

7. BSDL_Model_of_PIC32MX110F016B.bsd

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-- BSDL file

-- File Name: PIC32MX110F016B.bsd1
-- File Revision: Revision: 1.0
-- Date created: Date: Wednesday, July 20, 2011
-- Support:

-- Device: PIC32MX110F016B
-- rev 0001
-- Package: 28 pin PDIP

-- 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(PIN9) and RA3(PIN10).

-- *****
-- * PORT DEFINITIONS *
-- *****

entity PIC32MX110F016B is
    generic(PHYSICAL_PIN_MAP : string := "PDIP28");
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port (
  RB0      :      inout      bit;
  RB1      :      inout      bit;
  RB2      :      inout      bit;
  RB3      :      inout      bit;
  RB4      :      inout      bit;
  RB5      :      inout      bit;
  RB6      :      inout      bit;
  RB7      :      inout      bit;
  RB8      :      inout      bit;
  RB9      :      inout      bit;
  RB10     :      inout      bit;
  RB11     :      inout      bit;
  RB12     :      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;
  TD0      :          out      bit;
  VSS      :      linkage    bit;
  VSS2     :      linkage    bit;
  AVSS     :      linkage    bit;
  VDDCORE  :      linkage    bit;
  AVDD     :      linkage    bit;
  VDD      :      linkage    bit;
);
use STD_1149_1_2001.all; -- Get IEEE 1149.1-2001 attributes and definitions

attribute COMPONENT_CONFORMANCE of PIC32MX110F016B : entity is
"STD_1149_1_2001";

attribute PIN_MAP of PIC32MX110F016B : entity is PHYSICAL_PIN_MAP;

constant PDIP28 : PIN_MAP_STRING :=
  " MCLR      :          1 , " &
  " RA0       :          2 , " &
  " RA1       :          3 , " &
  " RB0       :          4 , " &
  " RB1       :          5 , " &
  " RB2       :          6 , " &
  " RB3       :          7 , " &
  " VSS       :          8 , " &
  " RA2       :          9 , " &
  " RA3       :         10 , " &

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" RB4      :      11 , " &
" RA4      :      12 , " &
" VDD      :      13 , " &
" RB5      :      14 , " &
" RB6      :      15 , " &
" TDI      :      16 , " &
" TCK      :      17 , " &
" TDO      :      18 , " &
" VSS2     :      19 , " &
" VDDCORE  :      20 , " &
" RB10     :      21 , " &
" RB11     :      22 , " &
" RB12     :      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 TDO : signal is true;

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

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

attribute INSTRUCTION_LENGTH of PIC32MX110F016B : entity is 5;
attribute INSTRUCTION_OPCODE of PIC32MX110F016B : 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)" ;

attribute INSTRUCTION_CAPTURE of PIC32MX110F016B : entity is "00001";

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attribute IDCODE_REGISTER of PIC32MX110F016B : entity is
  "0000"          &    -- Version Number
  "0100101000000111" &    -- Part Number
  "00000101001"   &    -- Manufacturer ID
  "1";            -- Required by IEEE
```

```
attribute REGISTER_ACCESS of PIC32MX110F016B : 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) " ;
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-- *****
-- *                                BOUNDARY SCAN CELL INFORMATION                                *
-- *****
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attribute BOUNDARY_LENGTH of PIC32MX130F064B : entity is 52;
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attribute BOUNDARY_REGISTER of PIC32MX130F064B : entity is
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---	num	cell	port	function	safe [ccell disval rslt]
"0	(BC_4,	RB6,	input, X)," &	
"1	(BC_1,	RB6,	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,	RB1,	input, X)," &	
"22	(	BC_1,	RB1,	output3, X, 23, 0, Z)," &	
"23	(	BC_2,	*	control, 0)," &	
"24	(	BC_4,	RB0,	input, X)," &	
"25	(	BC_1,	RB0,	output3, X, 26, 0, Z)," &	
"26	(	BC_2,	*	control, 0)," &	
"27	(BC_4,	RA1,	input, X)," &	
"28	(BC_1,	RA1,	output3, X, 29, 0, Z)," &	
"29	(BC_2,	*	control, 0)," &	
"30	(BC_4,	RA0,	input, X)," &	

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"31 ( BC_1, RA0, output3, X, 32, 0, Z)," &
"32 ( BC_2, *, control, 0)," &
"33 ( BC_4, MCLR, input, X)," &
"34 ( BC_4, RB15, input, X)," &
"35 ( BC_1, RB15, output3, X, 36, 0, Z)," &
"36 ( BC_2, *, control, 0)," &
"37 ( BC_4, RB14, input, X)," &
"38 ( BC_1, RB14, output3, X, 39, 0, Z)," &
"39 ( BC_2, *, control, 0)," &
"40 ( BC_4, RB13, input, X)," &
"41 ( BC_1, RB13, output3, X, 42, 0, Z)," &
"42 ( BC_2, *, control, 0)," &
"43 ( BC_4, RB12, input, X)," &
"44 ( BC_1, RB12, output3, X, 45, 0, Z)," &
"45 ( BC_2, *, control, 0)," &
"46 ( BC_4, RB11, input, X)," &
"47 ( BC_1, RB11, output3, X, 48, 0, Z)," &
"48 ( BC_2, *, control, 0)," &
"49 ( BC_4, RB10, input, X)," &
"50 ( BC_1, RB10, output3, X, 51, 0, Z)," &
"51 ( BC_2, *, control, 1)";

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end PIC32MX110F016B;
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