dsPIC33AK256MPS306 General Purpose Dual In-Line Module (DIM) Information Sheet

Overview

The dsPIC33AK256MPS306 General Purpose DIM (EV02E57A) is designed to demonstrate the capabilities of the dsPIC33AK256MPS306 family using the dsPIC33 Curiosity Platform Development Board (EV74H48A). Refer to Table 1-1 and Table 1-2 for the mapping of the physical pins on the dsPIC33AK256MPS306 to the 120 pins on the DIM connector.

Not all predefined DIM signals found on the dsPIC33 Curiosity Platform Development Board are connected due to the limited number of available modules.

Information about the General Purpose DIM is available at:

www.microchip.com/en-us/development-tool/EV02E57A.

Information about the dsPIC33 Curiosity Platform Development Board is available at:

www.microchip.com/en-us/development-tool/EV74H48A.

1. General Purpose DIM and MCU Mappings

Table 1-1. dsPIC33AK256MPS306 DIM Mapping

DIM Pin #	Device Pin #	dsPIC33AK256MPS306 I/Os	DIM Net Name/Function	dsPIC33 Curiosity Platform Board Net Name	Platform Board Function
1	32	CVDAN27/CVDTX11/RP28/SDI2/RB11	P1_CVDAN27_RB11	P1_XPRO1_9	XPLAINED PRO Extension 1, pin 9
2	31	CVDAN26/CVDTX10/RP27/SCK2/RB10	P2_CVDAN26_RB10	P2_XPRO1_10	XPLAINED PRO Extension 1, pin 10
3	28	PGC1/AD2AN4/CVDAN20/CVDTX4/CMP4B/ RP21/SCL1/RB4	P3_CVDAN20_RB4	P3_XPRO1_8	XPLAINED PRO Extension 1, pin 8
4	30	CVDAN23/CVDTX7/CMP4C/IBIAS1/ISRC1/ RP24/I3CASDA1/IOMAF0/RB7	P4_I3C_ASDA1_RB7	P4_mkB_B_XPRO1_SCL	mikroBUS B, pin 11, SDA (multiplexed with XPLAINED PRO Extension 1, pin 11)
5	27	PGD1/AD2ANN1/AD2AN3/CVDAN19/ CVDTX3/CMP4A/RP20/SDA1/RB3	P5_CVDAN19_RB3	P5_XPRO1_7	XPLAINED PRO Extension 1, pin 7
6	29	AD3ANN2/AD3AN2/CVDAN22/CVDTX6/ ALLCMP/IBIAS0/ISRC0/RP23/I3CASCL1/RB6	P6_I3C_ASCL1_RB6	P6_mkB_B_SPRO1_SCL	mikroBUS B, pin 12, SCL (multiplexed with XPLAINED PRO Extension 1, pin 12, SCL)
7	60	TRDATA2/RP55/RD6	P7_P50_RD6	P7_XPRO1_6	XPLAINED PRO Extension 1, pin 6
8		N/C	N/C	P8_XPRO1_13	XPLAINED PRO Extension 1, pin 13
9	59	TRDATA3/RP54/RD5	P9_P36_RD5	P9_XPRO1_5	XPLAINED PRO Extension 1, pin 5
10		N/C	N/C	P10_XPRO1_14	XPLAINED PRO Extension 1, pin 14
11	24	CVDAN25/CVDTX9/RP26/RB9	P11_CVDAN25_RB9	P11_XPRO1_4	XPLAINED PRO Extension 1, pin 4
12	61	TRDATA1/CVDTX16/RP53/RD4	P12_P34_RD4	P12_XPRO1_15	XPLAINED PRO Extension 1, pin 15
13	23	CVDAN24/CVDTX8/CMP2D/RP25/RB8	P13_CVDAN24_RB8	P13_XPRO1_3	XPLAINED PRO Extension 1, pin 3
14	52	TDI/RP52/PWM1L/IOMAD0/RD3	P14_P32_RD3	P14_XPRO1_16	XPLAINED PRO Extension 1, pin 18
15		N/C	N/C	P15_XPRO1_1	XPLAINED PRO Extension 1, pin 1
16	51	TDO/RP51/PWM1H/IOMAD1/RD2	P16_P30_RD2	P16_XPRO1_17	XPLAINED PRO Extension 1, pin 17
17		N/C	N/C	N/C	N/C
18	50	TCK/RP50/PWM2L/IOMAD2/RD1	P18_P28_RD1	P18_XPRO1_18	XPLAINED PRO Extension 1, pin 16
19		N/C	N/C	N/C	N/C
20		N/C	N/C	P20_XPRO2_3	XPLAINED PRO Extension 1, pin 21
21		N/C	N/C	P21_mkB_B_TX	mikroBUS B, pin 14, UART TX
22		N/C	N/C	P22_XPRO2_4	XPLAINED PRO Extension 2, pin 4
23		N/C	N/C	P23_mkB_B_RX	mikroBUS B, pin 14, UART RX
24		N/C	N/C	P24_XPRO2_5	XPLAINED PRO Extension 2, pin 5
25		N/C	N/C	P25_mkB_B_INT	mikroBUS B, pin 15, INT

Table 1-1. dsPIC33AK256MPS306 DIM Mapping (continued)

