



# PIC32MX274F256D

## PIC32MX274F256D Bluetooth® Audio 44-pin to 100-pin TQFP Plug-In Module (PIM) (MA320022) Information Sheet

The PIC32MX274F256D Bluetooth® Audio PIM (MA320022) is designed to demonstrate the capabilities of the PIC32MX1XX/2XX family of devices using the PIC32 Bluetooth Audio Development 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 (DV320032) product link.

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

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

The MCP23008 is an I<sup>2</sup>C bus expander, which was added to help maintain the most of the functionalities of the 100-pin device, see Figure 3. The I<sup>2</sup>C expander controls the on-board LEDs and charge management logic control lines. For flexibility, the I<sup>2</sup>C expander has a changeable slave address.

**TABLE 1: 44-PIN TO 100-PIN PIM MAPPING**

| Device Pin # | PIC32MX274F256D Pin Name                         | PIM Pin #                 | Functional Description | I <sup>2</sup> 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           | VBUS3V3  |                           | 3.3V                   | 20                                   |
| 11           | AN11/RPB13/CTPLS/PMRD/RB13                       | N/C                       | 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#               | —                                    |

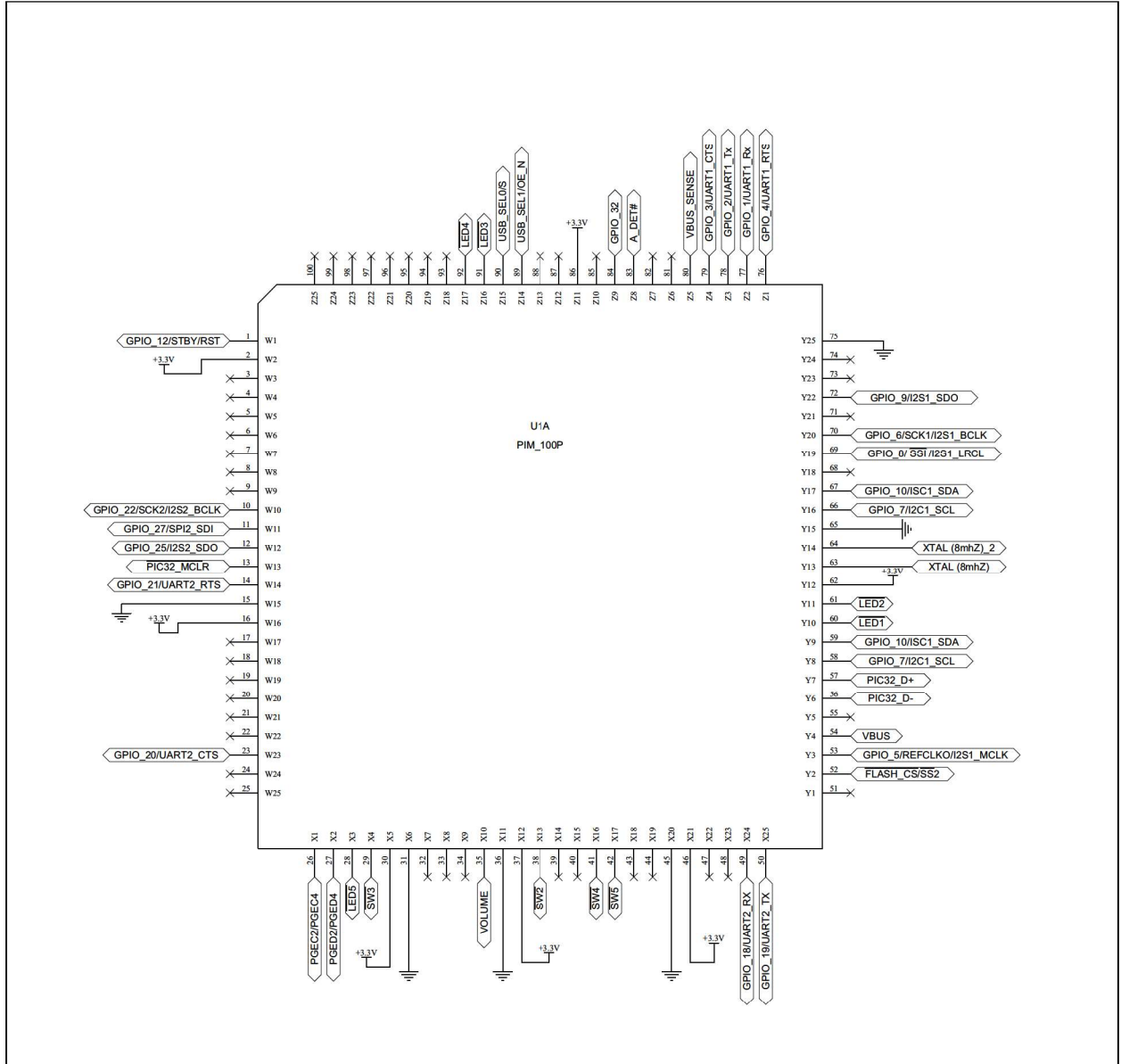
# PIC32MX274F256D

**TABLE 1: 44-PIN TO 100-PIN PIM MAPPING**

| Device Pin # | PIC32MX274F256D Pin Name  | PIM Pin #                 | Functional Description | I <sup>2</sup> C Expander (MCP23008) |
|--------------|---------------------------|---------------------------|------------------------|--------------------------------------|
| 26           | AN7/RPC1/RC1              | 53                        | I2S1_MCLK              | —                                    |
| 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 illustrates the 100-pin header schematics and Figure 2 illustrates the 44-pin device schematics.

