ground reference for logic and I/O pins
17	VCAP	—	CPU logic filter capacitor connection
18	PWM1H3/RP10/CN16/RB10	3	PWM1H3
19	PWM1L3/RP11/CN15/RB11	100	PWM1L3
20	PWM1H2/RP12/CN14/RB12	99	PWM1H2
21	PWM1L2/RP13/CN13/RB13	98	PWM1L2

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Device Pin #	dsPIC33FJ16MC102 and PIC24FJ16MC102	PIM Pin Number	Functional Description
22	PWM1H1/RTCC/RP14/CN12/RB14	94	PWM1H1
23	PWM1L1/RP15/CN11/RB15	93	PWM1L1
24	AVss	31	Ground reference for analog modules
25	AVDD	30	Positive supply for analog modules
26	MCLR	13	Master Clear (Reset) input
27	PGED2/AN0/C3INB/C1INA/CTED1/CN2/RA0	20, 25	POT/Phase 1 Current Feedback
28	PGEC2/AN1/C3INA/C1INB/CTED2/CN3/RA1	32, 24	BUS Shunt/Phase 2 Current Feedback

**FIGURE 1: 100-PIN HEADER SCHEMATIC**

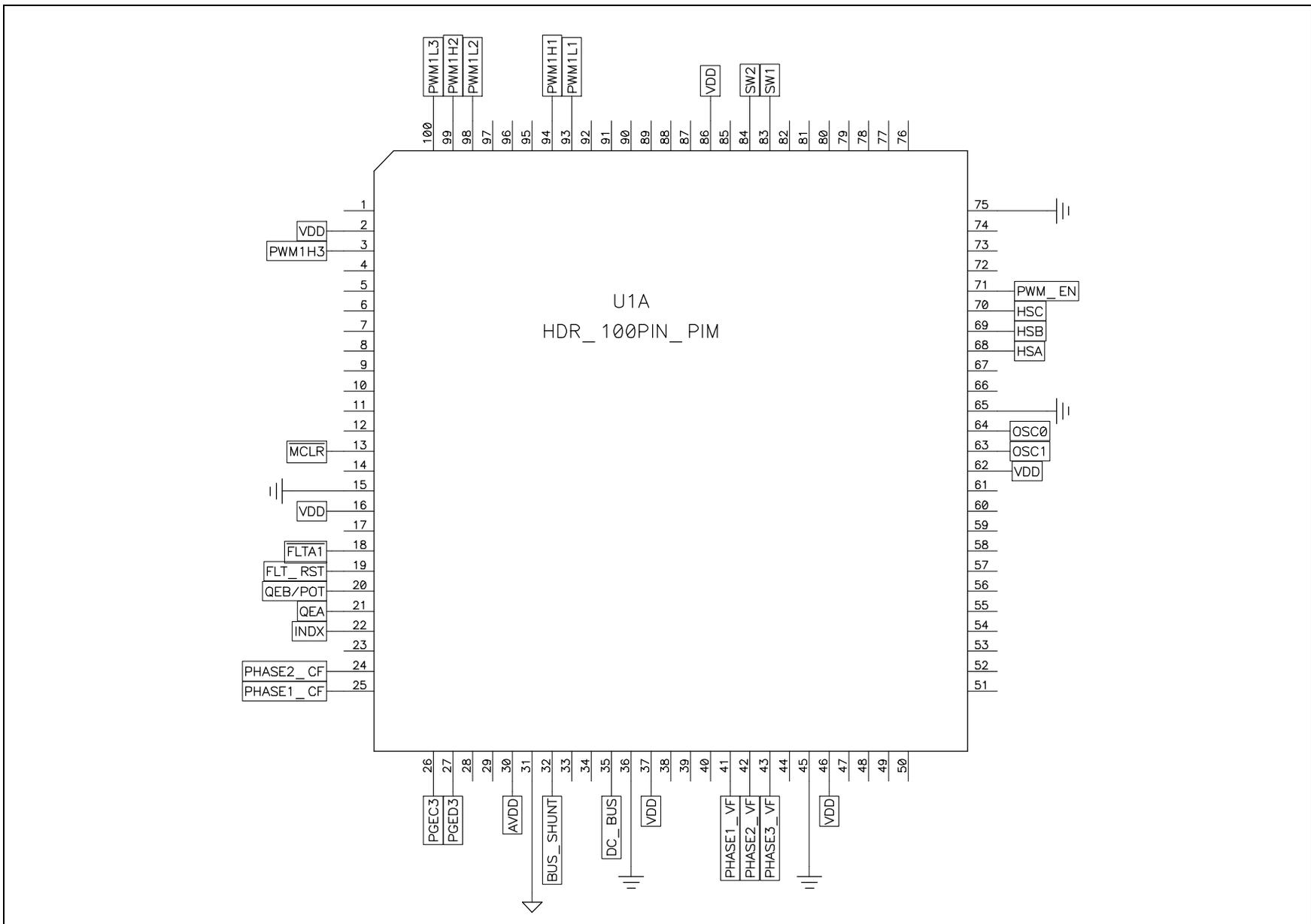
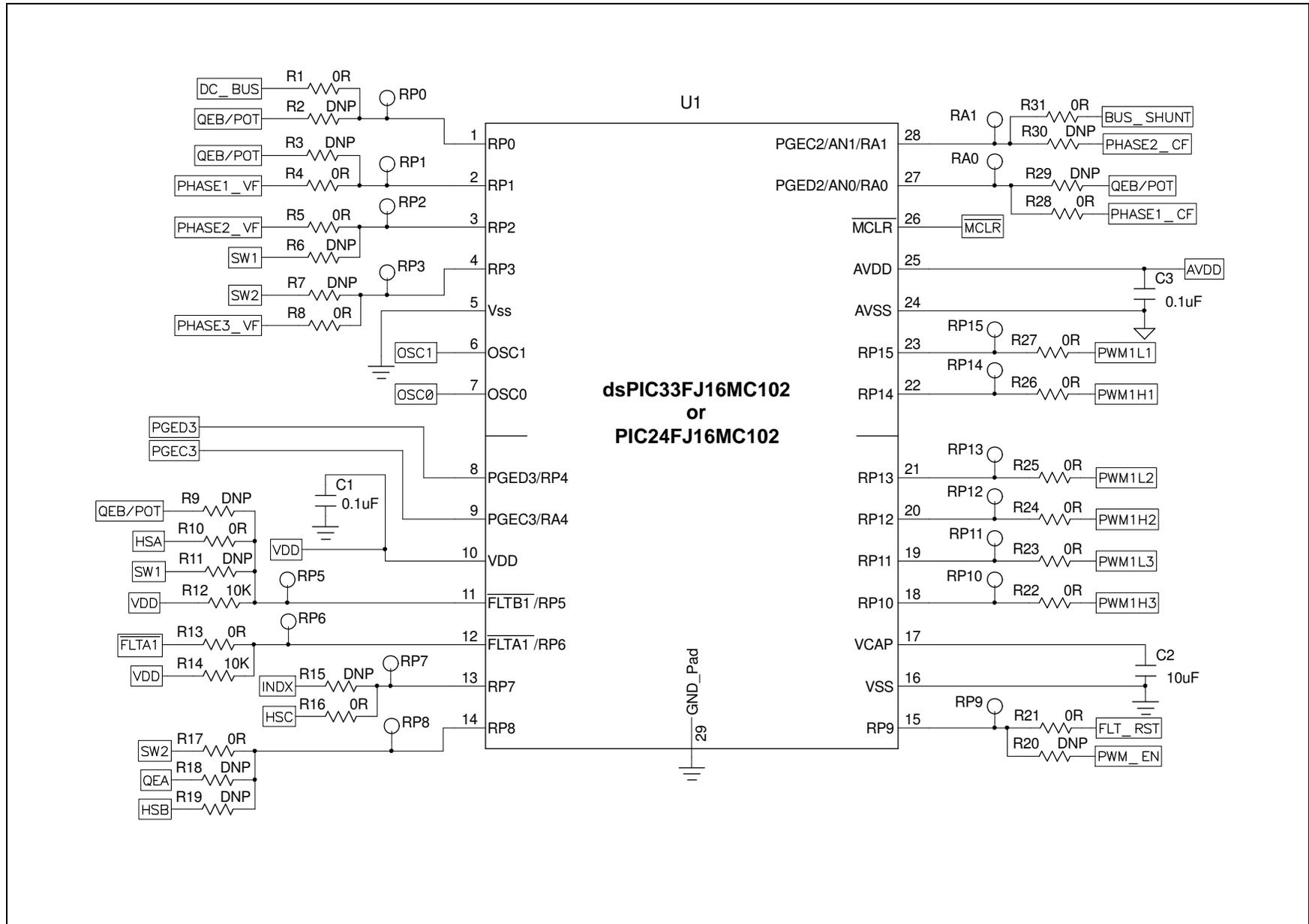


FIGURE 2: 28-PIN DEVICE SCHEMATIC



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