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PIC32MX270F256D

PIC32MX270F256D Bluetooth® Audio 44-pin to 100-pin TQFP Plug-In Module (PIM) Information Sheet

The PIC32MX270F256D Bluetooth Audio PIM is designed to demonstrate the capabilities of the PIC32MX1XX/2XX family of devices using the PIC32 Bluetooth Audio Development Kit board.

Note: This PIM can only be used with the PIC32 Bluetooth Audio Development Board. To get started with development, please visit: <http://www.microchip.com/pic32tools> and click the PIC32 Bluetooth Audio Development Board product link.

The PIC32MX1XX/2XX family of devices are high-performance 32-bit microcontrollers in low-pin count packages.

Table 1 shows the mapping between the development board functions and the device pins.

The MCP23008 (see Figure 3) is an I²C bus expander, which was added to help maintain most of the functionality of the 100-pin device. The I²C expander controls the on-board LEDs and charge management logic control lines. For flexibility, the I²C expander has a changeable slave address.

TABLE 1: 44-PIN TO 100-PIN PINOUT

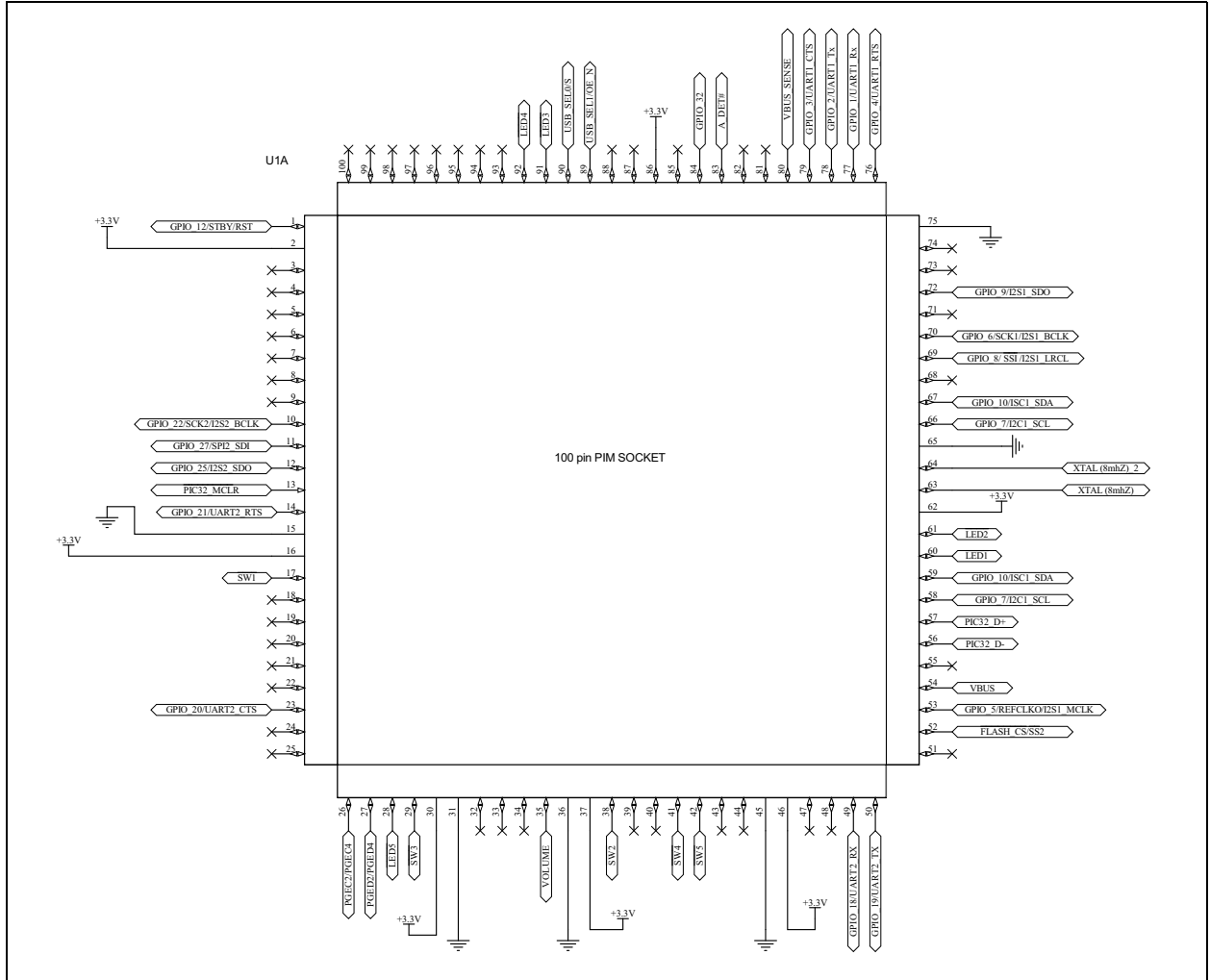
| Device Pin # | PIC32MX270F256D Pin Name | PIM Pin # | Functional Description | I ² C Expander (MCP23008) |
|--------------|--|---------------------------|------------------------|--------------------------------------|
| 1 | RPB9/SDA1/CTED4/PMD3/RB9 | 59, 67 | I2C SDA | 2 |
| 2 | RPC6/PMA1/RC6 | 77 | UART1_RX | — |
| 3 | RPC7/PMA0/RC7 | 78 | UART_TX | — |
| 4 | RPC8/PMA5/RC8 | 49 | UART2_RX | — |
| 5 | RPC9/CTED7/PMA6/RC9 | 41 | SW4 | — |
| 6 | Vss | 15, 31, 36, 45, 65, 75 | GND | 3, 5, 9 |
| 7 | VCAP | 2, 16, 30, 37, 46, 62, 86 | 3.3V/VCAP | — |
| 8 | PGED2/RPB10/D+/CTED11/RB10 | 57 | USB D+ | — |
| 9 | PGEC2/RPB11/D-/RB11 | 56 | USB D- | — |
| 10 | VBUSV3 | | 3.3V | 20 |
| 11 | AN11/RPB13/CTPLS/PMRD/RB13 | 11 | SPI2_SDI | — |
| 12 | PGED/TMS/PMA10/RA10 | 27 | PGD4 | — |
| 13 | PGEC/TCK/CTED8/PMA7/RA7 | 26 | PGC4 | — |
| 14 | CVREFOUT/AN10/C3INB/RPB14/VBUSON/SCK1/CTED5/RB14 | 70 | I2S1_BCLK | — |
| 15 | AN9/C3INA/RPB15/SCK2/CTED6/PMCS1/RB15 | 10 | SCK2 | — |
| 16 | AVss | 15, 31, 36, 45, 65, 75 | GND | 3, 5, 9 |
| 17 | AVDD | 2, 16, 30, 37, 46, 62, 86 | 3.3V | 20 |
| 18 | MCLR | 13 | MCLR# | — |
| 19 | PGED3/VREF+/CVREF+/AN0/C3INC/RPA0/CTED1/PMD7/RA0 | 35 | VOLUME | — |
| 20 | PGEC3/VREF-/CVREF-/AN1/RPA1/CTED2/PMD6/RA1 | 80 | VBUS_SENSE | — |
| 21 | PGED1/AN2/C1IND/C2INB/C3IND/RPB0/PMD0/RB0 | 52 | SS2 | — |
| 22 | PGEC1/AN3/C1INC/C2INA/RPB1/CTED12/PMD1/RB1 | 79 | UART1_CTS# | — |
| 23 | AN4/C1INB/C2IND/RPB2/SDA2/CTED13/PMD2/RB2 | 17 | SW1 | — |
| 24 | AN5/C1INA/C2INC/RTCC/RPB3/SCL2/PMWR/RB3 | 38 | SW2 | — |
| 25 | AN6/RC0/RC0 | 1 | STBY/RS# | — |
| 26 | AN7/RC1/RC1 | 53 | I2S1_MCLK | — |