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



# PIC32MX274F256D

**FIGURE 2: 44-PIN DEVICE SCHEMATICS**

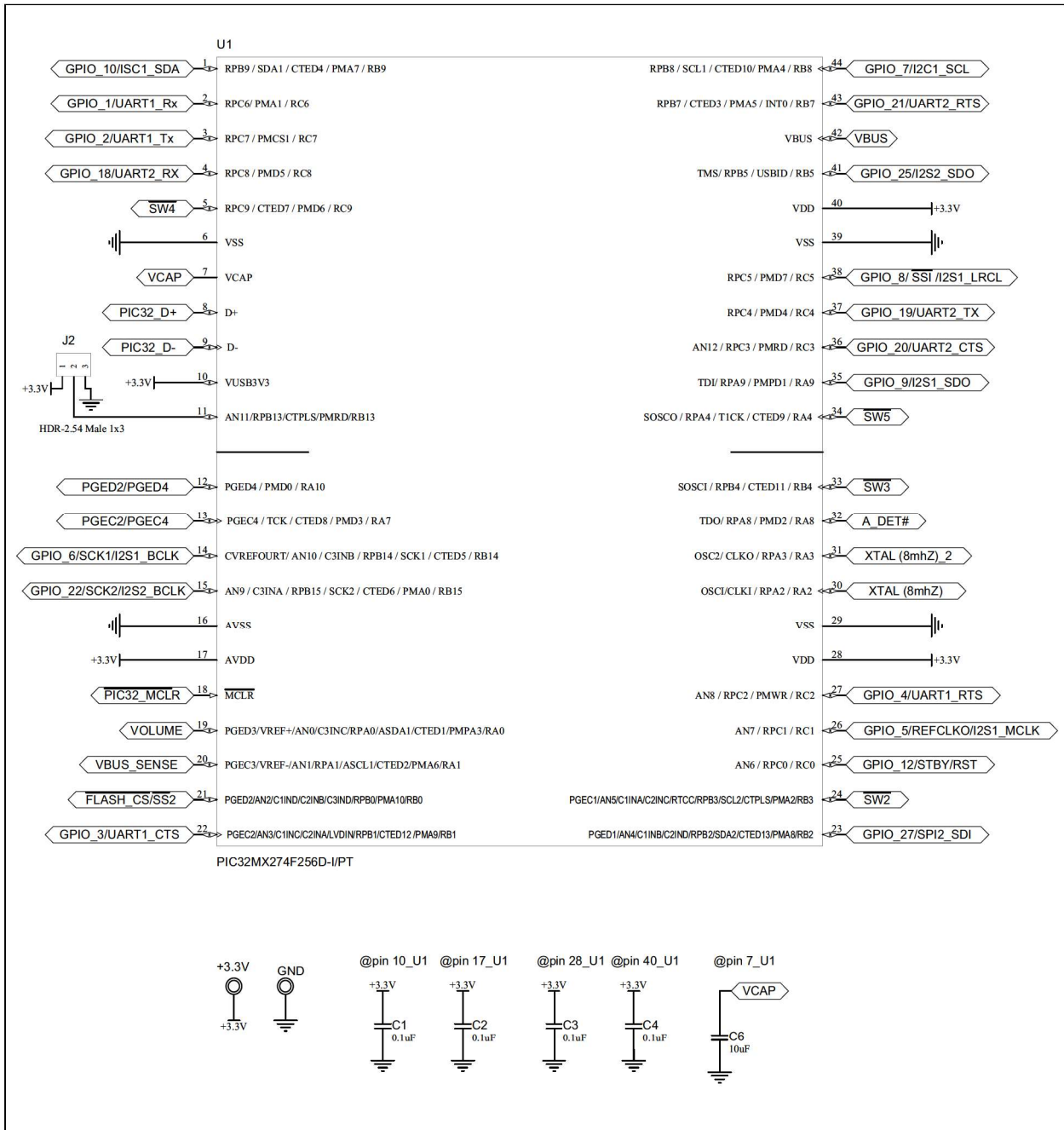
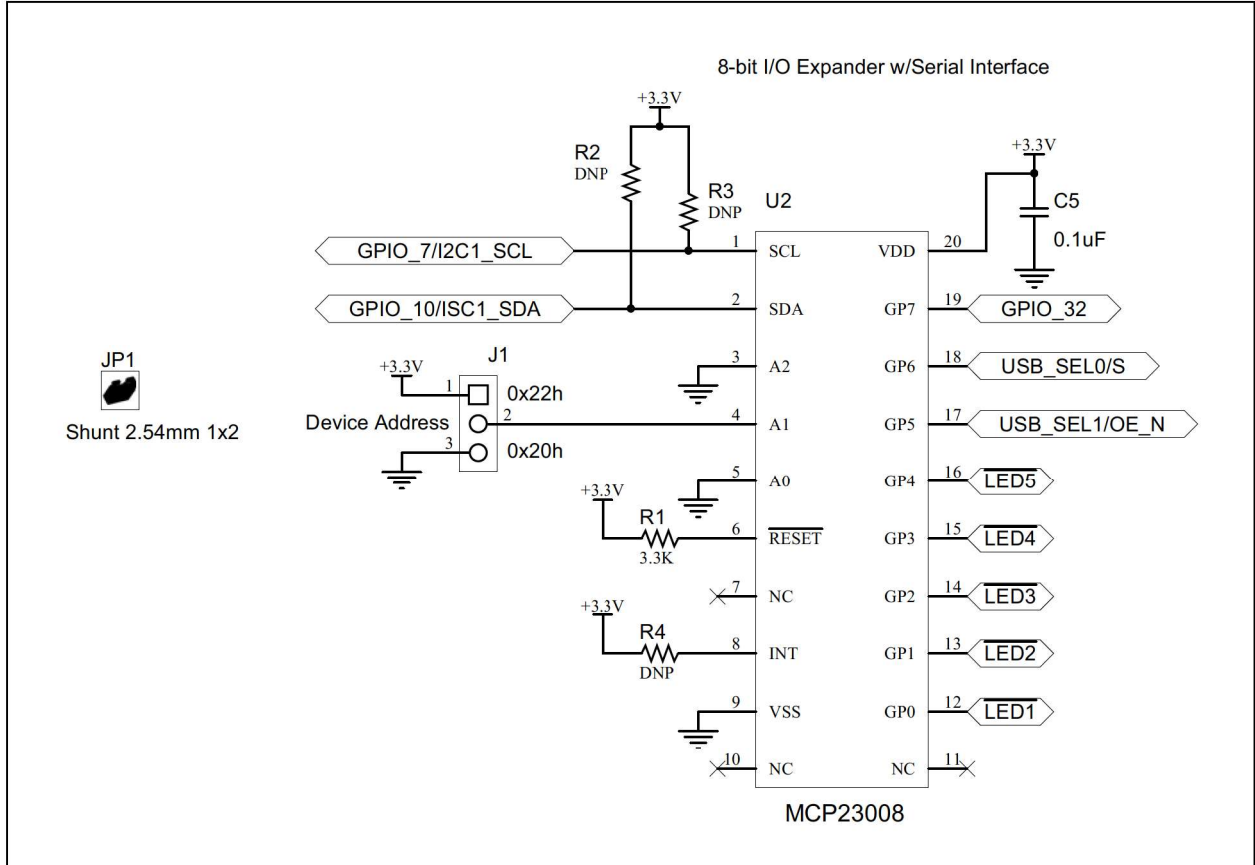


Figure 3 illustrates the MCP23008 expander and Table 2 provides the MCP23008 expander pinout details.

**FIGURE 3: MCP23008 EXPANDER**



**TABLE 2: MCP23008 PINOUT**

| Pin # | Pin Name | PIM Pin # | Functional Description |
|-------|----------|-----------|------------------------|
| 12    | GP0      | 60        | LED1                   |
| 13    | GP1      | 61        | LED2                   |
| 14    | GP2      | 91        | LED3                   |
| 15    | GP3      | 92        | LED4                   |
| 16    | GP4      | 28        | LED5                   |
| 17    | GP5      | 89        | USB_SEL/OE#            |
| 18    | GP6      | 90        | USB_SEL/S              |
| 19    | GP7      | 84        | GPIO_32                |

# PIC32MX274F256D

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## REVISION HISTORY

### Revision A (February 2017)

This is the initial released version of this document.

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