

dsPIC33CK256MC506 General Purpose Plug-In Module (PIM) Information Sheet

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Overview

The dsPIC33CK256MC506 General Purpose Plug-In Module (EV16E47A) is designed to demonstrate the capabilities of the dsPIC33CK256MC506 family using the Explorer 16/32 Development Board. Refer to [Table 1](#) and [Table 2](#) for the mapping of the physical pins on the dsPIC33CK256MC506 device 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: dsPIC33CK256MC506 PIM Mapping

| PIM Pin # | Device Pin # | dsPIC33CK256MC506 I/Os | Function | Explorer 16/32 Net Name |
|-----------|----------------|----------------------------------|---------------|-------------------------|
| 1 | — | — | P1_VBUS | -N/C- |
| 2 | 10,19,25,41,57 | Vdd/AVdd | VDD_PIM | VDD_PIM |
| 3 | 4 | RP61/RC13 | P3_LCDD5 | P3_LCDD5_RC13 |
| 4 | 5 | RP62/RC14 | P4_LCDD6 | P4_LCDD6_RC14 |
| 5 | 6 | RP63/RC15 | P5_LCDD7 | P5_LCDD7_RC15 |
| 6 | 62 | TCK/RP43/PWM3L/RB11 | P6 | P6_RB11 |
| 7 | 63 | TDI/RP44/PWM2H/RB12 | P7 | P7_RB12 |
| 8 | — | — | P8 | -N/C- |
| 9 | — | — | P9 | -N/C- |
| 10 | 50 | RP52/RC4 | P10_SCKA | P10_SCKA_RC4 |
| 11 | 51 | RP53/RC5 | P11_MISOA | P11_MISOA_RC5 |
| 12 | 24 | AN19/IBIAS1/RP54/RC6 | P12_MOSIA | P12_MOSIA_RC6 |
| 13 | 7 | MCLR | P13_MCLR | P13_MCLR |
| 14 | 2 | RP47/PWM1L/RB15 | P14_CSA | P14_CSA_RB15 |
| 15 | 9,20,26,40,56 | Vss | GND | GND |
| 16 | 10,19,25,41,57 | Vdd/AVdd | VDD_PIM | VDD_PIM |
| 17 | 60 | RP64/PWM4L/RD0 | P17_LED3 | P17_LED3_RD0 |
| 18 | 32 | AN7/ISRC2/RP55/RC7 | P18_INTB | P18_INTB_RC7 |
| 19 | 52 | RP58/RC10 | P19_RSTB | P19_RSTB_RC10 |
| 20 | 13 | AN12/RP48/RC0 | P20_POT | P20_POT_RC0 |
| 21 | 23 | OA3IN+/AN14/CMP2B/ISRC1/RP50/RC2 | P21_TEMP | P21_TEMP_RC2 |
| 22 | 38 | RP73/PCI20/RD9 | P22 | P22_RD9 |
| 23 | 53 | RP59/RC11 | P23_CSB | P23_CSB_RC11 |
| 24 | 27 | AN15/CMP2A/IBIAS2/RP51/RC3 | P24_ANB | P24_ANB_RC3 |
| 25 | 22 | OA3IN-/AN13/CMP1B/ISRC0/RP49/RC1 | P25_ANA_USBOC | P25_ANA_USBOC_RC1 |
| 26 | 35 | PGC2/OA2IN+/AN17/RP36/RB4 | P26_PGC | P26_PGC_RB4 |
| 27 | 34 | PGD2/OA2IN-/AN8/RP35/RB3 | P27_PGD | P27_PGD_RB3 |
| 28 | — | — | P28 | -N/C- |
| 29 | — | — | P29 | -N/C- |
| 30 | 10,19,25,41,57 | Vdd/AVdd | VDD_PIM | VDD_PIM |
| 31 | 9,20,26,40,56 | AVss | GND | GND |
| 32 | — | — | P32_CC2 | -N/C- |
| 33 | — | — | P33_CC1 | -N/C- |
| 34 | — | — | P34 | -N/C- |
| 35 | — | — | P35 | -N/C- |
| 36 | 9,20,26,40,56 | Vss | GND | GND |
| 37 | 10,19,25,41,57 | Vdd/AVdd | VDD_PIM | VDD_PIM |
| 38 | 59 | RP65/PWM4H/RD1 | P38_LED4 | P38_LED4_RD1 |
| 39 | — | — | P39 | -N/C- |
| 40 | — | — | P40 | -N/C- |
| 41 | — | — | P41 | -N/C- |
| 42 | — | — | P42 | -N/C- |
| 43 | — | — | P43 | -N/C- |
| 44 | 18 | OA3OUT-/AN4/IBIAS3/RA4 | P44_LCDRS | P44_LCDRS_RA4 |
| 45 | — | — | GND | GND |
| 46 | 10,19,25,41,57 | Vdd/AVdd | VDD_PIM | VDD_PIM |
| 47 | — | — | P47 | -N/C- |
| 48 | 16 | OA1IN+/AN9/RA2 | P48 | P48_RA2 |
| 49 | 21 | RP76/RD12 | P49_RXB | P49_RXB_RD12 |
| 50 | 12 | ANNO/RP77/RD13 | P50_TXB | P50_TXB_RD13 |

