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Name      Demofile WinCUPL;
Partno    AtmelCPLD;
Date      12/20/99;
Rev       01;
Designer  Woolhiser;
Company   Atmel;
Assembly  None;
Location  None;
Device    f1508ispqfp100;
/* Compiliere mit folgenden Einstellungen :
Minimation = None      Optimiation = Nichts*/

Property Atmel {Preassign = Keep};
PROPERTY ATMEL {pin_keep = OFF} ;
PROPERTY ATMEL {JTAG = ON};
PROPERTY ATMEL {TDI_PULLUP = ON};
PROPERTY ATMEL {TMS_PULLUP = ON};
PROPERTY ATMEL {OUTPUT_FAST OFF};
//PROPERTY ATMEL {SOFT_BUFFER = CNT_AR_1};
PROPERTY ATMEL {MC_POWER = ON};

pin 89 = SCLK;
pin 26 = ADC_D13;
pin 29 = ADC_D12;
pin 27 = ADC_D11;
pin 25 = ADC_D10;
pin 23 = ADC_D9;
pin 21 = ADC_D8;
pin 19 = ADC_D7;
pin 12 = ADC_D6;
pin 11 = ADC_D5;
pin 9 = ADC_D4;
pin 7 = ADC_D3;
pin 4 = ADC_D2;
pin 3 = ADC_D1;
pin 8 = ADC_D0;
pin 30 = D7;
pin 31 = D6;
pin 32 = D5;
pin 33 = D4;
pin 34 = D3;
pin 35 = D2;
pin 37 = D1;
pin 38 = D0;

NODE P10;
NODE P9;
NODE P8;
NODE P7;
NODE P6;
NODE P5;
NODE P4;
NODE P3;
NODE P2;
NODE P1;
NODE P0;
NODE READ_ADC0;
NODE READ_ADC1;
NODE READ_ADC2;
NODE ADR_RDY;

FIELD P = [P19..0];
FIELD DATA2 = [D1,D0];
FIELD DATA = [D7,D6,D5,D4,D3,D2,D1,D0];
FIELD ADC_HB = [ADC_D11,ADC_D10,ADC_D9,ADC_D8,ADC_D7,ADC_D6,ADC_D5,ADC_D4];
FIELD ADC_LB = [ADC_D7,ADC_D6,ADC_D5,ADC_D4,ADC_D3,ADC_D2,ADC_D1,ADC_D0];

FEHLER_CNT_0.ck = P15;
FEHLER_CNT_1.ck = P15;

FEHLER_CNT_0.t = !FEHLER_CNT_0 # (!FEHLER_CNT_0 & FEHLER_CNT_1);
FEHLER_CNT_1.t = FEHLER_CNT_0 & !FEHLER_CNT_1;

FEHLER_CNT_1.ar = FEHLER_CNT_AR & !CHANNEL_OFF & CNT5;
FEHLER_CNT_0.ar = FEHLER_CNT_AR & !CHANNEL_OFF & CNT5;

GATE_OUT_CH1_3 =      !WRITE_GATES &
                    ( GATE_INVERT $
                      !(FEHLER_CNT_0 & FEHLER_CNT_1));

GATE_OUT_CH2_4 =      !WRITE_GATES &
                    ( GATE_INVERT $
                      !(FEHLER_CNT_0 & FEHLER_CNT_1));

GATE_OUT_CH2_4.oe = !BOARD_SEL_0;
GATE_OUT_CH1_3.oe = BOARD_SEL_0;

READ_ADC0.CK = READ_HB;
READ_ADC1.CK = READ_HB;
READ_ADC2.CK = READ_HB;

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READ_ADC0.AR = !CONVERT_START;
READ_ADC1.AR = !CONVERT_START;
READ_ADC2.AR = !CONVERT_START;

READ_ADC0.T = 'b'1;
READ_ADC1.T = READ_ADC0;
READ_ADC2.T = READ_ADC0 & READ_ADC1;

!READ_ADC_OUT    = !READ_HB & ((READ_ADC1 $ !BOARD_SEL_0) & (READ_ADC2 $ !BOARD_SEL_1));

DATA.OE         = !READ_ADC_OUT # (!ADR_RDY & BOARD_SEL & !ADR_A7 & ADR_A6 & ADR_A5 & ((!ADR_A4 & !ADR_A3 & !ADR_A2) # ADR_A4 & (ADR_A3 # ADR_A2)) & !SCLK);

FIELD 8XNULL    = ['b'0,'b'0,'b'0,'b'0,'b'0,'b'0,'b'0,'b'0];
FIELD 6XNULL    = ['b'0,'b'0,'b'0,'b'0,'b'0,'b'0];