PIC32MX270F256D

TABLE 1: 44-PIN TO 100-PIN PINOUT (CONTINUED)

| Device Pin # | PIC32MX270F256D Pin Name | PIM Pin # | Functional Description | I ² C Expander (MCP23008) |
|--------------|---------------------------|---------------------------|------------------------|--------------------------------------|
| 27 | AN8/RPC2/PMA2/RC2 | 76 | UART_RTS# | — |
| 28 | VDD | 2, 16, 30, 37, 46, 62, 86 | 3.3V | 20 |
| 29 | VSS | 15, 31, 36, 45, 65, 75 | GND | 3, 5, 9 |
| 30 | OSC1/CLKI/RPA2/RA2 | 63 | OSC1 | — |
| 31 | OSC2/CLKO/RPA3/RA3 | 64 | OSC2 | — |
| 32 | TDO/RPA8/PMA8/RA8 | 83 | A_DET# | — |
| 33 | SOSCI/RPB4/RB4 | 69 | I2S1_LRCL | — |
| 34 | SOSCO/RPA4/T1CK/CTED9/RA4 | 12 | SDO2 | — |
| 35 | TDI/RPA9/PMA9/RA9 | 72 | I2S1_SDO | — |
| 36 | AN12/RPC3/RC3 | 23 | UART2_CTS# | — |
| 37 | RPC4/PMA4/RC4 | 50 | UART2_TX | — |
| 38 | RPC5/PMA3/RC5 | 29 | SW3 | — |
| 39 | VSS | 15, 31, 36, 45, 65, 75 | GND | 3, 5, 9 |
| 40 | VDD | 2, 16, 30, 37, 46, 62, 86 | 3.3V | 20 |
| 41 | RPB5/USBID/RB5 | 42 | SW5 | — |
| 42 | VBUS | 54 | 3.3V/VBUS | — |
| 43 | RPB7/CTED3/PMD5/INT0/RB7 | 14 | UART2_RTS# | — |
| 44 | RPB8/SCL1/CTED10/PMD4/RB8 | 58, 66 | I2C SCL | 1 |

