

# C-STAMP MODULE

*C programmable unit for Parallax products*

This module is dedicated to be programmed in C. It is fully compatible with the BS2 module from Parallax. Thus, you are allowed to develop your application with the Parallax boards and accessories now using the C language. In addition to the traditional I/O ports, this C-Stamp module has I<sup>2</sup>C port, two DAC's, 8 analogue inputs, a ready-to-use Bluetooth interface and finally a SPI interface.



This module is based on a ADUC832 microcontroller from Analog Devices. The C-stamp module can be used either at 3.3V or 5V using a simple selection jumper. The SPI interface allows to quickly connect a memory card (SD or µSD), a OLED display, ... There are other interesting IO's such as I<sup>2</sup>C, PWM and UART. Two 12-bit DAC's are available.

## Specifications

Data	Unit	
Input voltage	(V)	5 or 3.3 <sup>1</sup>
Storage temperature	(°C)	-40 to 105
Operating temperature	(°C)	-25 to +85
Size (L x W)	(mm x mm)	25 x 38
Flash memory (code)	(kb)	62
Flash memory (data)	(kb)	4
SRAM (data)	(b)	2304
SRAM (register)	(b)	256
Processor speed	(MIPS)	1.2

## Maximum absolute ratings

Data	Unit	
Input voltage	(V)	12
Storage temperature	(°C)	-40 to 125
Operating temperature	(°C)	-20 to 85

## DAC and ADC specifications

Data	Unit	
Resolution	(bit)	12
ADC speed	(kSPS)	247
Number of ADC chanel		8
Number of DAC chanel		2

<sup>1</sup> Selectable using the JP3 jumper.

**WARNING:** *this device has to be qualified by the user before any use. Specifically it is not designed to be used in critical or life-supporting applications. The specifications are subject to be changed without notice.*

*Pin out description (J2 – IO and ADC)*

Pin number	Description	Pin number	Description
1	SOUT	13	P24
2	SIN	14	P25
3	ATN	15	P26 / PWM0
4	GND	16	P27 / PWM1
5	P34/ T0/ PWM0/ ExtCLK	17	P0 (D0 with pull-up resistor)
6	P35/ T1/ CONVst	18	P1 (D1 with pull-up resistor)
7	P36 / WR	19	P2 (D2 with pull-up resistor)
8	P37 / RD	20	P3 (D3 with pull-up resistor)
9	P20	21	Vcc (5V ou 3.3 V)
10	P21	22	RESM (reset)
11	P22	23	GND
12	P23	24	Vdd

*Pin out description (J2 – IO and ADC)*

Pin number	Description	Pin number	Description
1	P13 / ADC in 3	5	P7 (D7 without pull-up resistor)
2	P12 / ADC in 2	6	P6 (D6 without pull-up resistor)
3	P11 / ADC in 1	7	P5 (D5 without pull-up resistor)
4	P10 / ADC in 0	8	P4 (D4 without pull-up resistor)

*Pin out description (J3 – Serial, ADC and DAC)*

Pin number	Description	Pin number	Description
1	TXA (serial OUT bis)	5	P14 / ADC in 4
2	RXA (serial IN bis)	6	P15 / ADC in 5
3	DAC out 0	7	P16 / ADC in 6
4	DAC out 1	8	P17 / ADC in 7

*Pin out description (J4 – I<sup>2</sup>C and SPI)*

Pin number	Description	Pin number	Description
1	Vcc (5V or 3.3V)	5	SDATA / MOSI
2	Vdd (from 5 to 12 V)	6	P32 / INT0
3	GND	7	P33 / INT1 / MISO / PWM1
4	SCLK		

*Jumper configuration*

Jumper	Description
JP1	ON = Download if Reset
JP2	ON = Reset
JP3	Power supply through U4 voltage regulator