DIM Pin #	Device Pin #	dsPIC33AK256MPS306 I/Os	DIM Net Name/Function	dsPIC33 Curiosity Platform Board Net Name	Platform Board Function
26		N/C	N/C	P26_XPRO2_6	XPLAINED PRO Extension 2, pin 6
27		N/C	N/C	P27_mkB_B_PWM	mikroBUS B, pin 16, PWM
28	50	TCK/RP50/PWM2L/IOMAD2/RD1	P18_P28_RD1	P28_LED_0	General-purpose LED 0
29		N/C	N/C	P29_mkB_B_AN	mikroBUS B, pin 1, AN
30	51	TDO/RP51/PWM1H/IOMAD1/RD2	P16_P30_RD2	P30_LED_1	General-purpose LED 1
31		N/C	N/C	P31_mkB_B_RST	mikroBUS B, pin 2, RST
32	52	TDI/RP52/PWM1L/IOMAD0/RD3	P14_P32_RD3	P32_LED_2	General-purpose LED 2
33		N/C	N/C	P33_mkB_B_CS	mikroBUS B, pin 3, CS
34	61	TRDATA1/CVDTX16/RP53/RD4	P12_P34_RD4	P34_LED_3	General-purpose LED 3
35		N/C	N/C	P35_mkB_B_SCK	mikroBUS B, pin 4, SCK
36	59	TRDATA3/RP54/RD5	P9_P36_RD5	P36_LED_4	General-purpose LED 4
37		N/C	N/C	P37_mkB_B_MISO	mikroBUS B, pin 5, MISO
38	22	OA2IN+/AD2AN1/CVDAN18/CVDTX2/CMP2B/RP19/RB2	P38_CVDAN18_RB2	P38_Cap_Touch_3R	Capacitive touch pad 3 (redundant)
39		N/C	N/C	P39_mkB_B_MOSI	mikroBUS B, pin 8, MOSI
40	21	TMS/OA2IN-/AD2ANN2/AD2AN2/CVDAN17/CVDTX1/CMP2C/RP18/RB1	P40_CVDAN17_RB1	P40_Cap_Touch_3	Capacitive touch pad 3
41	25	RP29/RB12	P41_RB12	P41_S3	Push-button switch 3
42	20	OA2OUT/AD2AN0/CVDAN16/CVDTX0/CMP2A/RP17/RB0	P42_CVDAN16_RB0	P42_Cap_Touch_2	Capacitive touch pad 2
43	26	RP30/RB13	P43_RB13	P43_S2	Push-button switch 2
44	16	OA3IN-/CVDAN6/CMPDN/CMP3C/RP7/RA6	P44_CVDAN6_RA6	P44_Cap_Touch_2	Capacitive touch pad 2
45	33	RP41/RC8	P45_RC8	P45_S1	Push-button switch 1
46	15	OA3OUT/CVDAN5/CMP3A/RP6/INT0/RA5	P46_CVDAN5_RA5	P46_Cap_Touch_1R	Capacitive touch pad 1 (redundant)
47	64	MCLR	P47_MCLR	P47_MCLR	Device master clear and MCLR switch
48	14	UREF/OA1IN+/AD1AN1/AD2AN5/AD3AN4/CVDAN4/CMP1B/RP5/RA4	P48_CVDAN4_RA4	P48_Cap_Touch_1	Capacitive touch pad 1
49	1	PGD2/AD1ANN1/AD1AN4/CVDAN0/RP1/SCL2/IOMAF2/RA0	P49_PGD2	P49_PGD	ICSP™ programming data input
50	60	TRDATA2/RP55/RD6	P7_P50_RD6	P50_LED_5	General-purpose LED 5
51	3	PGC2/DACOUT1/AD3ANN1/AD3AN0/CVDAN1/CMP4D/RP2/RA1	P51_PGC2	P51_PGC	ICSP programming clock
52	62	TRDATA0/CVDTX17/RP56/ASCL2/IOMAF4/RD7	P52_RD7	P52_LED_6	General-purpose LED 6

Table 1-1. dsPIC33AK256MPS306 DIM Mapping (continued)