FIELD VERSION_0 = ['b'0,'b'0,'b'0,'b'0,'b'0,'b'0,'b'0,'b'0];
FIELD VERSION_1 = ['b'0,'b'0,'b'0,'b'0,'b'0,'b'0,'b'0,'b'1];
FIELD VERSION_2 = ['b'0,'b'0,'b'0,'b'0,'b'0,'b'0,'b'1,'b'0];
FIELD VERSION_3 = ['b'0,'b'0,'b'0,'b'0,'b'0,'b'0,'b'1,'b'1];
FIELD VERSION_4 = ['b'0,'b'0,'b'0,'b'0,'b'0,'b'1,'b'0,'b'0];
FIELD VERSION_8 = ['b'0,'b'0,'b'0,'b'0,'b'1,'b'0,'b'0,'b'0];
FIELD VERSION_16 = ['b'0,'b'0,'b'0,'b'1,'b'0,'b'0,'b'0,'b'0];
FIELD VERSION_32 = ['b'0,'b'0,'b'1,'b'0,'b'0,'b'0,'b'0,'b'0];
FIELD VERSION_64 = ['b'0,'b'1,'b'0,'b'0,'b'0,'b'0,'b'0,'b'0];
FIELD VERSION_128 = ['b'1,'b'0,'b'0,'b'0,'b'0,'b'0,'b'0,'b'0];

P.ck = PLL_CLK;

/*
PLL_RESET.ck = PLL_CLK;
PLL_RESET.d = PLL_STOP_FF # PLL_RESET;
PLL_RESET.ar = !P19;
*/

P0.ar = PLL_STOP_FF;
P1.ap = PLL_STOP_FF;
P2.ar = PLL_STOP_FF;
P3.ap = PLL_STOP_FF;
P4.ap = PLL_STOP_FF;
P5.ap = PLL_STOP_FF;
P6.ap = PLL_STOP_FF;
P7.ap = PLL_STOP_FF;
P8.ap = PLL_STOP_FF;
P9.ap = PLL_STOP_FF;
P10.ap = PLL_STOP_FF;
P11.ap = PLL_STOP_FF;
P12.ap = PLL_STOP_FF;
P13.ap = PLL_STOP_FF;
P14.ap = PLL_STOP_FF;
P15.ap = PLL_STOP_FF;
P16.ap = PLL_STOP_FF;
P17.ap = PLL_STOP_FF;
P18.ap = PLL_STOP_FF;
P19.ap = PLL_STOP_FF;

P0.T = 'b'1;
P1.T = P0;
P2.T = P0 & P1;
P3.T = P0 & P1 & P2;
P4.T = P0 & P1 & P2 & P3;
P5.T = P0 & P1 & P2 & P3 & P4;
P6.T = P0 & P1 & P2 & P3 & P4 & P5;
P7.T = P0 & P1 & P2 & P3 & P4 & P5 & P6;
P8.T = P0 & P1 & P2 & P3 & P4 & P5 & P6 & P7;
P9.T = P0 & P1 & P2 & P3 & P4 & P5 & P6 & P7 & P8;
P10.T = P0 & P1 & P2 & P3 & P4 & P5 & P6 & P7 & P8 & P9;
P11.T = P0 & P1 & P2 & P3 & P4 & P5 & P6 & P7 & P8 & P9 & P10;
P12.T = P0 & P1 & P2 & P3 & P4 & P5 & P6 & P7 & P8 & P9 & P10 & P11;
P13.T = P0 & P1 & P2 & P3 & P4 & P5 & P6 & P7 & P8 & P9 & P10 & P11 & P12;
P14.T = P0 & P1 & P2 & P3 & P4 & P5 & P6 & P7 & P8 & P9 & P10 & P11 & P12 & P13;
P15.T = P0 & P1 & P2 & P3 & P4 & P5 & P6 & P7 & P8 & P9 & P10 & P11 & P12 & P13 & P14;
P16.T = P0 & P1 & P2 & P3 & P4 & P5 & P6 & P7 & P8 & P9 & P10 & P11 & P12 & P13 & P14 & P15;
P17.T = P0 & P1 & P2 & P3 & P4 & P5 & P6 & P7 & P8 & P9 & P10 & P11 & P12 & P13 & P14 & P15 & P16;
P18.T = P0 & P1 & P2 & P3 & P4 & P5 & P6 & P7 & P8 & P9 & P10 & P11 & P12 & P13 & P14 & P15 & P16 & P17;
P19.T = P0 & P1 & P2 & P3 & P4 & P5 & P6 & P7 & P8 & P9 & P10 & P11 & P12 & P13 & P14 & P15 & P16 & P17 & P18;

[CNT5..CNT0].CK = (CNT_AR_1 & SCLK) # (!CNT_AR_1 & P19 & !CNT5);

CNT0.T = 'b'1;
CNT1.T = CNT0;
CNT2.T = CNT0 & CNT1;
CNT3.T = CNT0 & CNT1 & CNT2;
CNT4.T = CNT0 & CNT1 & CNT2 & CNT3;
CNT5.T = CNT0 & CNT1 & CNT2 & CNT3 & CNT4;

CNT_AR_1 = (!SET_FRQ_DDS1 # READ_A3);

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