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5/14/19

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PIC24FJ128GL306 General Purpose Plug-In Module (PIM) Information Sheet

Overview

The PIC24FJ128GL306 General Purpose Plug-In Module (MA240040) is designed to demonstrate the capabilities of the PIC24FJ128GL306 family, including the LCD controller, using the Explorer 16/32 Development Board. Refer to Table 1 and Table 2 for the mapping of the physical pins on the PIC24FJ128GL306 to the 100-pin PIM connector.

Not all predefined PIM signals found on the Explorer 16/32 are connected due to the limited number of I/O pins available.

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Table 1: PIC24FJ128GL306 PIM Mapping

PIM Pin #	Device Pin #	PIC24FJ128GL306 I/Os	Function	Explorer 16/32 Net Name
1	—	—	—	P1_VBUS
2	10, 19, 26, 38	VDD + AVDD	VDD	VDD_PIM
3	24	TDO/AN11/RB11	LCD D5	P3_LCDD5__RB11
4	27	TCK/SEG18/AN12/RB12	LCD D6	P4_LCDD6__RB12
5	28	TDI/SEG19/AN13/RB13	LCD D7	P5_LCDD7__RB13
6	—	—	—	P6
7	—	—	—	P7
8	—	—	—	P8
9	—	—	—	P9
10	52	SEG23/RP25/RD4	mikroBUS™ A SPI SCK	P10_SCKA__RD4
11	50	SEG21/RP23/RD2	mikroBUS A SPI MISO	P11_MISOA__RD2
12	51	SEG22/RP22/RD3	mikroBUS A SPI MOSI	P12_MOSIA__RD3
13	7	$\overline{\text{MCLR}}$	$\overline{\text{MCLR}}$	P13_MCLR__MCLR
14	18	PGED2/AN7/RP7/T1CK/RB7	mikroBUS A Chip Select	P14_CSA__RB7
15	9, 20, 25, 41	VSS + AVSS	VSS	VSS
16	10, 19, 26, 38	VDD + AVDD	VDD	VDD
17	60	COM3/RE0	LED D3	P17_LED3__RE0
18	42	SEG13/RP2/RD8	mikroBUS B Interrupt	P18_INTB__RD8
19	55	SEG26/C3INA/RD7	mikroBUS B Reset	P19_RSTB__RD7
20	57	AN16/RA0	10k Potentiometer	P20_POT__RA0
21	14	SEG5/AN2/C2INB/RP13/RB2	TC1047A Temp. Sensor	P21_TEMP__RB2
22	—	—	—	P22
23	45	SEG16/C3INC/RP12/RD11	mikroBUS B Chip Select	P23_CSB__RD11
24	30	SEG9/AN15/RP29/OCM1D/RB15	mikroBUS B Analog	P24_ANB__RB15
25	29	SEG8/AN14/RP14/OCM1C/RB14	General Purpose I/O	P25_ANA_USBOC__RB14
26	15	PGEC1/SEG6/CVREF-/AN1/AN1-/RP1/RB1	ICSP™ Prog/Debug PGC2	P26_PGC3__RB1
27	16	PGED1/SEG7/VREF+/CVREF+/AN0/RP0/RB0	ICSP Prog/Debug PGD2	P27_PGD3__RB0
28	—	—	—	P28
29	—	—	—	P29
30	10, 19, 26, 38	VDD + AVDD	VDD	VDD_PIM
31	9, 20, 25, 41	VSS + AVSS	VSS	VSS
32	21	COM7/SEG31/AN8/RP8/RB8	General Purpose I/O	P32_CC2__RB8
33	22	COM6/SEG30/AN9/RP9/RB9	General Purpose I/O	P33_CC1__RB9
34	—	—	—	P34
35	—	—	—	P35
36	9, 20, 25, 41	VSS + AVSS	VSS	VSS
37	10, 19, 26, 38	VDD + AVDD	VDD	VDD
38	61	COM2/RE1	LED D4	P38_LED4__RE1
39	—	—	—	P39
40	—	—	—	P40
41	—	—	—	P41
42	—	—	—	P42
43	—	—	—	P43
44	58	SEG27/RF0	LCD Register Select	P44_LCDRS__RF0
45	9, 20, 25, 41	VSS + AVSS	VSS	VSS
46	10, 19, 26, 38	VDD + AVDD	VDD	VDD_PIM
47	13	SEG4/AN3/C2INA/RB3	General Purpose I/O	P47__RB3
48	4	SEG0/C1IND/RP21/RG6	General Purpose I/O	P48__RG6
49	34	SEG40/RP30/RF2	MCP2221A/mikroBUS B RX	P49_RXB__RF2
50	33	SEG12/RP16/RF3	MCP2221A/mikroBUS B TX	P50_TXB__RF3
51	44	SEG15/C3IND/RP3/RD10	mikroBUS A TX	P51_TXA__RD10
52	43	SEG14/RP4/RD9	mikroBUS A RX	P52_RXA__RD9