FIGURE 1: 100-PIN HEADER SCHEMATIC



PIC32MX270F256D

FIGURE 2: 44-PIN DEVICE SCHEMATIC

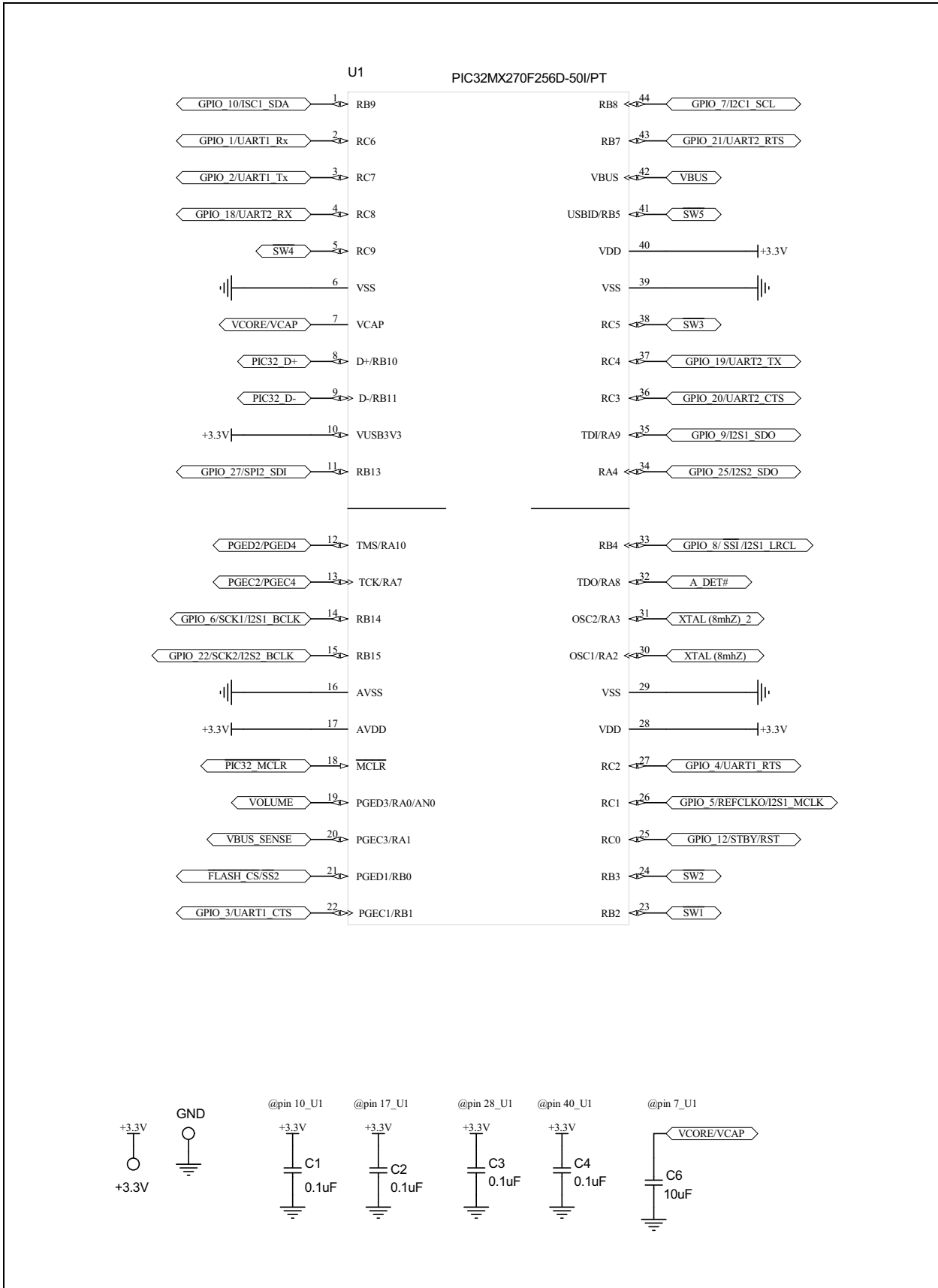
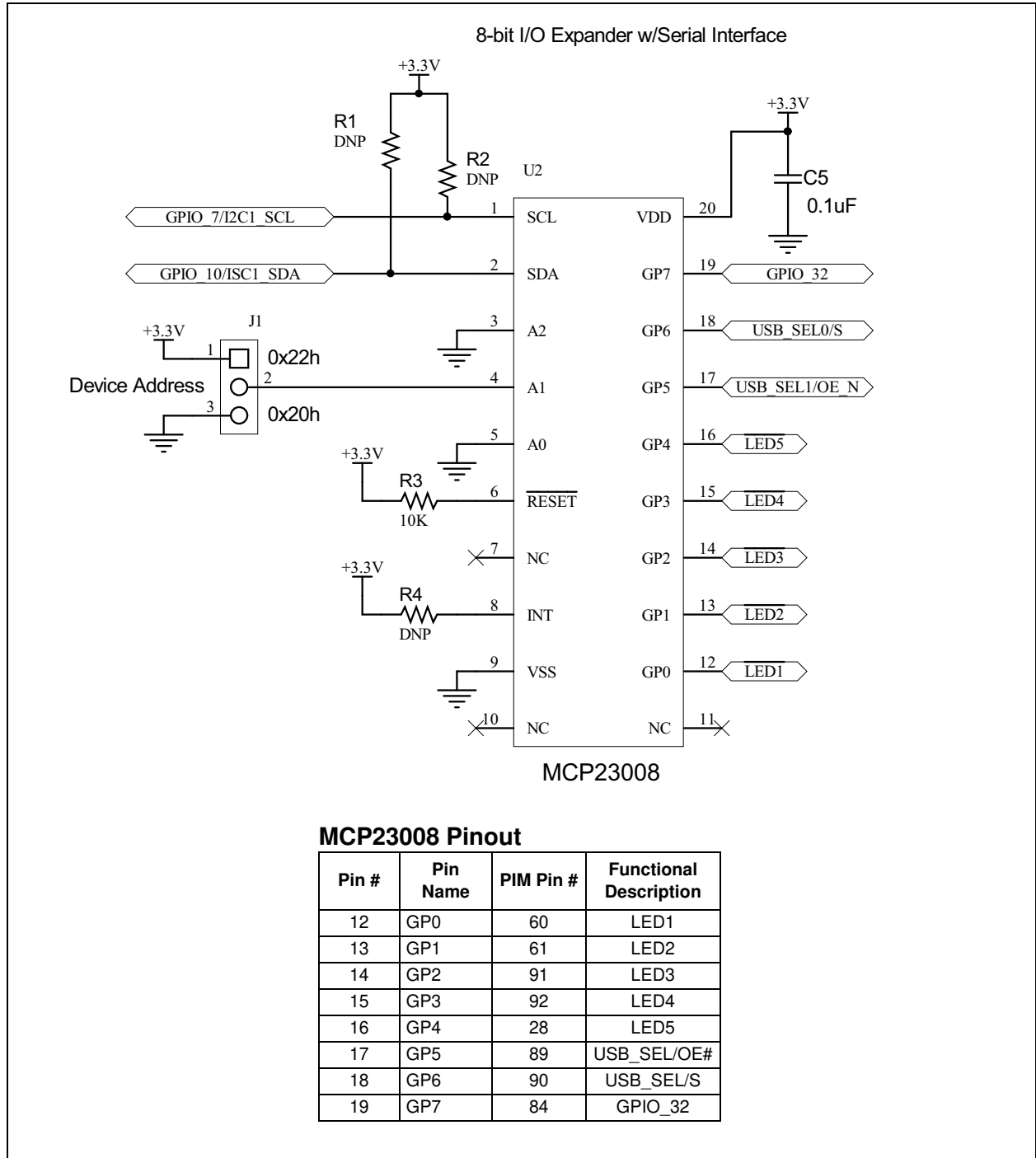


FIGURE 3: MCP23008 EXPANDER



PIC32MX270F256D

REVISION HISTORY

Revision A (May 2014)

This is the initial released version of this document.

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