

## 8. BSDL\_Model\_of\_PIC32MX250F128B.bsd

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-- BSDL file

-- File Name:      PIC32MX250F128B.bsd1
-- File Revision:  Revision: 1.0
-- Date created:   Date: Wednesday, July 20, 2011
-- Support:

-- Device:        PIC32MX250F128B
--                rev 0001
-- Package:       28 pin SOIC

-- Notes:
--     1. The behavior of the Oscillator Boundary Scan cells are dependant
--     on the Oscillator Fuse settings, and therefore caution must be used
--     when controlling the the BSC's on RA2(PIN30) and RA3(PIN31).

-- *****
-- *                                PORT DEFINITIONS                                *
-- *****
entity PIC32MX250F128B is

    generic(PHYSICAL_PIN_MAP : string := "TQFP44");
```

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```
port (  
    RB0      :      inout      bit;  
    RB1      :      inout      bit;  
    RB2      :      inout      bit;  
    RB3      :      inout      bit;  
    RB4      :      inout      bit;  
    RB5      :      inout      bit;  
    RB7      :      inout      bit;  
    RB8      :      inout      bit;  
    RB9      :      inout      bit;  
    RB10     :      inout      bit;  
    RB11     :      inout      bit;  
    RB13     :      inout      bit;  
    RB14     :      inout      bit;  
    RB15     :      inout      bit;  
    RA0      :      inout      bit;  
    RA1      :      inout      bit;  
    RA2      :      inout      bit;  
    RA3      :      inout      bit;  
    RA4      :      inout      bit;  
    MCLR     :          in      bit;  
    TDI      :          in      bit;  
    TMS      :          in      bit;  
    TCK      :          in      bit;  
    TDO      :          out     bit;  
    VSS      :      linkage     bit;  
    VSS2     :      linkage     bit;  
    AVSS     :      linkage     bit;  
    VDDCORE  :      linkage     bit;  
    AVDD     :      linkage     bit;  
    VDD      :      linkage     bit;  
    VUSB     :      linkage     bit;  
    VBUS     :      linkage     bit;  
);
```

```
use STD_1149_1_2001.all; -- Get IEEE 1149.1-2001 attributes and definitions
```

```
attribute COMPONENT_CONFORMANCE of PIC32MX250F128B : entity is  
"STD_1149_1_2001";
```

```
attribute PIN_MAP of PIC32MX250F128B : entity is PHYSICAL_PIN_MAP;
```

```
constant TQFP44 : PIN_MAP_STRING :=  
    " MCLR      :          1 ," &  
    " RA0       :          2 ," &  
    " RA1       :          3 ," &  
    " RB0       :          4 ," &  
    " RB1       :          5 ," &  
    " RB2       :          6 ," &  
    " RB3       :          7 ," &  
    " VSS       :          8 ," &
```

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```
" RA2      :      9 ," &
" RA3      :     10 ," &
" RB4      :     11 ," &
" RA4      :     12 ," &
" VDD      :     13 ," &
" RB5      :     14 ," &
" VBUS     :     15 ," &
" TDI      :     16 ," &
" TCK      :     17 ," &
" TD0      :     18 ," &
" VSS2     :     19 ," &
" VDDCORE  :     20 ," &
" RB10     :     21 ," &
" RB11     :     22 ," &
" VUSB     :     23 ," &
" RB13     :     24 ," &
" RB14     :     25 ," &
" RB15     :     26 ," &
" AVSS     :     27 ," &
" AVDD     :     28 ,";
```

```
-- *****
-- *                               IEEE 1149.1 TAP PORTS                               *
-- *****
```

```
attribute TAP_SCAN_IN of TDI : signal is true;

attribute TAP_SCAN_MODE of TMS : signal is true;

attribute TAP_SCAN_OUT of TD0 : signal is true;

attribute TAP_SCAN_CLOCK of TCK : signal is
(10.00e+06,BOTH);
```

```
-- *****
-- *                               INSTRUCTIONS AND REGISTER ACCESS                               *
-- *****
```

```
attribute INSTRUCTION_LENGTH of PIC32MX250F128B : entity is 5;
attribute INSTRUCTION_OPCODE of PIC32MX250F128B : entity is
"extest (00110)," &
"bypass (11111)," &
"sample (00010)," &
"preload (00010)," &
"highz (00000)," &
"idcode (00001)," &
"swtap_chip (00100)," &
"swtap (00101)," &
"mchp_cmd (00111)," &
"mchp_scan (01000)" ;
```

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attribute INSTRUCTION_CAPTURE of PIC32MX250F128B : entity is "00001";