Table 1: PIC24FJ128GL306 PIM Mapping (Continued)

PIM Pin #	Device Pin #	PIC24FJ128GL306 I/Os	Function	Explorer 16/32 Net Name
53	8	SEG1/C2INC/RP27/RG9	General Purpose I/O	P53_MOSIB__RG9
54	53	SEG24/RP20/RD5	mikroBUS™ B SPI MISO	P54_MISOB__RD5
55	12	PGED3/SEG3/AN4/C1INB/RP28/ASDA1/OCM1B/RB4	General Purpose I/O	P55_SCKB__RB4
56	31	SEG10/RP10/SDA2/RF4	mikroBUS Shared I2C SDA	P56_SDA__RF4
57	32	SEG11/RP17/SCL2/RF5	mikroBUS Shared I2C SCL	P57_SCL__RF5
58	62	COM1/RE2	LED D5	P58_LED5__RE2
59	63	COM0/RE3	LED D6	P59_LED6__RE3
60	64	SEG63/HLVDIN/RE4	LED D7	P60_LED7__RE4
61	1	LCDBIAS2/RE5	LED D8	P61_LED8__RE5
62	10, 19, 26, 38	VDD + AVDD	VDD	VDD_PIM
63	39	OSCI/CLKI/RC12	Primary Oscillator In	P63_OSCI__RC12
64	40	OSCO/CLKO/RC15	Primary Oscillator Out	P64_OSCO__RC15
65	9, 20, 25, 41	VSS + AVSS	VSS	VSS
66	—	—	—	P66
67	35	RP5/INT0/RF6	mikroBUS A Interrupt	P67_INTA__RF6
68	—	—	—	P68
69	—	—	—	P69
70	—	—	—	P70
71	—	—	—	P71
72	36	SEG47/RP31/SDA1/OCM1F/RG3	mikroBUS A PWM	P72_PWMA__RG3
73	—	—	—	P73_SOSCI
74	—	—	—	P74_SOSCO
75	9, 20, 25, 41	VSS + AVSS	VSS	VSS
76	—	—	—	P76
77	—	—	—	P77
78	11	PGEC3/SEG2/AN5/C1INA/RP18/ASCL1/OCM1A/RB5	mikroBUS B PWM	P78_PWMB__RB5
79	17	PGEC2/LCDBIAS3/AN6/RP6/RB6	EEPROM Chip Select	P79_EECS__RB6
80	46	SEG17/RP11/RD0	Button 4	P80_S4__RD0
81	59	COM4/SEG48/OCM1E/RF1	LCD Enable	P81_LCDE__RF1
82	—	—	LCD R/$\overline{\text{W}}$ (pulled low by R4)	P82_LCDRW
83	37	SEG28/SCL1/RG2	Button 3	P83_S3__RG2
84	49	SEG20/RP24/RD1	Button 6	P84_S6__RD1
85	—	—	—	P85_VDDCORE
86	—	—	—	P86_ENVREG
87	—	—	—	P87
88	—	—	—	P88
89	5	VLCAP1/C1INC/C2INC/C3INC/RP26/RG7	General Purpose I/O	P89_USBDN__RG7
90	6	VLCAP2/C2IND/RP19/RG8	General Purpose I/O	P90_USBDP__RG8
91	2	LCDBIAS1/RE6	LED D9	P91_LED9__RE6
92	3	LCDBIAS0/RE7	Button 5/LED D10	P92_S5_LED10__RE7
93	—	—	—	P93_LCDD0
94	—	—	—	P94_LCDD1
95	54	SEG25/C3INB/RD6	mikroBUS A Reset	P95_RSTA__RD6
96	—	—	—	P96_VBUSON
97	—	—	—	P97
98	—	—	—	P98_LCDD2
99	—	—	—	P99_LCDD3
100	23	TMS/COM5/SEG29/CVREF/AN10/RP15/RB10	LCD D4	P100_LCDD4__RB10
—	47	SOSCI/RC13	Secondary Oscillator In	SOSCI
—	48	SOSCO/SCLKI/RPI37/PWRLCLK/RC14	Secondary Oscillator Out	SOSCO
—	56	VCAP	VCAP	—