Table 1: dsPIC33CK256MC506 PIM Mapping (Continued)

| PIM Pin # | Device Pin # | dsPIC33CK256MP508 I/Os | Function | Explorer 16/32 Net Name |
|-----------|---------------|---------------------------------------|--------------|-------------------------|
| 51 | 11 | RP78/PCI21/RD14 | P51_TXA | P51_TXA_RD14 |
| 52 | 8 | RP79/PCI22/RD15 | P52_RXA | P52_RXA_RD15 |
| 53 | 39 | RP72/SDO2/PCI19/RD8 | P53_MOSIB | P53_MOSIB_RD8 |
| 54 | 37 | RP57/ASCL1/SDI2/RC9 | P54_MISOB | P54_MISOB_RC9 |
| 55 | 36 | RP56/ASDA1/SCK2/RC8 | P55_SCKB | P55_SCKB_RC8 |
| 56 | 49 | PGC1/AN11/RP41/SDA1/RB9 | P56_SDA | P56_SDA_RB9 |
| 57 | 48 | PGD1/AN10/RP40/SCL1/RB8 | P57_SCL | P57_SCL_RB8 |
| 58 | 58 | RP66/RD2 | P58_LED5 | P58_LED5_RD2 |
| 59 | 55 | RP67/RD3 | P59_LED6 | P59_LED6_RD3 |
| 60 | 54 | RP68/RD4 | P60_LED7 | P60_LED7_RD4 |
| 61 | 44 | RP69/RD5 | P61_LED8 | P61_LED8_RD5 |
| 62 | — | — | VDD_PIM | VDD_PIM |
| 63 | 28 | OSCI/CLKI/AN5/RP32/RB0 | P63_OSCI | P63_OSCI_RB0 |
| 64 | 29 | OSCO/CLKO/AN6/RP33/RB1 | P64_OSCO | P64_OSCO_RB1 |
| 65 | 9,20,26,40,56 | Vss | GND | GND |
| 66 | 61 | TMS/RP42/PWM3H/RB10 | P66 | P66_RB10 |
| 67 | 33 | OA2OUT-/AN1/CMP1D/CMP2D/RP34/INT0/RB2 | P67_INTA | P67_INTA_RB2 |
| 68 | — | — | P68 | -N/C- |
| 69 | — | — | P69 | -N/C- |
| 70 | — | — | P70 | -N/C- |
| 71 | — | — | P71 | -N/C- |
| 72 | 64 | RP45/PWM2L/RB13 | P72_PWMA | P72_PWMA_RB13 |
| 73 | — | — | P73_SOSCI | -N/C- |
| 74 | — | — | P74_SOSCO | -N/C- |
| 75 | 9,20,26,40,56 | Vss | GND | GND |
| 76 | — | — | P76 | -N/C- |
| 77 | — | — | P77 | -N/C- |
| 78 | 1 | RP46/PWM1H/RB14 | P78_PWMB | P78_PWMB_RB14 |
| 79 | 15 | OA1IN-/AN16/RA1 | P79_EECS | P79_EECS_RA1 |
| 80 | 46 | PGC3/RP38/RB6 | P80_S4 | P80_S4_RB6 |
| 81 | 17 | DACOUT1/AN3/CMP1C/RA3 | P81_LCDE | P81_LCDE_RA3 |
| 82 | — | To Vss via R1 (1k) | P82_LCDRW | P82_LCDRW |
| 83 | 45 | PGD3/RP37/RB5 | P83_S3 | P83_S3_RB5 |
| 84 | 47 | TDO/AN2/RP39/RB7 | P84_S6 | P84_S6_RB7 |
| 85 | — | — | P85_VDDCORE | -N/C- |
| 86 | — | — | P86_ENVREG | -N/C- |
| 87 | 31 | AN18/ISRC3/RP74/RD10 | P87 | P87_RD10 |
| 88 | 30 | CMP2C/RP75/RD11 | P88 | P88_RD11 |
| 89 | — | — | P89_USBDN | -N/C- |
| 90 | — | — | P89_USBDP | -N/C- |
| 91 | 43 | RP70/RD6 | P91_LED9 | P91_LED9_RD6 |
| 92 | 42 | RP71/RD7 | P92_S5_LED10 | P92_S5_LED10_RD7 |
| 93 | — | — | P93_LCDD0 | -N/C- |
| 94 | — | — | P94_LCDD1 | -N/C- |
| 95 | 14 | OA1OUT-/AN0/CMP1A/IBIAS0/RA0 | P95_RSTA | P95_RSTA_RA0 |
| 96 | — | — | P96_VBUSON | -N/C- |
| 97 | — | — | P97 | -N/C- |
| 98 | — | — | P98_LCDD2 | -N/C- |
| 99 | — | — | P93_LCDD3 | -N/C- |
| 100 | 3 | RP60/RC12 | P100_LCDD4 | P100_LCDD4_RC12 |

