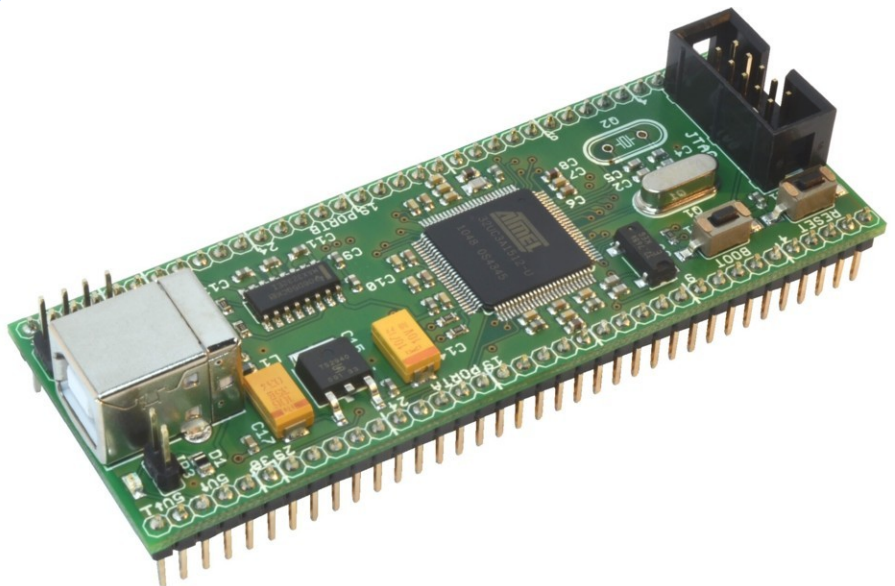
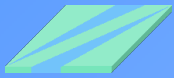


AVR32-Module

Model: AL-UC3AEB

- **Summary**
- **Measures**
- **Description**
- **Electrical Characteristics**
- **Programming**
- **Settings**