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Table 2: PIC24FJ128GL306 PIC® MCU Mapping

Device Pin #	PIM Pin #	PIC24FJ128GL306 I/Os	Function	Explorer 16/32 Net Name
1	61	LCDBIAS2/RE5	LED D8	P61_LED8__RE5
2	91	LCDBIAS1/RE6	LED D9	P91_LED9__RE6
3	92	LCDBIAS0/RE7	Button 5/LED D10	P92_S5_LED10__RE7
4	48	SEG0/C1IND/RP21/RG6	General Purpose I/O	P48__RG6
5	89	VLCAP1/C1INC/C2INC/C3INC/RP26/RG7	General Purpose I/O	P89_USBDN__RG7
6	90	VLCAP2/C2IND/RP19/RG8	General Purpose I/O	P90_USBDP__RG8
7	13	$\overline{\text{MCLR}}$	$\overline{\text{MCLR}}$	P13_MCLR__MCLR
8	53	SEG1/C2INC/RP27/RG9	General Purpose I/O	P53_MOSIB__RG9
9, 20, 25, 41	15	VSS + AVSS	VSS	VSS
10, 19, 26, 38	16	VDD + AVDD	VDD	VDD
11	78	PGEC3/SEG2/AN5/C1INA/RP18/ASCL1/OCM1A/RB5	mikroBUS™ B PWM	P78_PWMB__RB5
12	55	PGED3/SEG3/AN4/C1INB/RP28/ASDA1/OCM1B/RB4	General Purpose I/O	P55_SCKB__RB4
13	47	SEG4/AN3/C2INA/RB3	General Purpose I/O	P47__RB3
14	21	SEG5/AN2/C2INB/RP13/RB2	TC1047A Temp. Sensor	P21_TEMP__RB2
15	26	PGEC1/SEG6/CVREF-/AN1/AN1-/RP1/RB1	ICSP™ Prog/Debug PGC2	P26_PGC3__RB1
16	27	PGED1/SEG7/VREF+/CVREF+/AN0/RP0/RB0	ICSP Prog/Debug PGD2	P27_PGD3__RB0
17	79	PGEC2/LCDBIAS3/AN6/RP6/RB6	EEPROM Chip Select	P79_EECS__RB6
18	14	PGED2/AN7/RP7/T1CK/RB7	mikroBUS A Chip Select	P14_CSA__RB7
21	32	COM7/SEG31/AN8/RP8/RB8	General Purpose I/O	P32_CC2__RB8
22	33	COM6/SEG30/AN9/RP9/RB9	General Purpose I/O	P33_CC1__RB9
23	100	TMS/COM5/SEG29/CVREF/AN10/RP15/RB10	LCD D4	P100_LCDD4__RB10
24	3	TDO/AN11/RB11	LCD D5	P3_LCDD5__RB11
27	4	TCK/SEG18/AN12/RB12	LCD D6	P4_LCDD6__RB12
28	5	TDI/SEG19/AN13/RB13	LCD D7	P5_LCDD7__RB13
29	25	SEG8/AN14/RP14/OCM1C/RB14	General Purpose I/O	P25_ANA_USBOC__RB14
30	24	SEG9/AN15/RP29/OCM1D/RB15	mikroBUS B Analog	P24_ANB__RB15
31	56	SEG10/RP10/SDA2/RF4	mikroBUS Shared I2C SDA	P56_SDA__RF4
32	57	SEG11/RP17/SCL2/RF5	mikroBUS Shared I2C SCL	P57_SCL__RF5