DIM Pin #	Device Pin #	dsPIC33AK256MPS306 I/Os	DIM Net Name/Function	dsPIC33 Curiosity Platform Board Net Name	Platform Board Function
53		N/C	N/C	N/C	N/C
54	63	TRCLKO/CVDTX18/RP57/ASDA2/IOMAF3/RD8	P54_P84_RP57_RD8	P54_LED_7	General-purpose LED 7[(1)]
55		N/C	N/C	P55_Board_VDD_Select	Voltage select pin. On 3.3V boards, this pin is not connected, as 3.3V is the default.
56	17	OA3IN+/CVDAN21/CVDTX5/CMP3B/ RP22/RB5	P56_CVDTX5_RB5	P56_Cap_Touch_DS	Capacitive touch pad driven shield I/O
57	5,11,19,38,48,58	V_{DD}	Board_V_{DD}	DIM_V_{DD}	Supply voltage for attached DIM
58	5,11,19,38,48,58	V_{DD}	Board_V_{DD}	DIM_V_{DD}	Supply voltage for attached DIM
59	5,11,19,38,48,58	V_{DD}	Board_V_{DD}	DIM_V_{DD}	Supply voltage for attached DIM
60	5,11,19,38,48,58	V_{DD}	Board_V_{DD}	DIM_V_{DD}	Supply voltage for attached DIM
61	4,10,18,37,47,57	V_{SS}	GND	GND	Ground
62	4,10,18,37,47,57	V_{SS}	GND	GND	Ground
63	4,10,18,37,47,57	V_{SS}	GND	GND	Ground
64	4,10,18,37,47,57	V_{SS}	GND	GND	Ground
65		N/C	N/C	P65_mkB_A_USB_SDA	mikroBUS A, pin 11, SDA (multiplexed with I2C to USB Converter, pin 8, SDA)
66	13	OA1IN-/AD1ANN2/AD1AN2/CVDAN3/ CMPCN/CMP1C/RP4/RA3	P66_AD1AN2_RA3	P66_POT	10kΩ potentiometer
67		N/C	N/C	P67_mkB_A_USB_SCL	mikroBUS A, pin 12, SCL (multiplexed with I2C to USB Converter, pin 9, SCL)
68	12	OA1OUT/AD1AN0/CVDAN2/CMP1A/RP3/RA2	P68_P75_RP3_RA2	P68_LED_R	Red LED control for RGB LED
69	8	AD1AN3/CVDAN9/CMP5B/IBIAS2/ISRC2/ RP10/RA9	P69_RP10_RA9	P69_mkB_A_TX	mikroBUS A, pin 13, TX
70	9	CVDAN10/CMPEN/CMP5C/RP11/RA10	P70_P73_RP11_RA10	P70_LED_G	Green LED control for RGB LED
71	7	AD3AN3/CVDAN8/CMP5A/IBIAS3/ ISRC3/RP9/RA8	P71_RP9_RA8	P71_mkB_A_RX	mikroBUS A, pin 14, RX
72	39	OSCO/CLKO/RP33/IOMAF5/RC0	P72_P81_RP33_RC0	P72_LED_B	Blue LED control for RGB LED
73	9	CVDAN10/CMPEN/CMP5C/RP11/RA10	P70_P73_RP11_RA10	P73_mkB_A_INT	mikroBUS A, pin 1, INT
74	6	CVDAN11/CMPFN/RP12/RA11	P74_P87_RP12_RA11	P74_QSPI_MOSI	Quad SPI Flash, pin 5, MOSI
75	12	OA1OUT/AD1AN0/CVDAN2/CMP1A/RP3/RA2	P68_P75_RP3_RA2	P75_mkB_A_PWM	mikroBUS A, pin 16, PWM
76	34	RP42/SDO2/RC9	P76_P83_RP42_RC9	P76_QSPI_SCK	Quad SPI Flash, pin 6, SCK
77	2	AD3AN1/CVDAN7/RP8/SDA2/IOMAF1/RA7	P77_AD3AN1_RA7	P77_mkB_A_AN	mikroBUS A, pin 1, AN
78	5,11,19,38,48,58	Board_Vdd	Board_Vdd	P78_QSPI_HOLD	Quad SPI Flash, pin 7, HOLD
79	36	RP40/ASDA1/IOMAF7/RC7	DEBUG_P79_RP40_RC7	P79_mkB_A_RST	mikroBUS A, pin 2, RST

Table 1-1. dsPIC33AK256MPS306 DIM Mapping (continued)

DIM Pin #	Device Pin #	dsPIC33AK256MPS306 I/Os	DIM Net Name/Function	dsPIC33 Curiosity Platform Board Net Name	Platform Board Function
80	5,11,19,38,48,58	Board_Vdd	Board_Vdd	P80_QSPI_WP	Quad SPI Flash, pin 3, WP
81	39	OSCO/CLKO/RP33/IOMAF5/RC0	P72_P81_RP33_RC0	P81_mkB_A_CS	mikroBUS A, pin 3, CS
82	35	RP39/ASCL1/RC6	P82_P85_RP39_RC6	P82_QSPI_MISO	Quad SPI Flash, pin 2, MISO
83	34	RP42/SDO2/RC9	P76_P83_RP42_RC9	P83_mkB_A_SCK	mikroBUS A, pin 4, SCK
84	63	TRCLKO/CVDTX18/RP57/ASDA2/IOMAF3/RD8	P54_P84_RP57_RD8	P84_QPSI_CS	Quad SPI Flash, pin 1, CS
85	35	RP39/ASCL1/RC6	P82_P85_RP39_RC6	P85_mkB_A_MISO	mikroBUS A, pin 5, MISO
86	41	PGC3/RP35/PWM4H/IOMAD7/SS2/ FSYNC2/RC2	P86_RP35_RC2	P86_CAN_STBY	CAN FD Transceiver, pin 8, STBY
87	6	CVDAN11/CMPFN/RP12/RA11	P74_P87_RP12_RA11	P87_mkB_A_MOSI	mikroBUS A, pin 6, MOSI
88	42	PGD3/RP38/I3CSCL1/PWM4L/IOMAD6/RC5	P88_RP38_RC5	P88_CAN_TXD	CAN FD Transceiver, pin 1, TXD
89		N/C	N/C	P89_RMII_NRST	Ethernet RMII J20, pin 1, NRST
90	43	RP36/PWM3H/IOMAD5/RC3	P90_RP36_RC3	P90_CAN_RXD	CAN FD Transceiver, pin 4, RXD
91		N/C	N/C	P91_RMII_IRQ	Ethernet RMII J20, pin 9, IRQ
92		N/C	N/C	P92_GPIO	General-purpose I/O header
93		N/C	N/C	P93_RMII_MDIO	Ethernet RMII J20, pin 8, MDIO
94		N/C	N/C	P94_GPIO	General-purpose I/O header
95		N/C	N/C	P95_RMII_MDC	Ethernet RMII J20, pin 7, MDC
96	44	RP37/I3CSDA1/PWM3L/IOMAD4/RC4	P96_RP37_RC4	P96_UART_USB_RX	USB to UART Converter, pin 5, RX
97		N/C	N/C	P97_RMII_CRS_DV	Ethernet RMII J20, pin 6, CRS_DV
98	45	RP43/RC10	P98_RP43_RC10	P98_UART_USB_TX	USB to UART Converter, pin 4, TX
99		N/C	N/C	P99_RMII_RXER	Ethernet RMII J20, pin 5, RXER
100	46	RP44/RC11	P100_RP44_RC11	P100_UART_PKoB_RX	UART to USB back-channel through PKoB RX
101		N/C	N/C	P101_RMII_RXD0	Ethernet RMII J20, pin 4, RXD0
102	49	RP49/PWM2H/IOMAD3/RD0	P102_RP49_RD0	P102_UART_PKoB_TX	UART to USB back-channel through PKoB TX
103		N/C	N/C	P103_RMII_RXD1	Ethernet RMII J20, pin 3, RXD1
104		N/C	N/C	P104_TRCLK	Trace pin 1, clock line
105		N/C	N/C	P105_RMII_TXEN	Ethernet RMII J10, pin 2, TXEN
106		N/C	N/C	P106_TRDAT0	Trace pin 3, data line 0
107		N/C	N/C	P107_RMII_TXD0	Ethernet RMII J10, pin 3, TXD0
108		N/C	N/C	P108_TRDAT1	Trace pin 4, data line 1
109		N/C	N/C	P109_RMII_TXD1	Ethernet RMII J10, pin 5, TXD1
110		N/C	N/C	P110_TRDAT2	Trace pin 7, data line 2