Table 2: dsPIC33CK256MC506 PIC® MCU Mapping

| Device Pin # | PIM Pin # | dsPIC33CK256MP506 I/Os | Function | Explorer 16/32 Net Name |
|--------------|----------------|----------------------------------|---------------|-------------------------|
| 1 | 78 | RP46/PWM1H/RB14 | P78_PWMB | P78_PWMB_RB14 |
| 2 | 14 | RP47/PWM1L/RB15 | P14_CSA | P14_CSA_RB15 |
| 3 | 100 | RP60/RC12 | P100_LCDD4 | P100_LCDD4_RC12 |
| 4 | 3 | RP61/RC13 | P3_LCDD5 | P3_LCDD5_RC13 |
| 5 | 4 | RP62/RC14 | P4_LCDD6 | P4_LCDD6_RC14 |
| 6 | 5 | RP63/RC15 | P5_LCDD7 | P5_LCDD7_RC15 |
| 7 | 13 | MCLR | P13_MCLR | P13_MCLR |
| 8 | 52 | RP79/PCI22/RD15 | P52_RXA | P52_RXA_RD15 |
| 9 | 15,31,36,65,75 | Vss | GND | GND |
| 10 | 2,16,30,37,46 | Vdd | VDD_PIM | VDD_PIM |
| 11 | 51 | RP78/PCI21/RD14 | P51_TXA | P51_TXA_RD14 |
| 12 | 50 | ANNO/RP77/RD13 | P50_TXB | P50_TXB_RD13 |
| 13 | 20 | AN12/RP48/RC0 | P20_POT | P20_POT_RC0 |
| 14 | 95 | OA1OUT/AN0/CMP1A/IBIAS0/RA0 | P95_RSTA | P95_RSTA_RA0 |
| 15 | 79 | OA1IN-/AN16/RA1 | P79_EECS | P79_EECS_RA1 |
| 16 | 48 | OA1IN+/AN9/RA2 | P48 | P48_RA2 |
| 17 | 81 | DACOUT1/AN3/CMP1C/RA3 | P81_LCDE | P81_LCDE_RA3 |
| 18 | 44 | OA3OUT/AN4/IBIAS3/RA4 | P44_LCDRS | P44_LCDRS_RA4 |
| 19 | 2,16,30,37,46 | AVdd | VDD_PIM | VDD_PIM |
| 20 | 15,31,36,65,75 | AVss | GND | GND |
| 21 | 49 | RP76/RD12 | P49_RXB | P49_RXB_RD12 |
| 22 | 25 | OA3IN-/AN13/CMP1B/ISRC0/RP49/RC1 | P25_ANA_USBOC | P25_ANA_USBOC_RC1 |
| 23 | 21 | OA3IN+/AN14/CMP2B/ISRC1/RP50/RC2 | P21_TEMP | P21_TEMP_RC2 |
| 24 | 12 | AN19/IBIAS1/RP54/RC6 | P12_MOSIA | P12_MOSIA_RC6 |
| 25 | 2,16,30,37,46 | Vdd | VDD_PIM | VDD_PIM |
| 26 | 15,31,36,65,75 | Vss | GND | GND |
| 27 | 24 | AN15/CMP2A/IBIAS2/RP51/RC3 | P24_ANB | P24_ANB_RC3 |
| 28 | 63 | OSCI/CLKI/AN5/RP32/RB0 | P63_OSCI | P63_OSCI_RB0 |
| 29 | 64 | OSCO/CLKO/AN6/RP33/RB1 | P64_OSCO | P64_OSCO_RB1 |
| 30 | 88 | CMP2C/RP75/RD11 | P88 | P88_RD11 |
| 31 | 87 | AN18/ISRC3/RP74/RD10 | P87 | P87_RD10 |
| 32 | 18 | AN7/ISRC2/RP55/RC7 | P18_INTB | P18_INTB_RC7 |