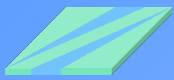


Summary

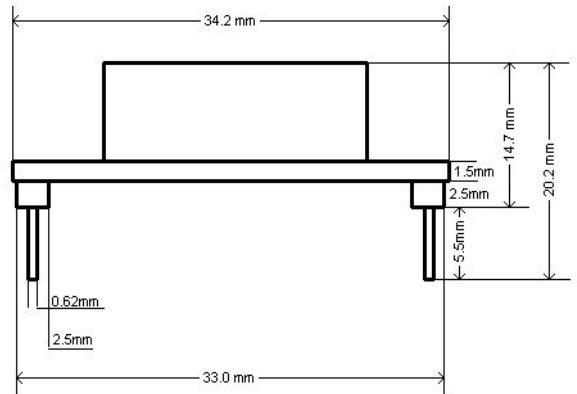
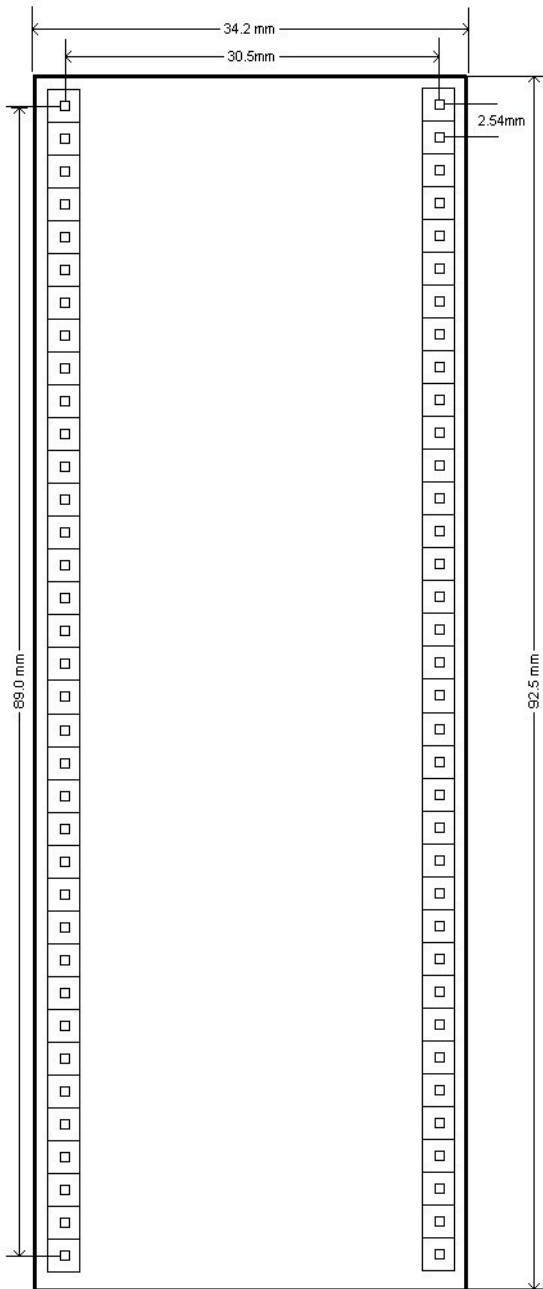
PB00	RESET	PA00/RS232 RXD0
PB01		PA01/RS232 TXD0
PB02		PA02
PB03		PA03
PB04		PA04
PB05	JTAG	PA05/RS232 RXD1
PB06		PA06/RS232 TXD1
PB07		PA07
PB08		PA08
PB09		PA09
PB10		PA10
PB11		PA11
PB12		PA12
PB13		PA13
PB14		PA14
PB15		PA15
PB16		PA16
PB17		PA17
PB18		PA18
PB19		PA19
PB20		PA20/BOOT-KEY
PB21		PA21
PB22		PA22
PB23		PA23
PB24		PA24
PB25		PA25
PB26		PA26
PB27		PA27
PB28		PA28
PB29		PA29
PB30		PA30
PB31		RESET/RESET-KEY
OUT0		USB 5V
IN0		3.3V
OUT1		5-12V
IN1		GND

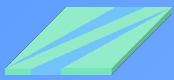
All description in **BLUE** concern the internal connection

Attention! Polarity reversal and overvoltage may cause a destruction of the electronic components!!!

