

## dsPIC33FJ64GS610 100-pin TQFP to 100-pin Plug-In Module (PIM) Information Sheet

### OVERVIEW

The dsPIC33FJ64GS610 PIM is designed to demonstrate the capabilities of the dsPIC33FJ64GS610 family of Switch Mode Power Supply (SMPS) devices using the Explorer 16 Development Board and the PICtail™ Plus Daughter Board.

The dsPIC33FJ64GS610 is a high-performance 16-bit Digital Signal Controller in a 100-pin TQFP package.

Table 1 shows the mapping between the 100-pin PIM interface board functions and the device pins.

**TABLE 1: 100-PIN TQFP TO 100-PIN PIM PINOUT**

| Device Pin Number | dsPIC33FJ64GS610 Pin           | PIM Pin Number | Functional Description |
|-------------------|--------------------------------|----------------|------------------------|
| 1                 | SYNCI1/RG15                    | —              |                        |
| 2                 | VDD                            | 2              |                        |
| 3                 | PWM3H/RE5                      | 19             | PWM3H                  |
| 4                 | PWM4L/RE6                      | —              |                        |
| 5                 | PWM4H/RE7                      | —              |                        |
| 6                 | AN16/T2CK/RC1                  | 17             | LED3                   |
| 7                 | AN17/T3CK/RC2                  | 38             | LED4                   |
| 8                 | AN18/T4CK/RC3                  | 58             | LED5                   |
| 9                 | AN19/T5CK/RC4                  | 59             | LED6                   |
| 10                | SCK2/FLT12/CN8/RG6             | —              |                        |
| 11                | SDI2/FLT11/CN9/RG7             | —              |                        |
| 12                | SDO2/FLT10/CN10/RG8            | —              |                        |
| 13                | MCLR                           | 13             |                        |
| 14                | SS2/FLT9/CN11/RG9              | —              |                        |
| 15                | Vss                            | 15             |                        |
| 16                | VDD                            | 16             |                        |
| 17                | TMS/RA0                        | —              |                        |
| 18                | AN20/FLT13/INT1/RE8            | —              |                        |
| 19                | AN21/FLT14/INT2/RE9            | —              |                        |
| 20                | AN5/CMP3B/QEB1A/CN7/RB5        | 20             | Exp_ POT               |
| 21                | AN4/CMP2C/CMP3A/QEA1A/CN6/RB4  | 66             | VIN_Feedback           |
| 22                | AN3/CMP2B/INDX1A/CN5/RB3       | 57             | Voltage FB2            |
| 23                | AN2/CMP1C/CMP2A/SS1A/CN4/RB2   | 56             | Current Sense 2        |
| 24                | PGEC3/AN1/CMP1B/CN3/RB1        | 35             | Voltage FB1            |
| 25                | PGED3/AN0/CMP1A/CMP4C/CN2/RB0  | 34             | Current Sense 1        |
| 26                | PGEC1/AN6/CMP3C/CMP4A/OCFA/RB6 | 26             | PGEC1                  |
| 27                | PGED1/AN7/CMP4B/RB7            | 27             | PGED1                  |
| 28                | PWM8L/RA9                      | —              |                        |
| 29                | PWM8H/RA10                     | —              |                        |
| 30                | AVDD                           | 30             |                        |

