ALVIDI
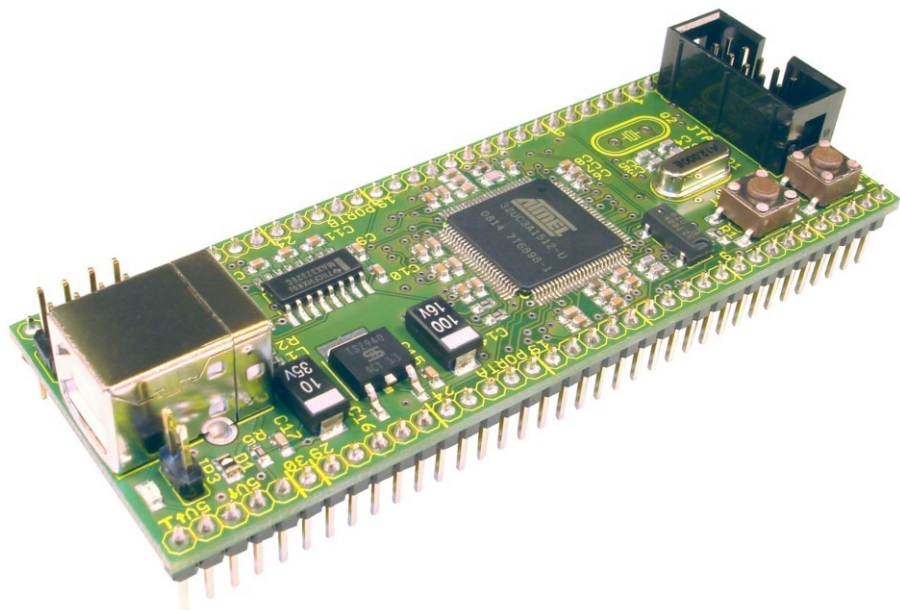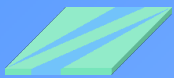
AVR32-Module