Table 1-1. dsPIC33AK256MPS306 DIM Mapping (continued)

DIM Pin #	Device Pin #	dsPIC33AK256MPS306 I/Os	DIM Net Name/Function	dsPIC33 Curiosity Platform Board Net Name	Platform Board Function
111		N/C	N/C	P111_RMII_CLK_IN	Ethernet RMII J19, pin 8, CLK_IN
112		N/C	N/C	P112_TRDAT3	Trace pin 8, data line 3
113	5,11,19,38,48,58	V_{DD}	Board_V_{DD}	DIM_V_{DD}	Supply voltage for attached DIM
114	5,11,19,38,48,58	V_{DD}	Board_V_{DD}	DIM_V_{DD}	Supply voltage for attached DIM
115	5,11,19,38,48,58	V_{DD}	Board_V_{DD}	DIM_V_{DD}	Supply voltage for attached DIM
116	5,11,19,38,48,58	V_{DD}	Board_V_{DD}	DIM_V_{DD}	Supply voltage for attached DIM
117	4,10,18,37,47,57	V_{SS}	GND	GND	Ground
118	4,10,18,37,47,57	V_{SS}	GND	GND	Ground
119	4,10,18,37,47,57	V_{SS}	GND	GND	Ground
120	4,10,18,37,47,57	V_{SS}	GND	GND	Ground

Note:

1. This pin is multiplexed with another board function that is pulled up to V_{DD}, and will turn on if the corresponding pin is not driven low.

Table 1-2. dsPIC33AK256MPS306 MCU Mappings

Device Pin #	DIM Pin #	dsPIC33AK256MPS306 I/Os	DIM Net Name/Function	dsPIC33 Curiosity Platform Board Net Name	Platform Board Function
1	49	PGD2/AD1ANN1/AD1AN4/CVDAN0/RP1/SCL2/IOMAF2/RA0	P49_PGD2	P49_PGD	ICSP™ programming data input
2	77	AD3AN1/CVDAN7/RP8/SDA2/IOMAF1/RA7	P77_AD3AN1_RA7	P77_mkB_A_AN	mikroBUS A, pin 1, AN
3	51	PGC2/DACOUT1/AD3ANN1/AD3AN0/CVDAN1/CMP4D/RP2/RA1	P51_PGC2	P51_PGC	ICSP programming clock
6	74	CVDAN11/CMPFN/RP12/RA11	P74_P87_RP12_RA11	P74_QSPI_MOSI	Quad SPI Flash, pin 5, MOSI
6	87	CVDAN11/CMPFN/RP12/RA11	P74_P87_RP12_RA11	P87_mkB_A_MOSI	mikroBUS A, pin 6, MOSI
7	71	AD3AN3/CVDAN8/CMP5A/IBIAS3/ISRC3/RP9/RA8	P71_RP9_RA8	P71_mkB_A_RX	mikroBUS A, pin 14, RX
8	69	AD1AN3/CVDAN9/CMP5B/IBIAS2/ISRC2/RP10/RA9	P69_RP10_RA9	P69_mkB_A_TX	mikroBUS A, pin 13, TX
9	70	CVDAN10/CMPEN/CMP5C/RP11/RA10	P70_P73_RP11_RA10	P70_LED_G	Green LED control for RGB LED
9	73	CVDAN10/CMPEN/CMP5C/RP11/RA10	P70_P73_RP11_RA10	P73_mkB_A_INT	mikroBUS A, pin 1, INT
12	68	OA1OUT/AD1AN0/CVDAN2/CMP1A/RP3/RA2	P68_P75_RP3_RA2	P68_LED_R	Red LED control for RGB LED
12	75	OA1OUT/AD1AN0/CVDAN2/CMP1A/RP3/RA2	P68_P75_RP3_RA2	P75_mkB_A_PWM	mikroBUS A, pin 16, PWM
13	66	OA1IN-/AD1ANN2/AD1AN2/CVDAN3/CMPCN/CMP1C/RP4/RA3	P66_AD1AN2_RA3	P66_POT	10kΩ potentiometer
14	48	UREF/OA1IN+/AD1AN1/AD2AN5/AD3AN4/CVDAN4/CMP1B/RP5/RA4	P48_CVDAN4_RA4	P48_Cap_Touch_1	Capacitive touch pad 1
15	46	OA3OUT/CVDAN5/CMP3A/RP6/INT0/RA5	P46_CVDAN5_RA5	P46_Cap_Touch_1R	Capacitive touch pad 1 (redundant)
16	44	OA3IN-/CVDAN6/CMPDN/CMP3C/RP7/RA6	P44_CVDAN6_RA6	P44_Cap_Touch_2	Capacitive touch pad 2
17	56	OA3IN+/CVDAN21/CVDTX5/CMP3B/RP22/RB5	P56_CVDTX5_RB5	P56_Cap_Touch_DS	Capacitive touch pad driven shield I/O
20	42	OA2OUT/AD2AN0/CVDAN16/CVDTX0/CMP2A/RP17/RB0	P42_CVDAN16_RB0	P42_Cap_Touch_2	Capacitive touch pad 2
21	40	TMS/OA2IN-/AD2ANN2/AD2AN2/CVDAN17/CVDTX1/CMP2C/RP18/RB1	P40_CVDAN17_RB1	P40_Cap_Touch_3	Capacitive touch pad 3
22	38	OA2IN+/AD2AN1/CVDAN18/CVDTX2/CMP2B/RP19/RB2	P38_CVDAN18_RB2	P38_Cap_Touch_3R	Capacitive touch pad 3 (redundant)
23	13	CVDAN24/CVDTX8/CMP2D/RP25/RB8	P13_CVDAN24_RB8	P13_XPRO1_3	XPLAINED PRO Extension 1, pin 3
24	11	CVDAN25/CVDTX9/RP26/RB9	P11_CVDAN25_RB9	P11_XPRO1_4	XPLAINED PRO Extension 1, pin 4
25	41	RP29/RB12	P41_RB12	P41_S3	Push-button switch 3
26	43	RP30/RB13	P43_RB13	P43_S2	Push-button switch 2
27	5	PGD1/AD2ANN1/AD2AN3/CVDAN19/CVDTX3/CMP4A/RP20/SDA1/RB3	P5_CVDAN19_RB3	P5_XPRO1_7	XPLAINED PRO Extension 1, pin 7

