



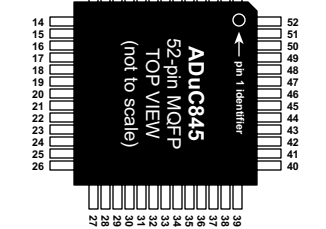
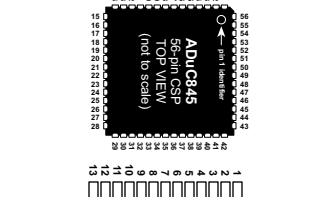
**THE DATASHEET OF  
ADUC845BSZ8-3**





## Pin Functions

| MOFP CSP | Pin | Function              |
|----------|-----|-----------------------|
| 2        | 1   | P1.1 / AIN2           |
| 3        | 2   | P1.2 / AIN3 / REFIN2+ |
| 4        | 3   | P1.3 / AIN4 / REFIN2- |
| 5        | 4   | AV <sub>DD</sub>      |
| -        | 5   | AGND                  |
| 6        | 6   | AGND                  |
| 7        | 7   | REFIN+                |
| 8        | 8   | REFIN-                |
| 9        | 9   | P1.4 / AIN5           |
| 10       | 10  | P1.5 / AIN6           |
| 11       | 11  | P1.6 / AIN7 / IEXC1   |
| 12       | 12  | P1.7 / AIN8 / IEXC2   |
| 13       | 13  | AINCOM / DAC          |
| 14       | 14  | DAC                   |



| MOFP CSP | Pin | Function                 |
|----------|-----|--------------------------|
| -        | 15  | AIN9 (CSP package only)  |
| -        | 16  | AIN10 (CSP package only) |
| 16       | 17  | RESET                    |
| 16       | 18  | P3.0 / RD                |
| 17       | 19  | P3.1 / TxD               |
| 18       | 20  | P3.2 / INT0              |
| 19       | 21  | P3.3 / INT1              |
| 20       | 22  | DV <sub>DD</sub>         |
| 21       | 23  | DQND                     |
| 22       | 24  | P3.4 / T0                |
| 23       | 25  | P3.5 / T1                |
| 24       | 26  | P3.6 / WR                |
| 25       | 27  | P3.7 / RD                |
| 26       | 28  | SCLK (V <sub>CC</sub> )  |

| MOFP CSP | Pin | Function                 |
|----------|-----|--------------------------|
| 27       | 29  | SDATA (V <sub>CC</sub> ) |
| 28       | 30  | P2.0 / SCLK (SPI)        |
| 29       | 31  | P2.1 / MOSI (SPI)        |
| 30       | 32  | P2.2 / MISO (SPI)        |
| 31       | 33  | P2.3 / SS / T2           |
| 32       | 34  | XTAL1 (m)                |
| 33       | 35  | XTAL2 (out)              |
| 34       | 36  | DV <sub>DD</sub>         |
| 35       | 37  | DQND                     |
| -        | 38  | DQND                     |
| 36       | 39  | P2.4 / T2EX              |
| 37       | 40  | P2.5 / PWM0              |
| 38       | 41  | P2.6 / PWM1              |
| 39       | 42  | P2.7 / PWMCLK            |

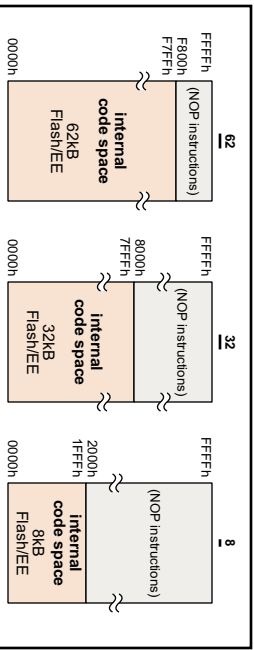
| MOFP CSP | Pin | Function         |
|----------|-----|------------------|
| 40       | 43  | EA               |
| 41       | 44  | PSEN             |
| 42       | 45  | ALE              |
| 43       | 46  | P0.0 / AD0       |
| 44       | 47  | P0.1 / AD1       |
| 45       | 48  | P0.2 / AD2       |
| 46       | 49  | P0.3 / AD3       |
| 47       | 50  | DQND             |
| 48       | 51  | DV <sub>DD</sub> |
| 49       | 52  | P0.4 / AD4       |
| 50       | 53  | P0.5 / AD5       |
| 51       | 54  | P0.6 / AD6       |
| 52       | 55  | P0.7 / AD7       |
| 53       | 56  | P1.0 / AIN1      |

| bytes | OSC periods | Function                 |
|-------|-------------|--------------------------|
| 1     | 1           | clear A to zero          |
| 1     | 1           | rotate A left            |
| 1     | 1           | ...through C             |
| 1     | 1           | rotate A right           |
| 1     | 1           | ...through C             |
| 1     | 1           | swap nibbles             |
| 1     | 1           | logical XOR              |
| 2     | 2           | logical OR               |
| 2     | 2           | logical AND              |
| 2     | 2           | multiply A by B          |
| 1     | 1           | divide A by B            |
| 1     | 1           | decimal adjust           |
| 1     | 1           | 24-bit value P0-P0/P1/P1 |

