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; Declarations for Silabs C8051F41x based microcontroller.

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; Devices: C8051F410/1/2/3

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$SAVE

$NOLIST

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; Byte Registers

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P0 DATA 080H ; Port 0 latch

SP DATA 081H ; Stack pointer

DPL DATA 082H ; Data pointer low

DPH DATA 083H ; Data pointer high

CRC0CN DATA 084H ; CRC0 control

CRC0IN DATA 085H ; CRC0 input data

CRC0DAT DATA 086H ; CRC0 output data

PCON DATA 087H ; Power control

TCON DATA 088H ; Timer/counter control

TMOD DATA 089H ; Timer/counter mode

TL0 DATA 08AH ; Timer/counter 0 low

TL1 DATA 08BH ; Timer/counter 1 low

TH0 DATA 08CH ; Timer/counter 0 high

TH1 DATA 08DH ; Timer/counter 1 high

CKCON DATA 08EH ; Clock control

PSCTL DATA 08FH ; Program store R/W control

P1 DATA 090H ; Port 1 latch

TMR3CN DATA 091H ; Timer/counter 3 control

TMR3RLL DATA 092H ; Timer/counter 3 reload low

TMR3RLH DATA 093H ; Timer/counter 3 reload high

TMR3L DATA 094H ; Timer/counter 3 low

TMR3H DATA 095H ; Timer/counter 3 high

IDA0L DATA 096H ; Current mode DAC0 low

IDA0H DATA 097H ; Current mode DAC0 high

SCON0 DATA 098H ; UART0 control

SBUF0 DATA 099H ; UART0 data buffer

CPT1CN DATA 09AH ; Comparator1 control

CPT0CN DATA 09BH ; Comparator0 control

CPT1MD DATA 09CH ; Comparator1 mode selection

CPT0MD DATA 09DH ; Comparator0 mode selection

CPT1MX DATA 09EH ; Comparator1 mux selection

CPT0MX DATA 09FH ; Comparator0 mux selection

P2 DATA 0A0H ; Port 2 latch

SPI0CFG DATA 0A1H ; SPI0 configuration

SPI0CKR DATA 0A2H ; SPI0 clock rate control

SPI0DAT DATA 0A3H ; SPI0 data

P0MDOUT DATA 0A4H ; Port 0 output mode configuration

P1MDOUT DATA 0A5H ; Port 1 output mode configuration

P2MDOUT DATA 0A6H ; Port 2 output mode configuration

IE DATA 0A8H ; Interrupt enable

CLKSEL DATA 0A9H ; Clock select

EMI0CN DATA 0AAH ; External memory interface control

CLKMUL DATA 0ABH ; Clock multiplier

RTC0ADR DATA 0ACH ; RTC0 address

RTC0DAT DATA 0ADH ; RTC0 data

RTC0KEY DATA 0AEH ; RTC0 lock and key

ONESHOT DATA 0AFH ; Flash oneshot timing

P0ODEN DATA 0B0H ; Port0 Hi-Z overdrive mode enable

OSCXCN DATA 0B1H ; External oscillator control

OSCICN DATA 0B2H ; Internal oscillator control

OSCICL DATA 0B3H ; Internal oscillator calibration

IDA1CN DATA 0B5H ; Current mode DAC1 control

FLSCL DATA 0B6H ; Flash scale

FLKEY DATA 0B7H ; Flash lock and key

IP DATA 0B8H ; Interrupt priority

IDA0CN DATA 0B9H ; Current mode DAC0 control

ADC0TK DATA 0BAH ; ADC0 tracking

ADC0MX DATA 0BBH ; ADC0 mux

ADC0CF DATA 0BCH ; ADC0 configuration

ADC0L DATA 0BDH ; ADC0 data low

ADC0H DATA 0BEH ; ADC0 data high

P1MASK DATA 0BFH ; Port1 mask

SMB0CN DATA 0C0H ; SMBus0 control

SMB0CF DATA 0C1H ; SMBus0 configuration

SMB0DAT DATA 0C2H ; SMBus0 data

ADC0GTL DATA 0C3H ; ADC0 window greater than low byte

ADC0GTH DATA 0C4H ; ADC0 window greater than high byte