Table 1-2. dsPIC33AK256MPS306 MCU Mappings (continued)

Device Pin #	DIM Pin #	dsPIC33AK256MPS306 I/Os	DIM Net Name/Function	dsPIC33 Curiosity Platform Board Net Name	Platform Board Function
28	3	PGC1/AD2AN4/CVDAN20/CVDTX4/CMP4B/RP21/SCL1/RB4	P3_CVDAN20_RB4	P3_XPRO1_8	XPLAINED PRO Extension 1, pin 8
29	6	AD3ANN2/AD3AN2/CVDAN22/CVDTX6/ALLCMP/IBIAS0/ISRC0/RP23/I3CASCL1/RB6	P6_I3C_ASCL1_RB6	P6_mkB_B_SPRO1_SCL	mikroBUS B, pin 12, SCL (multiplexed with XPLAINED PRO Extension 1, pin 12, SCL)
30	4	CVDAN23/CVDTX7/CMP4C/IBIAS1/ISRC1/RP24/I3CASDA1/IOMAF0/RB7	P4_I3C_ASDA1_RB7	P4_mkB_B_XPRO1_SCL	mikroBUS B, pin 11, SDA (multiplexed with XPLAINED PRO Extension 1, pin 11)
31	2	CVDAN26/CVDTX10/RP27/SCK2/RB10	P2_CVDAN26_RB10	P2_XPRO1_10	XPLAINED PRO Extension 1, pin 10
32	1	CVDAN27/CVDTX11/RP28/SDI2/RB11	P1_CVDAN27_RB11	P1_XPRO1_9	XPLAINED PRO Extension 1, pin 9
33	45	RP41/RC8	P45_RC8	P45_S1	Push-button switch 1
34	76	RP42/SDO2/RC9	P76_P83_RP42_RC9	P76_QSPI_SCK	Quad SPI Flash, pin 6, SCK
34	83	RP42/SDO2/RC9	P76_P83_RP42_RC9	P83_mkB_A_SCK	mikroBUS A, pin 4, SCK
35	82	RP39/ASCL1/RC6	P82_P85_RP39_RC6	P82_QSPI_MISO	Quad SPI Flash, pin 2, MISO
35	85	RP39/ASCL1/RC6	P82_P85_RP39_RC6	P85_mkB_A_MISO	mikroBUS A, pin 5, MISO
36	79	RP40/ASDA1/IOMAF7/RC7	DEBUG_P79_RP40_RC7	P79_mkB_A_RST	mikroBUS A, pin 2, RST
39	72	OSCO/CLKO/RP33/IOMAF5/RC0	P72_P81_RP33_RC0	P72_LED_B	Blue LED control for RGB LED
39	81	OSCO/CLKO/RP33/IOMAF5/RC0	P72_P81_RP33_RC0	P81_mkB_A_CS	mikroBUS A, pin 3, CS
41	86	PGC3/RP35/PWM4H/IOMAD7/SS2/FSYNC2/RC2	P86_RP35_RC2	P86_CAN_STBY	CAN FD Transceiver, pin 8, STBY
42	88	PGD3/RP38/I3CSCL1/PWM4L/IOMAD6/RC5	P88_RP38_RC5	P88_CAN_TXD	CAN FD Transceiver, pin 1, TXD
43	90	RP36/PWM3H/IOMAD5/RC3	P90_RP36_RC3	P90_CAN_RXD	CAN FD Transceiver, pin 4, RXD
44	96	RP37/I3CSDA1/PWM3L/IOMAD4/RC4	P96_RP37_RC4	P96_UART_USB_RX	USB to UART Converter, pin 5, RX
45	98	RP43/RC10	P98_RP43_RC10	P98_UART_USB_TX	USB to UART Converter, pin 4, TX
46	100	RP44/RC11	P100_RP44_RC11	P100_UART_PKoB_RX	UART to USB back-channel through PKoB RX
49	102	RP49/PWM2H/IOMAD3/RD0	P102_RP49_RD0	P102_UART_PKoB_TX	UART to USB back-channel through PKoB TX
50	18	TCK/RP50/PWM2L/IOMAD2/RD1	P18_P28_RD1	P18_XPRO1_18	XPLAINED PRO Extension 1, pin 16
50	28	TCK/RP50/PWM2L/IOMAD2/RD1	P18_P28_RD1	P28_LED_0	General-purpose LED 0
51	16	TDO/RP51/PWM1H/IOMAD1/RD2	P16_P30_RD2	P16_XPRO1_17	XPLAINED PRO Extension 1, pin 17
51	30	TDO/RP51/PWM1H/IOMAD1/RD2	P16_P30_RD2	P30_LED_1	General-purpose LED 1
52	14	TDI/RP52/PWM1L/IOMAD0/RD3	P14_P32_RD3	P14_XPRO1_16	XPLAINED PRO Extension 1, pin 18
52	32	TDI/RP52/PWM1L/IOMAD0/RD3	P14_P32_RD3	P32_LED_2	General-purpose LED 2
59	9	TRDATA3/RP54/RD5	P9_P36_RD5	P9_XPRO1_5	XPLAINED PRO Extension 1, pin 5
59	36	TRDATA3/RP54/RD5	P9_P36_RD5	P36_LED_4	General-purpose LED 4