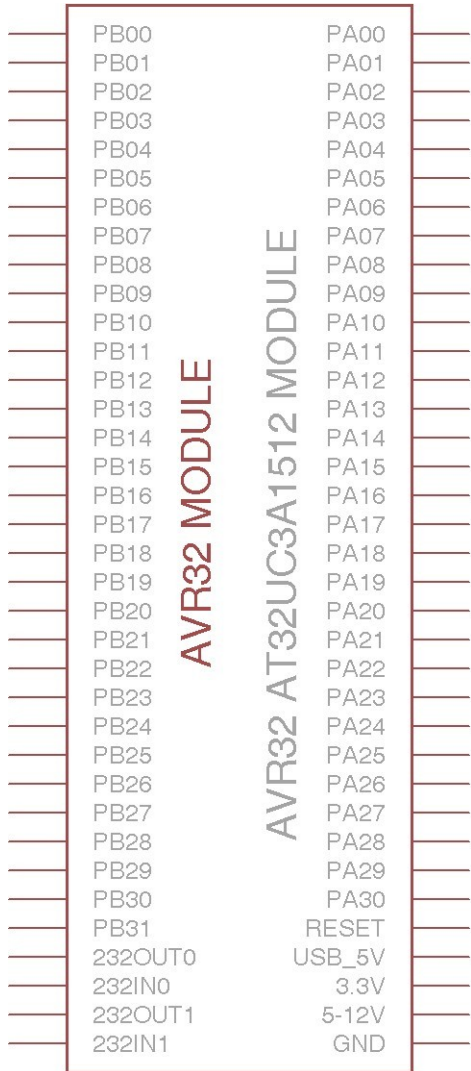


Measures





Description



- **Controller:** Atmel AVR32 AT32UC3A1512 up to 66 MHz

- **Additional equipping:**

- internal voltage regulator 3.3V
- RS-232 Transceiver

- **Voltage Supply:**

- external 3.3V or
- external 5.0 - 12V or
- USB 5V

- **Module size:** W x H x D 34.2 mm x 92.5 mm x 20.2 mm

- **Quartz:**

- 12MHz,
- 32.768KHz and
- additional quartz place

- **PC-Connection:**

- USB or
- 2 x RS232, separable with jumpers

- **Compatibility:** compatible with hole matrix board 2.54 mm

- **Circuit:** built on the recommendation of the manufacturer

- **Programming:**

- JTAG MKII Connector (10-pin)or
- USB Boot Loader (USB type B)

- **Pin configuration of AVR32-Module:** shown at the left picture

- **Functionality:** tested, ready for use

- **Conformity:** **RoHS Compliance**

- **Produced** in Germany

Electrical Characteristics

	Min	Typ	Max
--	-----	-----	-----

for all modules with	Operating Temperature		
Version 1.3	- 20 °C		70 °C
Version 2.0 (actual)	- 40 °C		85 °C

	Voltage Sources		
external 3,3V	3.0 V	3.3 V	3.6V
external 5-12V *	3.6 V		12 V
USB 5V		5V	

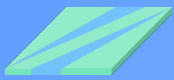
	Frequency		
operating frequency	0 Hz		66 MHz
external quartz Q1		12 MHz	
external quartz Q2	0 Hz		16 MHz
external quartz Q3		32.768 kHz	

	Maximum DC Current		
per I/O Pin		4 mA	

more electrical characteristics you will find on the page 763 in the data sheet [AT32UC3A1512.pdf](#)

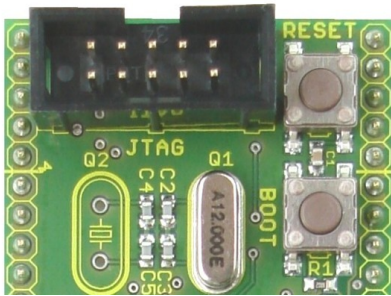
- ▶ voltage regulator TS2940CP-33
- ▶ 4-layer PCB DIN ISO 9001
- ▶ with UL-Approbation
- ▶ one-side mounted
- ▶ USB connector type B

* by using external power supply on pin 5-12V we recommend to supply with low current (by 12V non-stop operation maximum 100 mA), otherwise cooling of the voltage regulator should be provided.