ADC0LTL DATA 0C5H ; ADC0 window less than low byte

ADC0LTH DATA 0C6H ; ADC0 window less than high byte

P0MASK DATA 0C7H ; Port0 mask

TMR2CN DATA 0C8H ; Timer/counter 2 control

REG0CN DATA 0C9H ; Voltage regulator control

TMR2RLL DATA 0CAH ; Timer/counter 2 reload low

TMR2RLH DATA 0CBH ; Timer/counter 2 reload high

TMR2L DATA 0CCH ; Timer/counter 2 low

TMR2H DATA 0CDH ; Timer/counter 2 high

PCA0CPM5 DATA 0CEH ; PCA0 module 5 mode

P1MAT DATA 0CFH ; Port1 match

PSW DATA 0D0H ; Program status word

REF0CN DATA 0D1H ; Voltage reference control

PCA0CPL5 DATA 0D2H ; PCA0 module 5 low

PCA0CPH5 DATA 0D3H ; PCA0 module 5 high

P0SKIP DATA 0D4H ; Port 0 skip

P1SKIP DATA 0D5H ; Port 1 skip

P2SKIP DATA 0D6H ; Port 2 skip

P0MAT DATA 0D7H ; Port 0 match

PCA0CN DATA 0D8H ; PCA0 control

PCA0MD DATA 0D9H ; PCA0 mode

PCA0CPM0 DATA 0DAH ; PCA0 module 0 mode

PCA0CPM1 DATA 0DBH ; PCA0 module 1 mode

PCA0CPM2 DATA 0DCH ; PCA0 module 2 mode

PCA0CPM3 DATA 0DDH ; PCA0 module 3 mode

PCA0CPM4 DATA 0DEH ; PCA0 module 4 mode

CRC0FLIP DATA 0DFH ; CRC0 bit flip

ACC DATA 0E0H ; Accumulator

XBR0 DATA 0E1H ; Port I/O crossbar control 0

XBR1 DATA 0E2H ; Port I/O crossbar control 1

PFE0CN DATA 0E3H ; Prefetch engine control

IT01CF DATA 0E4H ; INT0/INT1 configuration

EIE1 DATA 0E6H ; Extended interrupt enable 1

EIE2 DATA 0E7H ; Extended interrupt enable 2

ADC0CN DATA 0E8H ; ADC0 control

PCA0CPL1 DATA 0E9H ; PCA0 module 1 capture low

PCA0CPH1 DATA 0EAH ; PCA0 module 1 capture high

PCA0CPL2 DATA 0EBH ; PCA0 module 2 capture low

PCA0CPH2 DATA 0ECH ; PCA0 module 2 capture high

PCA0CPL3 DATA 0EDH ; PCA0 module 3 capture low

PCA0CPH3 DATA 0EEH ; PCA0 module 3 capture high

RSTSRC DATA 0EFH ; Reset source configuration/status

B DATA 0F0H ; B register

P0MDIN DATA 0F1H ; Port 0 input mode configuration

P1MDIN DATA 0F2H ; Port 1 input mode configuration

P2MDIN DATA 0F3H ; Port 2 input mode configuration

IDA1L DATA 0F4H ; Current mode DAC1 data low

IDA1H DATA 0F5H ; Current mode DAC1 data high

EIP1 DATA 0F6H ; Extended interrupt priority 1

EIP2 DATA 0F7H ; Extended interrupt priority 2

SPI0CN DATA 0F8H ; SPI0 control

PCA0L DATA 0F9H ; PCA0 counter low

PCA0H DATA 0FAH ; PCA0 counter high

PCA0CPL0 DATA 0FBH ; PCA0 module 0 capture low

PCA0CPH0 DATA 0FCH ; PCA0 module 0 capture high

PCA0CPL4 DATA 0FDH ; PCA0 module 4 capture low

PCA0CPH4 DATA 0FEH ; PCA0 module 4 capture high

VDM0CN DATA 0FFH ; VDD monitor control

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; Bit Definitions

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; TCON 0x88

TF1 BIT TCON.7 ; Timer 1 overflow flag

TR1 BIT TCON.6 ; Timer 1 on/off control

TF0 BIT TCON.5 ; Timer 0 overflow flag

TR0 BIT TCON.4 ; Timer 0 on/off control

IE1 BIT TCON.3 ; Ext. Interrupt 1 edge flag

IT1 BIT TCON.2 ; Ext. Interrupt 1 type

IE0 BIT TCON.1 ; Ext. Interrupt 0 edge flag

IT0 BIT TCON.0 ; Ext. Interrupt 0 type

; SCON0 0x98

S0MODE BIT SCON0.7 ; UART0 mode

; Bit 6 Unused

MCE0 BIT SCON0.5 ; UART0 MCE

REN0 BIT SCON0.4 ; UART0 RX enable

