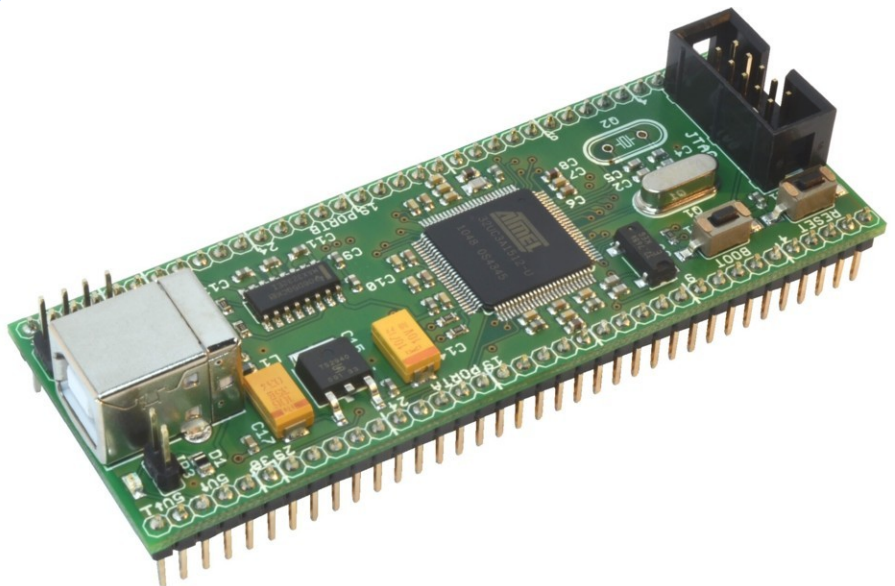
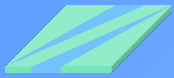


AVR32-Module

Model: AL-UC3AEB

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



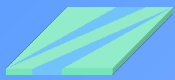


Summary

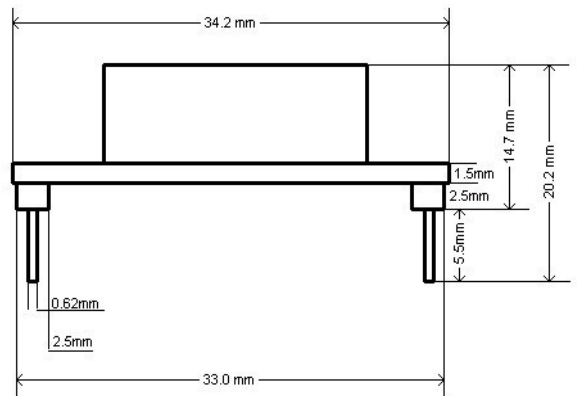
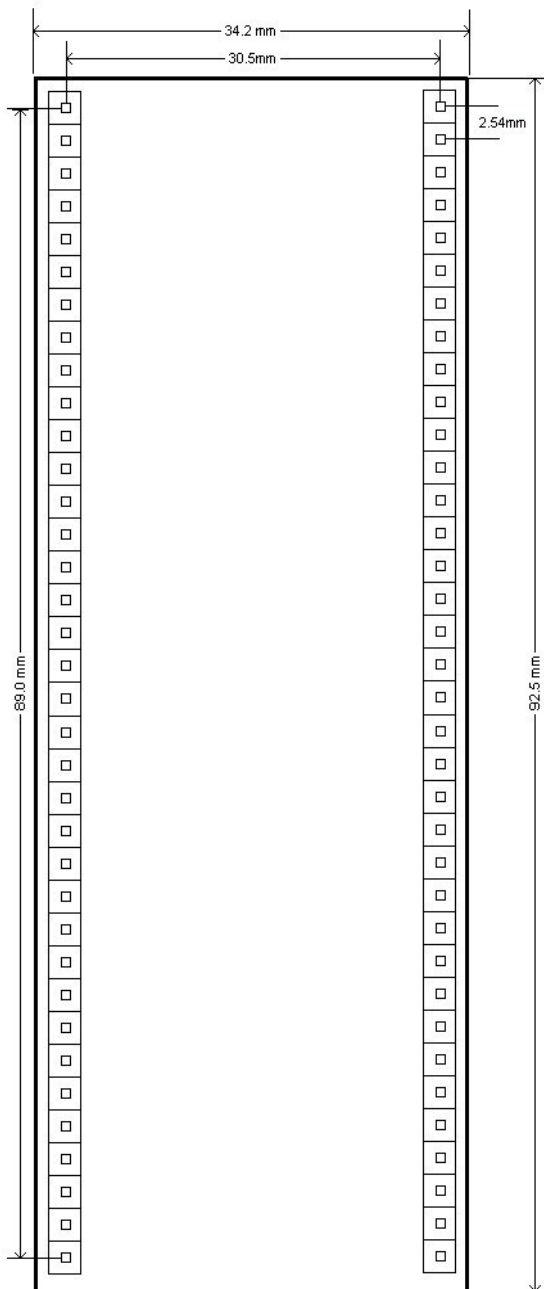
PB00	RESET	PA00/RS232 RXD0
PB01		PA01/RS232 TXD0
PB02		PA02
PB03		PA03
PB04		PA04
PB05	JTAG	PA05/RS232 RXD1
PB06	Q2	PA06/RS232 TXD1
PB07	Q1	PA07
PB08	C2	PA08
PB09	C3	PA09
PB10	C4	PA10
PB11	C5	PA11
PB12	C6	PA12
PB13	C7	PA13
PB14	C8	PA14
PB15	C9	PA15
PB16	C10	PA16
PB17	C11	PA17
PB18	C12	PA18
PB19	C13	PA19
PB20	C14	PA20/BOOT-KEY
PB21	C15	PA21
PB22	C16	PA22
PB23	C17	PA23
PB24	R1	PA24
PB25	R2	PA25
PB26	R3	PA26
PB27	R4	PA27
PB28	R5	PA28
PB29	L1	PA29
PB30	JP2	PA30
PB31	JP3	RESET/RESET-KEY
OUT0		USB 5V
IN0		3.3V
OUT1		5-12V
IN1		GND