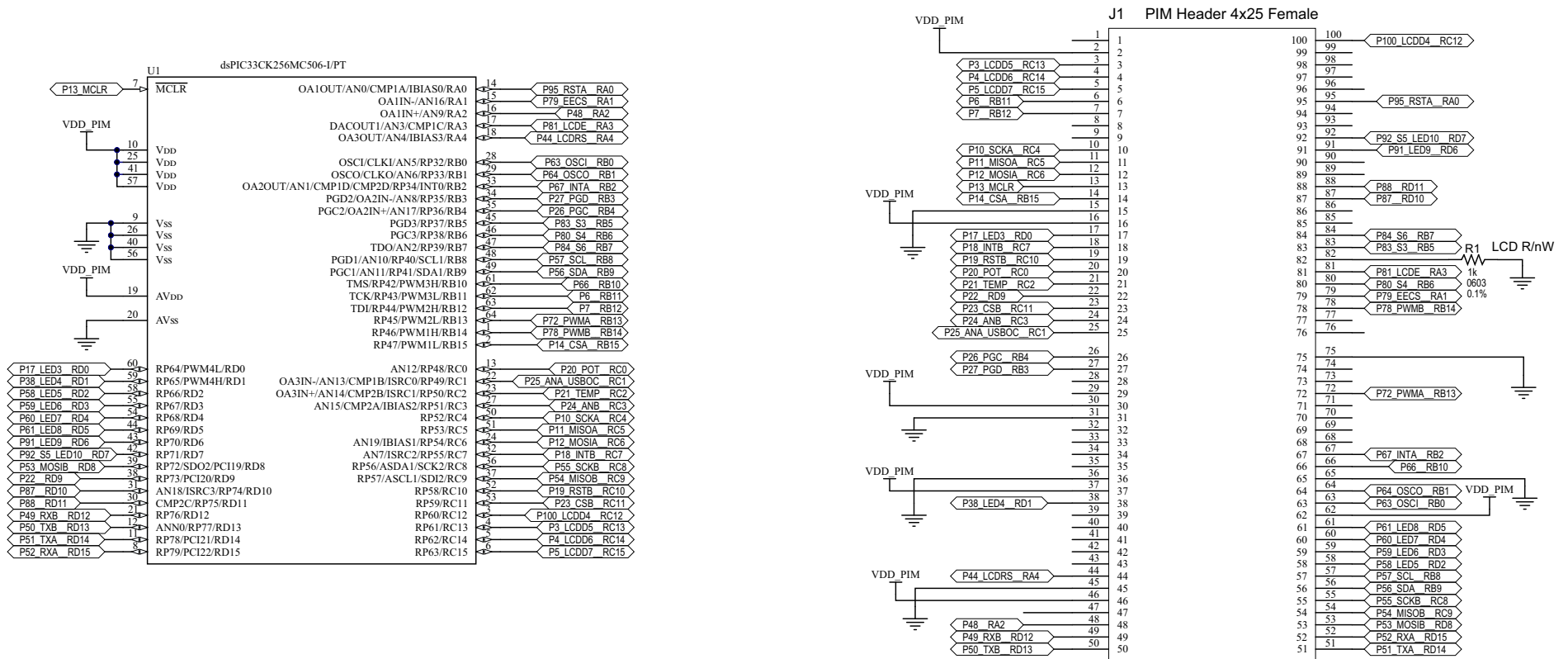
Table 2: dsPIC33CK256MC506 PIC® MCU Mapping (Continued)