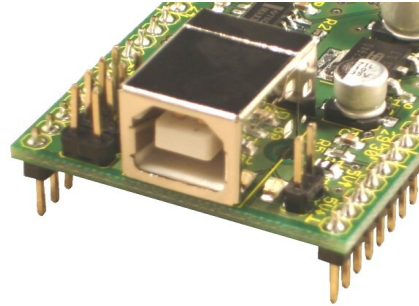


Programming

JTAG ¹



USB ²



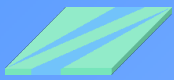
Pin Configuration JTAG-Connector

(9)	(7)	(5)	(3)	(1)
TDI	VCC	TMS	TDO	TCK
(10)	(8)	(6)	(4)	(2)
GND		Reset	VCC	GND

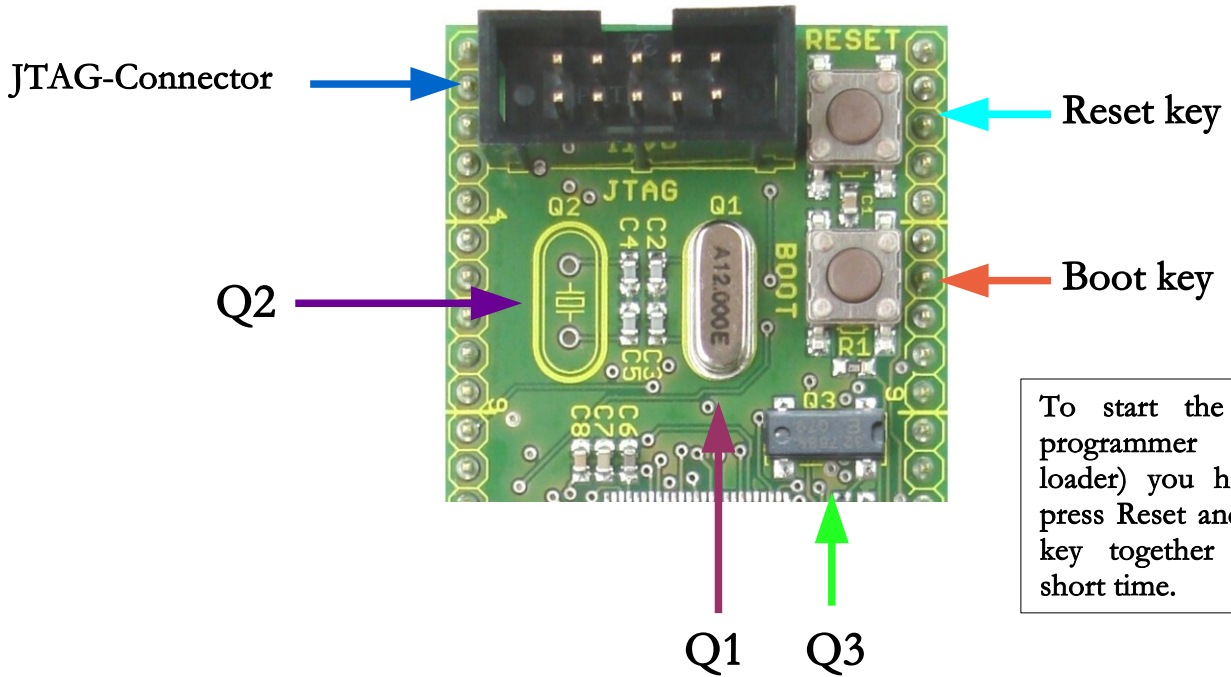
Every AVR32 controller of Atmel is programmed with a boot loader. To be able to use this free program alternative, we have installed two keys: Reset and Boot. To start the boot loader you have to press Reset and Boot key together for a short time.

1 To program AVR32-controller you need JTAG MKII.

2 You find detailed information about the USB programming on our website.



Settings



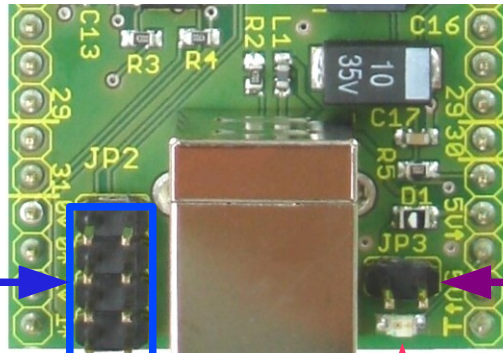
Quartz

- Q1 – 12MHZ
- Q2 – additional quartz place
- Q3 – 32.768 KHz

UARTs-Jumpers

JP2-1	PA1
JP2-2	PA0
JP2-3	PA6
JP2-4	PA5

The USARTs-pins can be parted from RS232 transceivers with these jumpers.



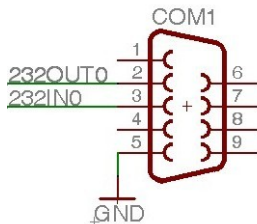
JP3 – USB 5V

If USB connection is available and jumper JP3 is set, the AVR32 module will be supplied with USB 5V.

Power LED

USB Type B

Connection of D-SUB 9-pin female connector (serial port/COM1)



	D-SUB 9-p.	AL-UC3AEB
CH 0 example in the left picture	Pin 2	232OUT0
	Pin 3	232IN0
	GND	GND
CH 1	Pin 2	232OUT1
	Pin 3	232IN1
	GND	GND