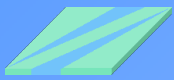
All description in **BLUE** concern the internal connection

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

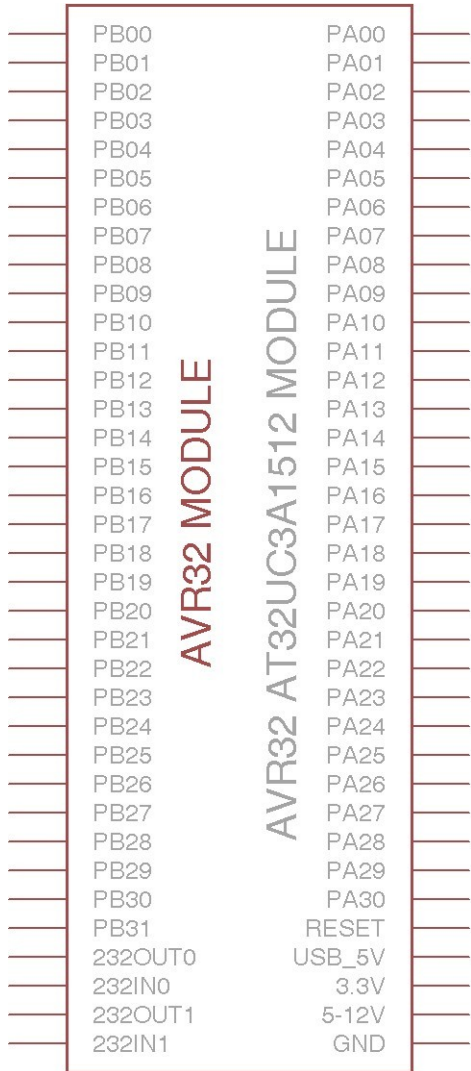


Measures





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	

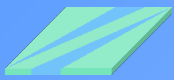
	Frequency		
operating frequency	0 Hz		66 MHz
external quartz Q1		12 MHz	
external quartz Q2	0 Hz		16 MHz
external quartz Q3		32.768 kHz	

	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](#)

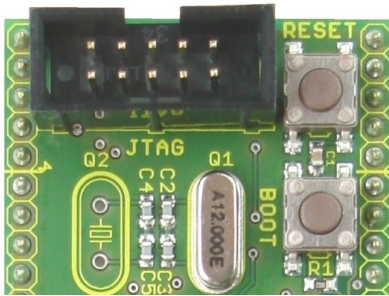
- ▶ voltage regulator TS2940CP-33
- ▶ 4-layer PCB DIN ISO 9001
- ▶ with UL-Approbation
- ▶ one-side mounted
- ▶ USB connector type B

* 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.