Table 2: PIC24FJ128GL306 PIC® MCU Mapping (Continued)

Device Pin #	PIM Pin #	PIC24FJ128GL306 I/Os	Function	Explorer 16/32 Net Name
33	50	SEG12/RP16/RF3	MCP2221A/mikroBUS™ B TX	P50_TXB__RF3
34	49	SEG40/RP30/RF2	MCP2221A/mikroBUS B RX	P49_RXB__RF2
35	67	RP5/INT0/RF6	mikroBUS A Interrupt	P67_INTA__RF6
36	72	SEG47/RP31/SDA1/OCM1F/RG3	mikroBUS A PWM	P72_PWMA__RG3
37	83	SEG28/SCL1/RG2	Button 3	P83_S3__RG2
39	63	OSCI/CLKI/RC12	Primary Oscillator In	P63_OSCI__RC12
40	64	OSCO/CLKO/RC15	Primary Oscillator Out	P64_OSCO__RC15
42	18	SEG13/RP2/RD8	mikroBUS B Interrupt	P18_INTB__RD8
43	52	SEG14/RP4/RD9	mikroBUS A RX	P52_RXA__RD9
44	51	SEG15/C3IND/RP3/RD10	mikroBUS A TX	P51_TXA__RD10
45	23	SEG16/C3INC/RP12/RD11	mikroBUS B Chip Select	P23_CSB__RD11
46	80	SEG17/RP11/RD0	Button 4	P80_S4__RD0
47	—	SOSCI/RC13	Secondary Oscillator In	SOSCO
48	—	SOSCO/SCLKI/RPI37/PWRLCLK/RC14	Secondary Oscillator Out	SOSCI
49	84	SEG20/RP24/RD1	Button 6	P84_S6__RD1
50	11	SEG21/RP23/RD2	mikroBUS A SPI MISO	P11_MISOA__RD2
51	12	SEG22/RP22/RD3	mikroBUS A SPI MOSI	P12_MOSIA__RD3
52	10	SEG23/RP25/RD4	mikroBUS A SPI SCK	P10_SCKA__RD4
53	54	SEG24/RP20/RD5	mikroBUS B SPI MISO	P54_MISOB__RD5
54	95	SEG25/C3INB/RD6	mikroBUS A Reset	P95_RSTA__RD6
55	19	SEG26/C3INA/RD7	MikroBUS B Reset	P19_RSTB__RD7
56	—	VCAP	—	—
57	20	AN16/RA0	10k Potentiometer	P20_POT__RA0
58	44	SEG27/RF0	LCD Register Select	P44_LCDRS__RF0
59	81	COM4/SEG48/OCM1E/RF1	LCD Enable	P81_LCDE__RF1
60	17	COM3/RE0	LED D3	P17_LED3__RE0
61	38	COM2/RE1	LED D4	P38_LED4__RE1
62	58	COM1/RE2	LED D5	P58_LED5__RE2
63	59	COM0/RE3	LED D6	P59_LED6__RE3
64	60	SEG63/HLVDIN/RE4	LED D7	P60_LED7__RE4

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PIC24FJ128GL306 General Purpose Plug-In Module (PIM) Information Sheet

Schematic Revision 3.0