# dsPIC33FJ64GS610

**TABLE 1: 100-PIN TQFP TO 100-PIN PIM PINOUT (CONTINUED)**

| Device Pin Number | dsPIC33FJ64GS610 Pin                       | PIM Pin Number | Functional Description |
|-------------------|--------------------------------------------|----------------|------------------------|
| 31                | AVss                                       | 31             |                        |
| 32                | AN8/RB8                                    | 69             | Current Sense Boost    |
| 33                | AN9/DACOUT/RB9                             | 78             | Voltage Feedback Boost |
| 34                | AN10/RB10                                  | 68             | POT                    |
| 35                | AN11/EXTREF/RB11                           | —              |                        |
| 36                | Vss                                        | 36             |                        |
| 37                | VDD                                        | 37             |                        |
| 38                | TCK/RA1                                    | —              |                        |
| 39                | U2RTS <sup>—</sup> /RF13                   | —              |                        |
| 40                | U2CTS <sup>—</sup> /RF12                   | —              |                        |
| 41                | AN12/CMP1D/RB12                            | —              |                        |
| 42                | AN13/CMP2D/RB13                            | —              |                        |
| 43                | AN14/CMP3D/SS1 <sup>—</sup> /RB14          | —              |                        |
| 44                | AN15/CMP4D/OCFB/CN12/RB15                  | 44             | LCD (R/S)              |
| 45                | Vss                                        | 45             |                        |
| 46                | VDD                                        | 46             |                        |
| 47                | U1CTS <sup>—</sup> /FLT15/SYNCI3/CN20/RD14 | —              |                        |
| 48                | U1RTS <sup>—</sup> /FLT16/SYNCI2/CN21/RD15 | —              |                        |
| 49                | U2RX/FLT17/CN17/RF4                        | —              |                        |
| 50                | U2TX/FLT18/CN18/RF5                        | —              |                        |
| 51                | U1TX/RF3                                   | 50             | UART TX                |
| 52                | U1RX/RF2                                   | 49             | UART RX                |
| 53                | SDO1/RF8                                   | —              |                        |
| 54                | SDI1/RF7                                   | —              |                        |
| 55                | SCK1/INT0/RF6                              | —              |                        |
| 56                | SDA1/RG3                                   | 96             | SDA/RX                 |
| 57                | SCL1/RG2                                   | 95             | SCL/TX                 |
| 58                | SCL2/FLT22/RA2                             | 83             | Switch S3              |
| 59                | SDA2/FLT21/RA3                             | 84             | Switch S6              |
| 60                | TDI/RA4                                    | —              |                        |
| 61                | TDO/RA5                                    | —              |                        |
| 62                | VDD                                        | 62             |                        |
| 63                | OSC1/CLKIN/RC12                            | 63             | OSC1                   |
| 64                | OSC2/REFCLKO/CLKO/RC15                     | 64             | OSC2                   |
| 65                | Vss                                        | 65             |                        |
| 66                | INT3/FLT20/RA14                            | —              |                        |
| 67                | INT4/FLT19/SYNCI4/RA15                     | —              |                        |
| 68                | IC1/FLT1/RD8                               | 100            | LCD (DB4)              |
| 69                | IC2/FLT2/RD9                               | 3              | LCD (DB5)              |
| 70                | IC3/INDX1/FLT3/RD10                        | 4              | LCD (DB6)              |
| 71                | IC4/QEA1/FLT4/RD11                         | 5              | LCD (DB7)              |
| 72                | OC1/QEB1/FLT5/RD0                          | 93             | LCD (DB0)              |
| 73                | PGED2/SOSCI/CN1/RC13                       | —              |                        |
| 74                | PGEC2/SOSCO/T1CK/CN0/RC14                  | —              |                        |