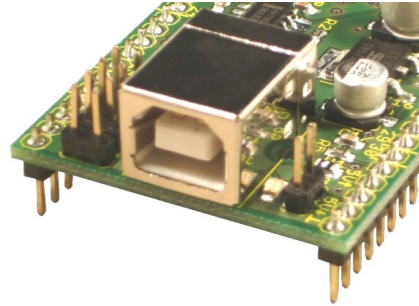


Programming

JTAG ¹



USB ²



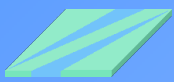
Pin Configuration JTAG-Connector

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

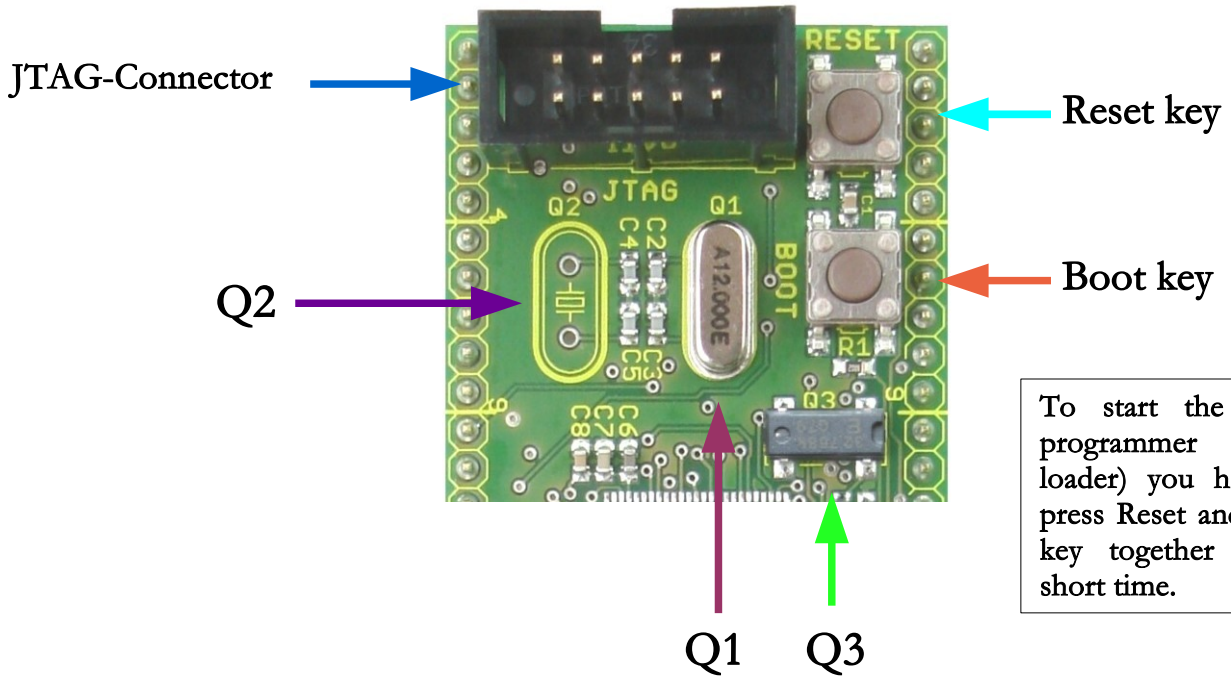
Every AVR32 controller of Atmel is programmed with a boot loader. To be able to use this free program alternative, we have installed two keys: Reset and Boot. To start the boot loader you have to press Reset and Boot key together for a short time.

1 To program AVR32-controller you need JTAG MKII.

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



Settings



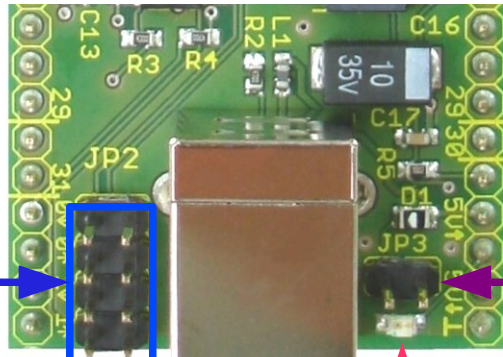
Quartz

- 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.



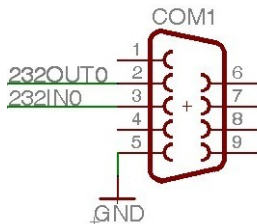
JP3 – USB 5V

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