Table 1-2. dsPIC33AK256MPS306 MCU Mappings (continued)

Device Pin #	DIM Pin #	dsPIC33AK256MPS306 I/Os	DIM Net Name/Function	dsPIC33 Curiosity Platform Board Net Name	Platform Board Function
60	7	TRDATA2/RP55/RD6	P7_P50_RD6	P7_XPRO1_6	XPLAINED PRO Extension 1, pin 6
60	50	TRDATA2/RP55/RD6	P7_P50_RD6	P50_LED_5	General-purpose LED 5
61	12	TRDATA1/CVDTX16/RP53/RD4	P12_P34_RD4	P12_XPRO1_15	XPLAINED PRO Extension 1, pin 15
61	34	TRDATA1/CVDTX16/RP53/RD4	P12_P34_RD4	P34_LED_3	General-purpose LED 3
62	52	TRDATA0/CVDTX17/RP56/ASCL2/IOMAF4/RD7	P52_RD7	P52_LED_6	General-purpose LED 6
63	54	TRCLKO/CVDTX18/RP57/ASDA2/IOMAF3/RD8	P54_P84_RP57_RD8	P54_LED_7	General-purpose LED 7(1)
63	84	TRCLKO/CVDTX18/RP57/ASDA2/IOMAF3/RD8	P54_P84_RP57_RD8	P84_QPSI_CS	Quad SPI Flash, pin 1, CS
64	47	MCLR	P47_MCLR	P47_MCLR	Device master clear and MCLR switch
5,11,19,38,48,58	57	V_{DD}	Board_V_{DD}	DIM_V_{DD}	Supply voltage for attached DIM
5,11,19,38,48,58	58	V_{DD}	Board_V_{DD}	DIM_V_{DD}	Supply voltage for attached DIM
5,11,19,38,48,58	59	V_{DD}	Board_V_{DD}	DIM_V_{DD}	Supply voltage for attached DIM
5,11,19,38,48,58	60	V_{DD}	Board_V_{DD}	DIM_V_{DD}	Supply voltage for attached DIM
4,10,18,37,47,57	61	V_{SS}	GND	GND	Ground
4,10,18,37,47,57	62	V_{SS}	GND	GND	Ground
4,10,18,37,47,57	63	V_{SS}	GND	GND	Ground
4,10,18,37,47,57	64	V_{SS}	GND	GND	Ground
5,11,19,38,48,58	78	Board_V_{DD}	Board_V_{DD}	P78_QSPI_HOLD	Quad SPI Flash, pin 7, HOLD
5,11,19,38,48,58	80	Board_V_{DD}	Board_V_{DD}	P80_QSPI_WP	Quad SPI Flash, pin 3, WP
N/C	112	N/C	N/C	P112_TRDAT3	Trace pin 8, data line 3
5,11,19,38,48,58	113	V_{DD}	Board_V_{DD}	DIM_V_{DD}	Supply voltage for attached DIM
5,11,19,38,48,58	114	V_{DD}	Board_V_{DD}	DIM_V_{DD}	Supply voltage for attached DIM
5,11,19,38,48,58	115	V_{DD}	Board_V_{DD}	DIM_V_{DD}	Supply voltage for attached DIM
5,11,19,38,48,58	116	V_{DD}	Board_V_{DD}	DIM_V_{DD}	Supply voltage for attached DIM
4,10,18,37,47,57	117	V_{SS}	GND	GND	Ground
4,10,18,37,47,57	118	V_{SS}	GND	GND	Ground
4,10,18,37,47,57	119	V_{SS}	GND	GND	Ground
4,10,18,37,47,57	120	V_{SS}	GND	GND	Ground
N/C	8	N/C	N/C	P8_XPRO1_13	XPLAINED PRO Extension 1, pin 13
N/C	10	N/C	N/C	P10_XPRO1_14	XPLAINED PRO Extension 1, pin 14
N/C	15	N/C	N/C	P15_XPRO1_1	XPLAINED PRO Extension 1, pin 1
N/C	17	N/C	N/C	N/C	N/C
N/C	19	N/C	N/C	N/C	N/C

Table 1-2. dsPIC33AK256MPS306 MCU Mappings (continued)