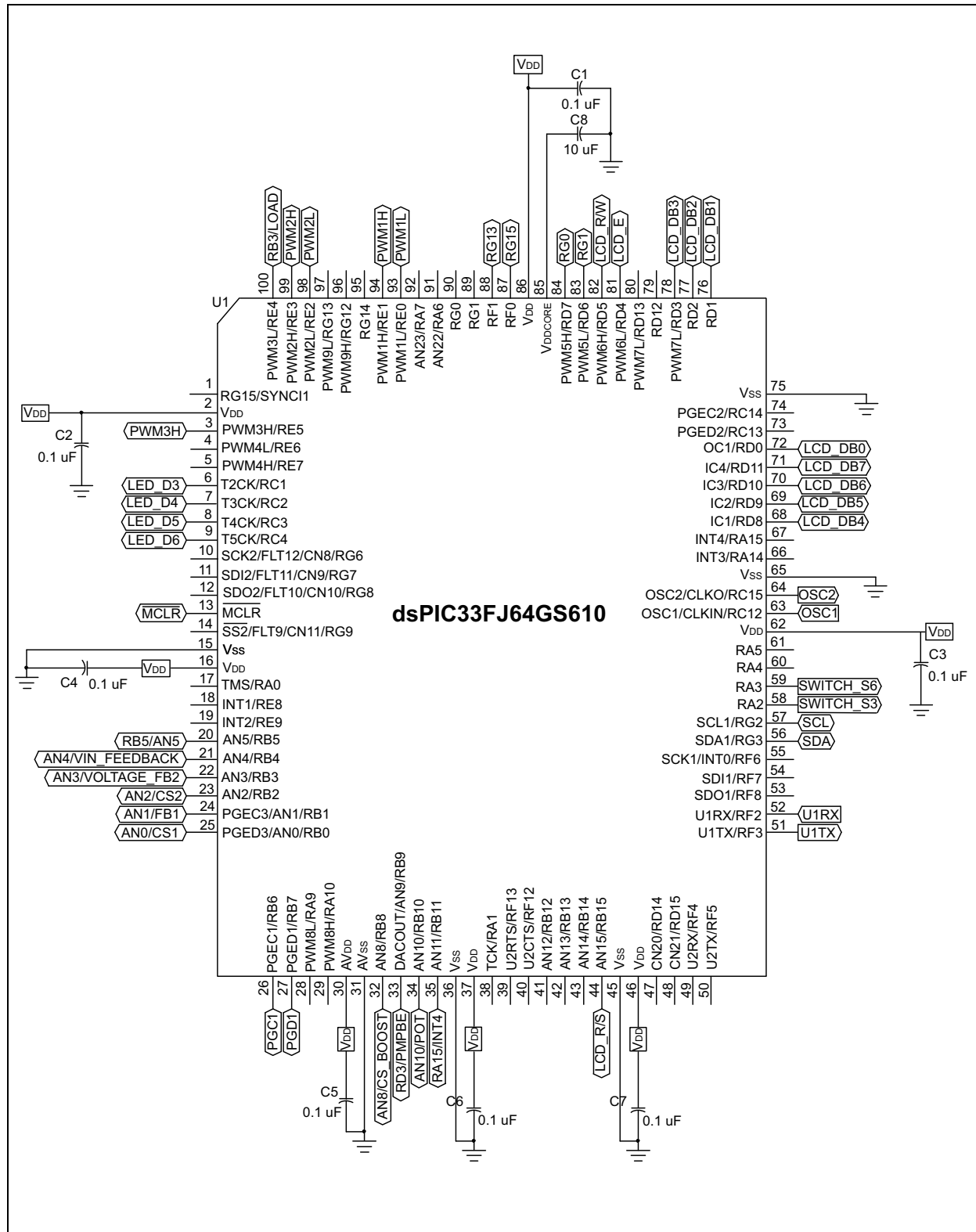
# dsPIC33FJ64GS610

**TABLE 1: 100-PIN TQFP TO 100-PIN PIM PINOUT (CONTINUED)**

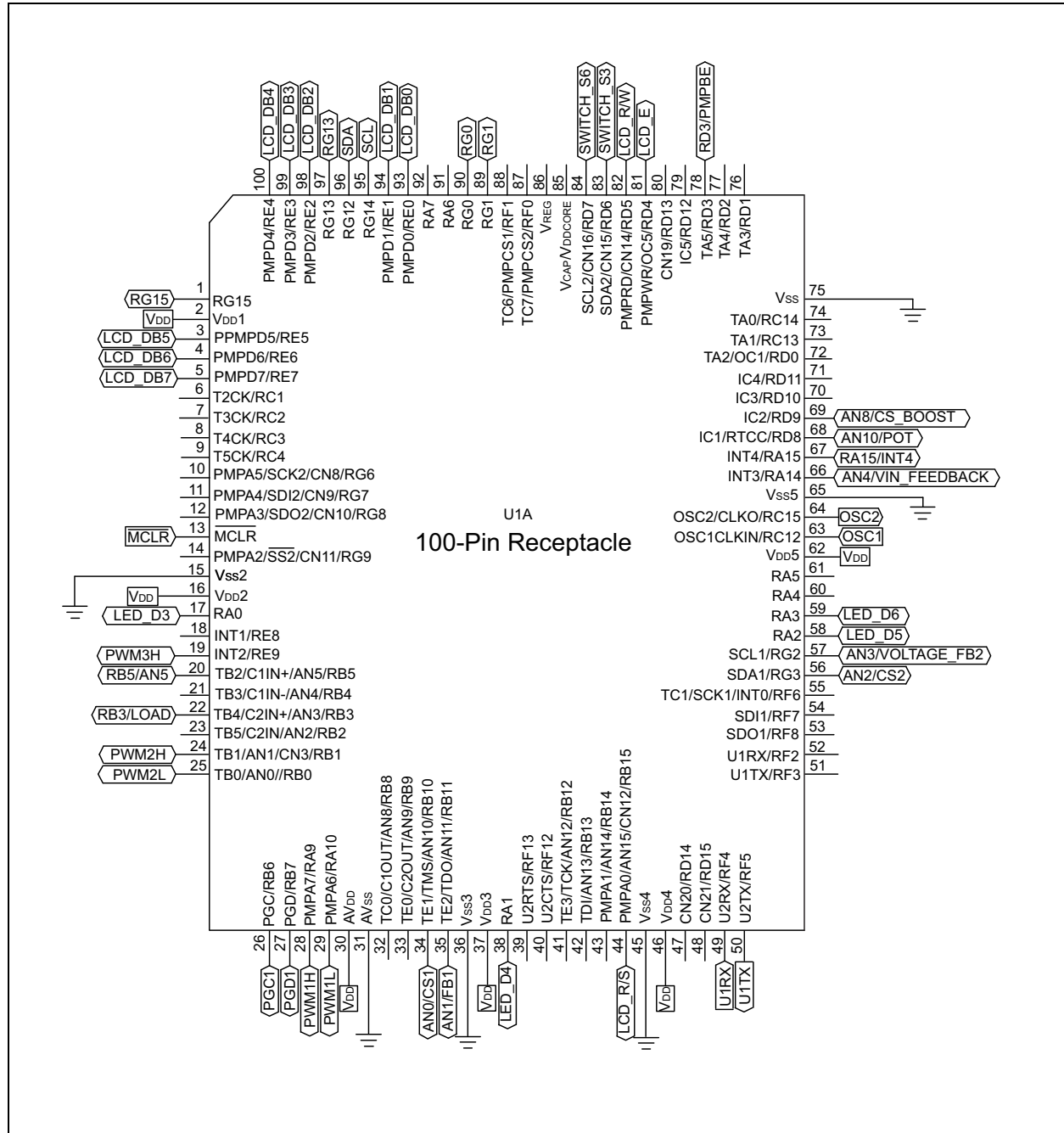
| Device Pin Number | dsPIC33FJ64GS610 Pin | PIM Pin Number | Functional Description |
|-------------------|----------------------|----------------|------------------------|
| 75                | Vss                  | 75             |                        |
| 76                | OC2/SYNCO2/FLT6/RD1  | 94             | LCD (DB1)              |
| 77                | OC3/FLT7/RD2         | 98             | LCD (DB2)              |
| 78                | PWM7H/OC4/FLT8/RD3   | 99             | LCD (DB3)              |
| 79                | QEA2/RD12            | —              |                        |
| 80                | PWM7L/CN19/RD13      | —              |                        |
| 81                | PWM6L/CN13/RD4       | 81             | LCD (E)                |
| 82                | PWM6H/CN14/RD5       | 82             | LCD (R/W)              |
| 83                | PWM5L/CN15/RD6       | —              |                        |
| 84                | PWM5H/UPDN1/CN16/RD7 | —              |                        |
| 85                | VCAP/VDDCORE         | —              |                        |
| 86                | VDD                  | 86             |                        |
| 87                | C1RX/RF0             | 1              | PMBAUX1                |
| 88                | C1TX/RF1             | 97             | PMBAUX2                |
| 89                | QEB2/RG1             | —              |                        |
| 90                | INDX2/RG0            | —              |                        |
| 91                | AN22/CN22/RA6        | —              |                        |
| 92                | AN23/CN23/RA7        | —              |                        |
| 93                | PWM1L/RE0            | 29             | PWM1L                  |
| 94                | PWM1H/RE1            | 28             | PWM1H                  |
| 95                | FLT23/RG14           | —              |                        |
| 96                | PWM9H/RG12           | —              |                        |
| 97                | PWM9L/RG13           | —              |                        |
| 98                | PWM2L/RE2            | 25             | PWM2L                  |
| 99                | PWM2H/RE3            | 24             | PWM2H                  |
| 100               | PWM3L/RE4            | 22             | LOAD                   |

# dsPIC33FJ64GS610

FIGURE 1: 100-PIN DEVICE SCHEMATIC



**FIGURE 2: 100-PIN SOCKET SCHEMATIC**



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NOTES:

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