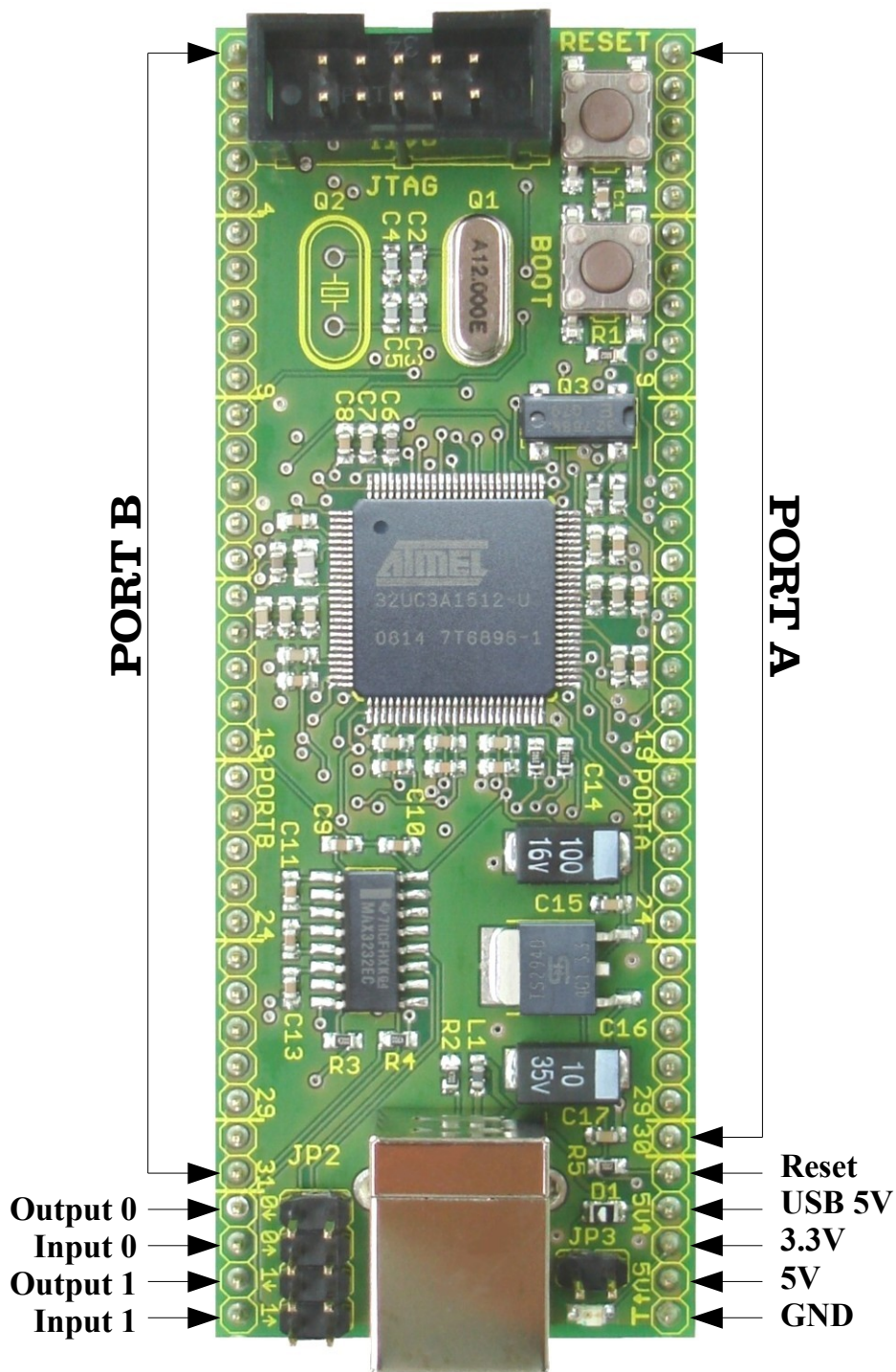## Model: AL-UC3AEB

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

Summary

PORT B

PORT A

RESET

JTAG
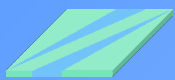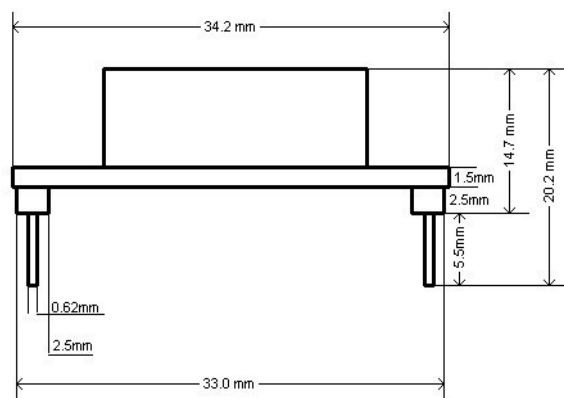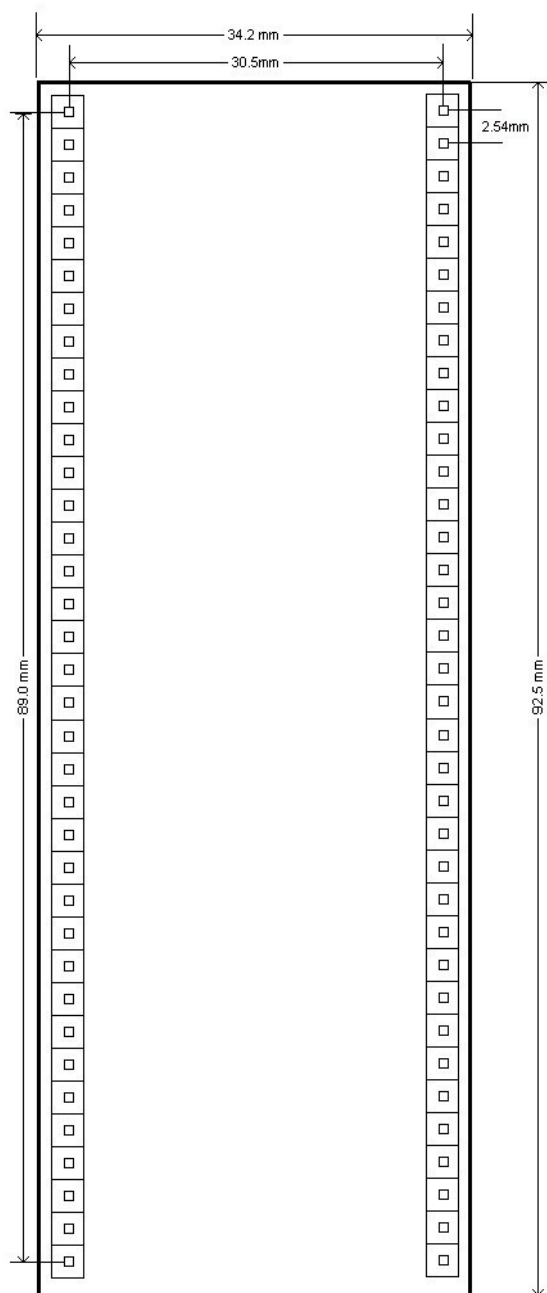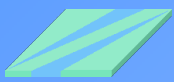
BOOT