Device Pin #	DIM Pin #	dsPIC33AK256MPS306 I/Os	DIM Net Name/Function	dsPIC33 Curiosity Platform Board Net Name	Platform Board Function
N/C	20	N/C	N/C	P20_XPRO2_3	XPLAINED PRO Extension 1, pin 21
N/C	21	N/C	N/C	P21_mkB_B_TX	mikroBUS B, pin 14, UART TX
N/C	22	N/C	N/C	P22_XPRO2_4	XPLAINED PRO Extension 2, pin 4
N/C	23	N/C	N/C	P23_mkB_B_RX	mikroBUS B, pin 14, UART RX
N/C	24	N/C	N/C	P24_XPRO2_5	XPLAINED PRO Extension 2, pin 5
N/C	25	N/C	N/C	P25_mkB_B_INT	mikroBUS B, pin 15, INT
N/C	26	N/C	N/C	P26_XPRO2_6	XPLAINED PRO Extension 2, pin 6
N/C	27	N/C	N/C	P27_mkB_B_PWM	mikroBUS B, pin 16, PWM
N/C	29	N/C	N/C	P29_mkB_B_AN	mikroBUS B, pin 1, AN
N/C	31	N/C	N/C	P31_mkB_B_RST	mikroBUS B, pin 2, RST
N/C	33	N/C	N/C	P33_mkB_B_CS	mikroBUS B, pin 3, CS
N/C	35	N/C	N/C	P35_mkB_B_SCK	mikroBUS B, pin 4, SCK
N/C	37	N/C	N/C	P37_mkB_B_MISO	mikroBUS B, pin 5, MISO
N/C	39	N/C	N/C	P39_mkB_B_MOSI	mikroBUS B, pin 8, MOSI
N/C	53	N/C	N/C	N/C	N/C
N/C	55	N/C	N/C	P55_Board_VDD_Select	Voltage select pin. On 3.3V boards, this pin is not connected, as 3.3V is the default.
N/C	65	N/C	N/C	P65_mkB_A_USB_SDA	mikroBUS A, pin 11, SDA (multiplexed with I2C to USB Converter, pin 8, SDA)
N/C	67	N/C	N/C	P67_mkB_A_USB_SCL	mikroBUS A, pin 12, SCL (multiplexed with I2C to USB Converter, pin 9, SCL)
N/C	89	N/C	N/C	P89_RMII_NRST	Ethernet RMII J20, pin 1, NRST
N/C	91	N/C	N/C	P91_RMII_IRQ	Ethernet RMII J20, pin 9, IRQ
N/C	92	N/C	N/C	P92_GPIO	General-purpose I/O header
N/C	93	N/C	N/C	P93_RMII_MDIO	Ethernet RMII J20, pin 8, MDIO
N/C	94	N/C	N/C	P94_GPIO	General-purpose I/O header
N/C	95	N/C	N/C	P95_RMII_MDC	Ethernet RMII J20, pin 7, MDC
N/C	97	N/C	N/C	P97_RMII_CRS_DV	Ethernet RMII J20, pin 6, CRS_DV
N/C	99	N/C	N/C	P99_RMII_RXER	Ethernet RMII J20, pin 5, RXER
N/C	101	N/C	N/C	P101_RMII_RXD0	Ethernet RMII J20, pin 4, RXD0
N/C	103	N/C	N/C	P103_RMII_RXD1	Ethernet RMII J20, pin 3, RXD1
N/C	104	N/C	N/C	P104_TRCLK	Trace pin 1, clock line
N/C	105	N/C	N/C	P105_RMII_TXEN	Ethernet RMII J10, pin 2, TXEN

Table 1-2. dsPIC33AK256MPS306 MCU Mappings (continued)

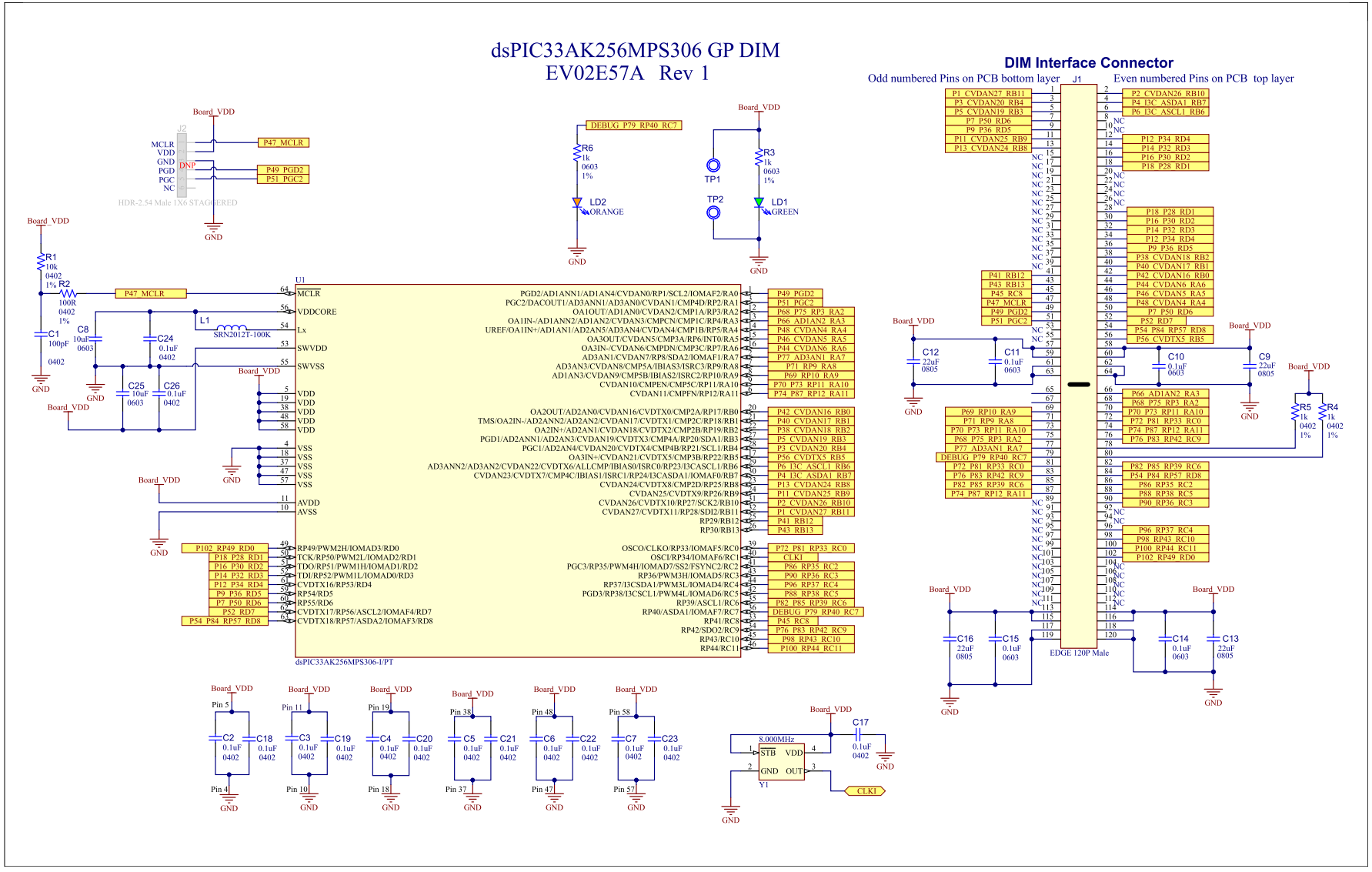
Device Pin #	DIM Pin #	dsPIC33AK256MPS306 I/Os	DIM Net Name/Function	dsPIC33 Curiosity Platform Board Net Name	Platform Board Function
N/C	106	N/C	N/C	P106_TRDAT0	Trace pin 3, data line 0
N/C	107	N/C	N/C	P107_RMII_TXD0	Ethernet RMII J10, pin 3, TXD0
N/C	108	N/C	N/C	P108_TRDAT1	Trace pin 4, data line 1
N/C	109	N/C	N/C	P109_RMII_TXD1	Ethernet RMII J10, pin 5, TXD1
N/C	110	N/C	N/C	P110_TRDAT2	Trace pin 7, data line 2
N/C	111	N/C	N/C	P111_RMII_CLK_IN	Ethernet RMII J19, pin 8, CLK_IN