```

```

attribute IDCODE_REGISTER of PIC32MX250F128B : entity is
  "0000"          &    -- Version Number
  "0100110100000000" &    -- Part Number
  "00000101001"   &    -- Manufacturer ID
  "1";            &    -- Required by IEEE

```

```

attribute REGISTER_ACCESS of PIC32MX250F128B : entity is
  "BOUNDARY (extest, sample, preload), " &
  "DEVICE_ID (idcode), " &
  "BYPASS (bypass, highz, swtap_chip, swtap), " &
  "MCHP_CMD_REG[8] (mchp_cmd), " &
  "MCHP_SCAN_REG[8] (mchp_scan) " ;

```

```

-- *****
-- *                                BOUNDARY SCAN CELL INFORMATION                                *
-- *****

```

```

attribute BOUNDARY_LENGTH of PIC32MX130F064B : entity is 47;
attribute BOUNDARY_REGISTER of PIC32MX130F064B : entity is
  --- num      cell      port  function safe [ccell disval rslt]
  --- num      cell      port  function safe [ccell disval rslt]
  "0  (    BC_4,    RB5,    input, X)," &
  "1  (    BC_1,    RB5,    output3, X, 2, 0, Z)," &
  "2  (    BC_2,    *,    control, 0)," &
  "3  (    BC_4,    RA4,    input, X)," &
  "4  (    BC_1,    RA4,    output3, X, 5, 0, Z)," &
  "5  (    BC_2,    *,    control, 0)," &
  "6  (    BC_4,    RB4,    input, X)," &
  "7  (    BC_1,    RB4,    output3, X, 8, 0, Z)," &
  "8  (    BC_2,    *,    control, 0)," &
  "9  (    BC_4,    RA3,    input, X)," &
  "10 (    BC_1,    RA3,    output3, X, 11, 0, Z)," &
  "11 (    BC_2,    *,    control, 0)," &
  "12 (    BC_4,    RA2,    input, X)," &
  "13 (    BC_1,    RA2,    output3, X, 14, 0, Z)," &
  "14 (    BC_2,    *,    control, 0)," &
  "15 (    BC_4,    RB3,    input, X)," &
  "16 (    BC_1,    RB3,    output3, X, 17, 0, Z)," &
  "17 (    BC_2,    *,    control, 0)," &
  "18 (    BC_4,    RB2,    input, X)," &
  "19 (    BC_1,    RB2,    output3, X, 20, 0, Z)," &
  "20 (    BC_2,    *,    control, 0)," &
  "21 (    BC_4,    RB0,    input, X)," &
  "22 (    BC_1,    RB0,    output3, X, 23, 0, Z)," &
  "23 (    BC_2,    *,    control, 0)," &
  "24 (    BC_4,    RA1,    input, X)," &
  "25 (    BC_1,    RA1,    output3, X, 26, 0, Z)," &
  "26 (    BC_2,    *,    control, 0)," &
  "27 (    BC_4,    RA0,    input, X)," &

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"28 ( BC_1, RA0, output3, X, 29, 0, Z)," &
"29 ( BC_2, *, control, 0)," &
"30 ( BC_4, MCLR, input, X)," &
"31 ( BC_4, RB15, input, X)," &
"32 ( BC_1, RB15, output3, X, 33, 0, Z)," &
"33 ( BC_2, *, control, 0)," &
"34 ( BC_4, RB14, input, X)," &
"35 ( BC_1, RB14, output3, X, 36, 0, Z)," &
"36 ( BC_2, *, control, 0)," &
"37 ( BC_4, RB13, input, X)," &
"38 ( BC_1, RB13, output3, X, 39, 0, Z)," &
"40 ( BC_2, *, control, 0)," &
"41 ( BC_4, RB11, input, X)," &
"42 ( BC_1, RB11, output3, X, 43, 0, Z)," &
"43 ( BC_2, *, control, 0)," &
"44 ( BC_4, RB10, input, X)," &
"45 ( BC_1, RB10, output3, X, 46, 0, Z)," &
"46 ( BC_2, *, control, 1);

end PIC32MX250F128B;

```