Output 0
Input 0
Output 1
Input 1

Reset
USB 5V
3.3V
5V
GND

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

Measures

Description

```
PB00                    PA00
PB01                    PA01
PB02                    PA02
PB03                    PA03
PB04                    PA04
PB05                    PA05
PB06                    PA06
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
PB21                    PA21
PB22                    PA22
PB23                    PA23
PB24                    PA24
PB25                    PA25
PB26                    PA26
PB27                    PA27
PB28                    PA28
PB29                    PA29
PB30                    PA30
PB31                    RESET
232OUT0                 USB_5V
232IN0                  3.3V
232OUT1                 5-12V
232IN1                  GND
```
AVR32 MODULE — AVR32 AT32UC3A1512 MODULE
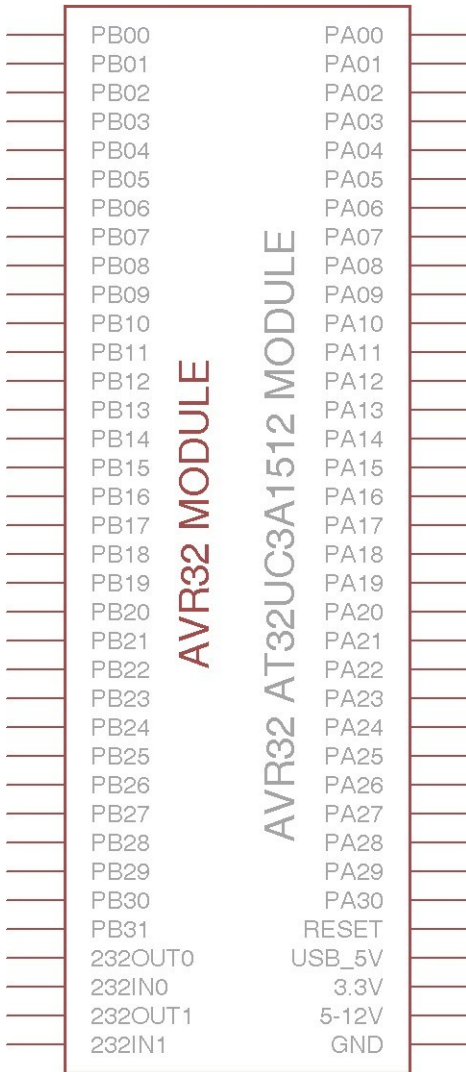
- **Controller:** Atmel AVR32 AT32UC3A1512 up to 66 MHz

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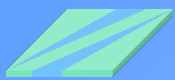
- **Programming:**
  - JTAG MKII Connector (10-pin)or
  - USB Boot Loader (USB type B)

- **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](AT32UC3A1512.pdf)
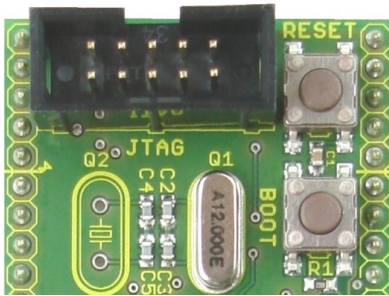
► voltage regulator TS2940CP-33
► 4-layer PCB DIN ISO 9001
► with UL-Approbation
► one-side mounted
► USB connector type B

* 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.
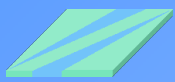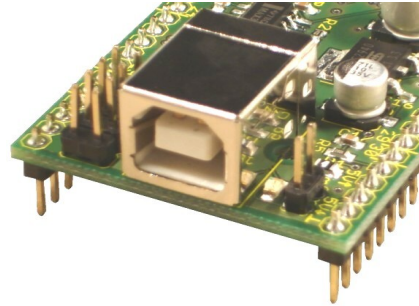
Programming