Note:

1. This pin is multiplexed with another board function that is pulled up to V_{DD}, and will turn on if the corresponding pin is not driven low.

dsPIC33AK256MPS306 General Purpose Dual In-Line Module (DIM) Information Sheet

Figure 2-1. Schematic Revision 1.0



3. dsPIC33AK256MPS306 Bill of Materials

Table 3-1. dsPIC33AK256MPS306 General Purpose DIM BOM

Quantity	Designator	Description	Manufacturer 1	Manufacturer Part Number 1
1	C1	CAP CER 100pF 25V 10% X7R SMD 0402	KYOCERA AVX®	04023C101KAT2A
15	C2, C3, C4, C5, C6, C7, C17, C18, C19, C20, C21, C22, C23, C24, C26	CAP CER 0.1uF 25V 10% X7R SMD 0402	TDK Corporation	C1005X7R1E104K050BB
2	C8, C25	CAP CER 10uF 25V 20% X5R SMD 0603	TDK Corporation	C1608X5R1E106M080AC
4	C9, C12, C13, C16	CAP CER 22uF 25V 20% X5R SMD 0805	Yageo Group	CC0805MKX5R8BB226
4	C10, C11, C14, C15	CAP CER 0.1uF 50V 10% X7R SMD 0603	Yageo Group	CC0603KRX7R9BB104
1	L1	Inductor 10uH 800 mOhms 560 mA 10% SMD 2mmx1.2mm	Bourns Inc.®	SRN2012T-100K
1	LD1	DIO LED GREEN 2V 30mA 35mcd Clear SMD 0603	Lite-On, Inc.®	LTST-C190KGKT
1	LD2	DIO LED ORANGE 2V 30mA 90mcd Clear SMD 0603	Lite-On, Inc.	LTST-C190KFKT
1	R1	RES TKF 10k 1% 1/16W SMD 0402	TE Connectivity	CRG0402F10K
1	R2	RES TKF 100R 1% 1/10W SMD 0402 AEC-Q200	KOA Speer Electronics, Inc.®	RK73H1ETTP1000F
2	R3, R6	RES TKF 1k 1% 1/10W SMD 0603	TE Connectivity	CRG0603F1K0
2	R4, R5	RES TF 1k 1% 1/10W SMD 0402 AEC-Q200	Vishay® Beyschlag	MCS04020C1001FE000
2	TP1, TP2	CON TP LOOP Silver 3.4x5 SMD	Keystone Electronics®	5016
Microchip Parts				
1	U1	MCHP MCU 32-bit 200MIPS 256k 64k dsPIC33AK256MPS306-I/PT TQFP-64	Microchip Technology®	dsPIC33AK256MPS306-I/PT TQFP-64
1	Y1	MCHP CLOCK OSCILLATOR SINGLE 8.000 MHz DSC6011JI2B-008.0000 VDFN-4	Microchip Technology	DSC6011JI2B-008.0000
Mechanical Parts to be added in the package				
1	LABEL1	LABEL PCBA 18x6mm Datamatrix Assy# / Rev / Serial / Date	ACT Logimark AS®	505462
PCB				
1	PCB1	Printed Circuit Board		04-12491-R1
1	PCBA1	PCB Assembly		02-01434-R1
Do Not Populate Parts listed below				
1	J1	CON EDGE HSEC8 0.80mm 120P Male PCB R/A		
0	J2	CON HDR-2.54 Male 1x6 Staggered DNP	Sullins Connector Solutions	PBC06SAAN

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