TB80 BIT SCON0.3 ; UART0 TX bit 8

RB80 BIT SCON0.2 ; UART0 RX bit 8

TI0 BIT SCON0.1 ; UART0 TX interrupt flag

RI0 BIT SCON0.0 ; UART0 RX interrupt flag

; IE 0xA8

EA BIT IE.7 ; Global interrupt enable

ESPI0 BIT IE.6 ; SPI0 interrupt enable

ET2 BIT IE.5 ; Timer 2 interrupt enable

ES0 BIT IE.4 ; UART0 interrupt enable

ET1 BIT IE.3 ; Timer 1 interrupt enable

EX1 BIT IE.2 ; External interrupt 1 enable

ET0 BIT IE.1 ; Timer 0 interrupt enable

EX0 BIT IE.0 ; External interrupt 0 enable

; IP 0xB8

; Bit 7 Unused

PSPI0 BIT IP.6 ; SPI0 priority

PT2 BIT IP.5 ; Timer 2 priority

PS0 BIT IP.4 ; UART0 priority

PT1 BIT IP.3 ; Timer 1 priority

PX1 BIT IP.2 ; External interrupt 1 priority

PT0 BIT IP.1 ; Timer 0 priority

PX0 BIT IP.0 ; External interrupt 0 priority

; SMB0CN 0xC0

MASTER BIT SMB0CN.7 ; SMBus0 master/slave

TXMODE BIT SMB0CN.6 ; SMBus0 transmit mode

STA BIT SMB0CN.5 ; SMBus0 start flag

STO BIT SMB0CN.4 ; SMBus0 stop flag

ACKRQ BIT SMB0CN.3 ; SMBus0 acknowledge request

ARBLOST BIT SMB0CN.2 ; SMBus0 arbitration lost

ACK BIT SMB0CN.1 ; SMBus0 acknowledge flag

SI BIT SMB0CN.0 ; SMBus0 interrupt pending flag

; TMR2CN 0xC8

TF2H BIT TMR2CN.7 ; Timer 2 high byte overflow flag

TF2L BIT TMR2CN.6 ; Timer 2 low byte overflow flag

TF2LEN BIT TMR2CN.5 ; Timer 2 low byte interrupt enable

TF2CEN BIT TMR2CN.4 ; Timer 2 capture enable

T2SPLIT BIT TMR2CN.3 ; Timer 2 split mode enable

TR2 BIT TMR2CN.2 ; Timer 2 on/off control

T2RCLK BIT TMR2CN.1 ; Timer 2 RTC capture mode select

T2XCLK BIT TMR2CN.0 ; Timer 2 external clock select

; PSW 0xD0

CY BIT PSW.7 ; Carry flag

AC BIT PSW.6 ; Auxiliary carry flag

F0 BIT PSW.5 ; User flag 0

RS1 BIT PSW.4 ; Register bank select 1

RS0 BIT PSW.3 ; Register bank select 0

OV BIT PSW.2 ; Overflow flag

F1 BIT PSW.1 ; User flag 1

P BIT PSW.0 ; Accumulator parity flag

; PCA0CN 0xD8

CF BIT PCA0CN.7 ; PCA0 counter overflow flag

CR BIT PCA0CN.6 ; PCA0 counter run control bit

CCF5 BIT PCA0CN.5 ; PCA0 module 5 interrupt flag

CCF4 BIT PCA0CN.4 ; PCA0 module 4 interrupt flag

CCF3 BIT PCA0CN.3 ; PCA0 module 3 interrupt flag

CCF2 BIT PCA0CN.2 ; PCA0 module 2 interrupt flag

CCF1 BIT PCA0CN.1 ; PCA0 module 1 interrupt flag

CCF0 BIT PCA0CN.0 ; PCA0 module 0 interrupt flag

; ADC0CN 0xE8

AD0EN BIT ADC0CN.7 ; ADC0 enable

BURSTEN BIT ADC0CN.6 ; ADC0 burst mode enable

AD0INT BIT ADC0CN.5 ; ADC0 conv. complete interrupt flag

AD0BUSY BIT ADC0CN.4 ; ADC0 busy flag

AD0WINT BIT ADC0CN.3 ; ADC0 window compare interrupt flag

AD0LJST BIT ADC0CN.2 ; ADC0 left justify select

AD0CM1 BIT ADC0CN.1 ; ADC0 conversion mode select 1

AD0CM0 BIT ADC0CN.0 ; ADC0 conversion mode select 0

; SPI0CN 0xF8

SPIF BIT SPI0CN.7 ; SPI0 interrupt flag

WCOL BIT SPI0CN.6 ; SPI0 write collision flag

MODF BIT SPI0CN.5 ; SPI0 mode fault flag

RXOVRN BIT SPI0CN.4 ; SPI0 RX overrun flag

NSSMD1 BIT SPI0CN.3 ; SPI0 slave select mode 1

NSSMD0 BIT SPI0CN.2 ; SPI0 slave select mode 0

TXBMT BIT SPI0CN.1 ; SPI0 TX buffer empty flag

SPIEN BIT SPI0CN.0 ; SPI0 SPI0 enable

$RESTORE