JTAG [1]

Pin Configuration
JTAG-Connector

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

USB [2]

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

JTAG-Connector
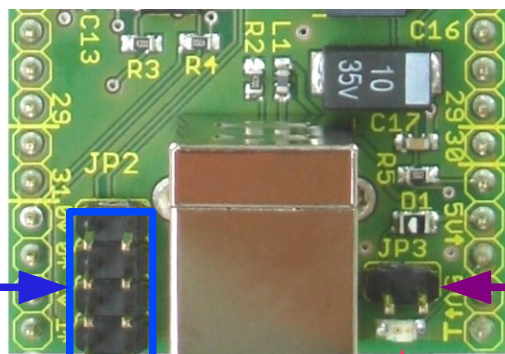
Reset key

Q2

Boot key

To start the USB-programmer (boot loader) you have to press Reset and Boot key together for a short time.

Q1   Q3
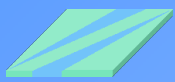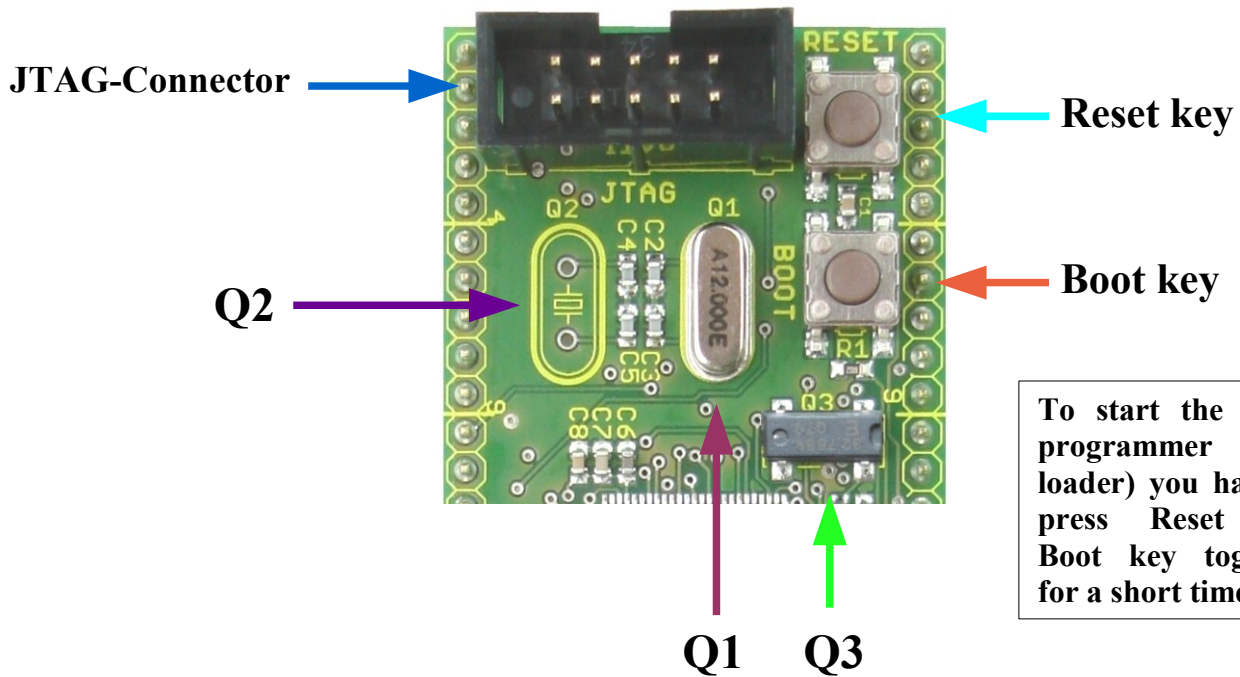
Quartz

- **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.
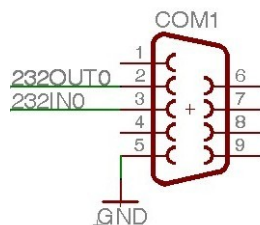
JP3 – USB 5V

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		Pin 2	232OUT0
example in the		Pin 3	232IN0
left picture		GND	GND
CH 1		Pin 2	232OUT1
		Pin 3	232IN1
		GND	GND