| Device Pin # | PIM Pin # | dsPIC33CK256MP506 I/Os | Function | Explorer 16/32 Net Name |
|--------------|----------------|--------------------------------------|--------------|-------------------------|
| 33 | 67 | OA2OUT/AN1/CMP1D/CMP2D/RP34/INT0/RB2 | P67_INTA | P67_INTA_RB2 |
| 34 | 27 | PGD2/OA2IN-/AN8/RP35/RB3 | P27_PGD | P27_PGD_RB3 |
| 35 | 26 | PGC2/OA2IN+/AN17/RP36/RB4 | P26_PGC | P26_PGC_RB4 |
| 36 | 55 | RP56/ASDA1/SCK2/RC8 | P55_SCKB | P55_SCKB_RC8 |
| 37 | 54 | RP57/ASCL1/SDI2/RC9 | P54_MISOB | P54_MISOB_RC9 |
| 38 | 22 | RP73/PCI20/RD9 | P22 | P22_RD9 |
| 39 | 53 | RP72/SDO2/PCI19/RD8 | P53_MOSIB | P53_MOSIB_RD8 |
| 40 | 15,31,36,65,75 | Vss | GND | GND |
| 41 | 2,16,30,37,46 | Vdd | VDD_PIM | VDD_PIM |
| 42 | 92 | RP71/RD7 | P92_S5_LED10 | P92_S5_LED10_RD7 |
| 43 | 91 | RP70/RD6 | P91_LED9 | P91_LED9_RD6 |
| 44 | 61 | RP69/RD5 | P61_LED8 | P61_LED8_RD5 |
| 45 | 83 | PGD3/RP37/RB5 | P83_S3 | P83_S3_RB5 |
| 46 | 80 | PGC3/RP38/RB6 | P80_S4 | P80_S4_RB6 |
| 47 | 84 | TDO/AN2/RP39/RB7 | P84_S6 | P84_S6_RB7 |
| 48 | 57 | PGD1/AN10/RP40/SCL1/RB8 | P57_SCL | P57_SCL_RB8 |
| 49 | 56 | PGC1/AN11/RP41/SDA1/RB9 | P56_SDA | P56_SDA_RB9 |
| 50 | 10 | RP52/RC4 | P10_SCKA | P10_SCKA_RC4 |
| 51 | 11 | RP53/RC5 | P11_MISOA | P11_MISOA_RC5 |
| 52 | 19 | RP58/RC10 | P19_RSTB | P19_RSTB_RC10 |
| 53 | 23 | RP59/RC11 | P23_CSB | P23_CSB_RC11 |
| 54 | 60 | RP68/RD4 | P60_LED7 | P60_LED7_RD4 |
| 55 | 59 | RP67/RD3 | P59_LED6 | P59_LED6_RD3 |
| 56 | 15,31,36,65,75 | Vss | GND | GND |
| 57 | 2,16,30,37,46 | Vdd | VDD_PIM | VDD_PIM |
| 58 | 58 | RP66/RD2 | P58_LED5 | P58_LED5_RD2 |
| 59 | 38 | RP65/PWM4H/RD1 | P38_LED4 | P38_LED4_RD1 |
| 60 | 17 | RP64/PWM4L/RD0 | P17_LED3 | P17_LED3_RD0 |
| 61 | 66 | TMS/RP42/PWM3H/RB10 | P66 | P66_RB10 |
| 62 | 6 | TCK/RP43/PWM3L/RB11 | P6 | P6_RB11 |
| 63 | 7 | TDI/RP44/PWM2H/RB12 | P7 | P7_RB12 |
| 64 | 72 | RP45/PWM2L/RB13 | P72_PWMA | P72_PWMA_RB13 |

dsPIC33CK256MC506 General Purpose Plug-In Module (PIM) Information Sheet

Schematic Rev. 2.0

dsPIC33CK256MC506 General Purpose PIM



0.1 μ F Bypass caps between all VDD/VSS and AVDD and AVSS pin pairs
1.0 μ F Bulk cap between VDD and VSS rails