| Function                        | Address |
|---------------------------------|---------|
| addressing using R0-R7          | 0000h   |
| addressing using R0 or R1       | 0001h   |
| mail address (00h-Fh)           | 0002h   |
| instant included in instruction | 0003h   |
| instant included in instruction | 0004h   |
| address of bit                  | 0005h   |
| bit offset                      | 0006h   |
| press in current 2K-page        | 0007h   |
| press                           | 0008h   |
| n. @Rl, direct #data            | 0009h   |

| Function                        | Address |
|---------------------------------|---------|
| addressing using R0-R7          | 0000h   |
| addressing using R0 or R1       | 0001h   |
| mail address (00h-Fh)           | 0002h   |
| instant included in instruction | 0003h   |
| instant included in instruction | 0004h   |
| address of bit                  | 0005h   |
| bit offset                      | 0006h   |
| press in current 2K-page        | 0007h   |
| press                           | 0008h   |
| n. @Rl, direct #data            | 0009h   |

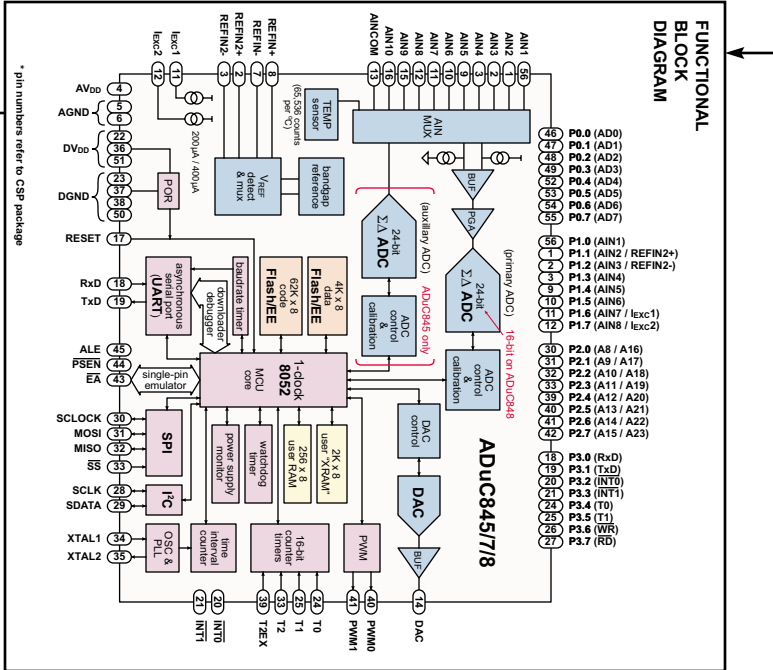
## Code Memory Space Options



## Interrupt Vector Addresses

| Interrupt Bit | Interrupt Name                  | Vector Address | Relative Priority |
|---------------|---------------------------------|----------------|-------------------|
| PSMCON.5      | Power Supply Monitor Interrupt  | 43h            | 1                 |
| WDS           | Watchdog Timer Interrupt        | 5Bh            | 2                 |
| IE0           | External Interrupt 0            | 03h            | 3                 |
| RDY0/RDY1     | End of ADC Conversion Interrupt | 33h            | 4                 |
| TF0           | Timer0 Overflow Interrupt       | 0Bh            | 5                 |
| IE1           | External Interrupt 1            | 13h            | 6                 |
| TF1           | Timer1 Overflow Interrupt       | 1Bh            | 7                 |
| ISPI/IZCI     | SPI/PC Interrupt                | 3Bh            | 8                 |
| RI/TI         | UART Interrupt                  | 23h            | 9                 |
| TF2/EXKF2     | Timer2 Interrupt                | 2Bh            | 10                |
| TIMECON.2     | Time Interval Counter Interrupt | 53h            | 11                |

## AduC845/ADuC847/ADuC848 MicroConverter® Quick Reference Guide



### A Precision Analog Flash MCU The ADuC845/ADuC847/ADuC848 is:

- ADC:** 24-bit primary ADC, differential w/ programmable gain 24-bit auxiliary ADC, single-ended w/ fixed gain (ADuC845 only) 10-channel input mux
- DAC:** 12-bit, 15µs, voltage output <math>< 1\text{-LSB DNL}</math>
- Flash/EEPROM:** up to 62KB Flash/EEPROM program memory 4KB Flash/EEPROM data memory
- Microcontroller:** "single-cycle" 8052, up to 12.8MIPS 32 I/O lines, programmable PLL clock (98.3kHz to 12.6MHz from 32kHz crystal)

- Embedded Tools Support:** on-chip download/debug & single-pin emulation functions
- Other on-chip features:** temperature sensor, power supply monitor, watchdog timer, flexible serial interface ports, voltage reference, time interval counter, dual 8-16-bit PWM, power-on-reset

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