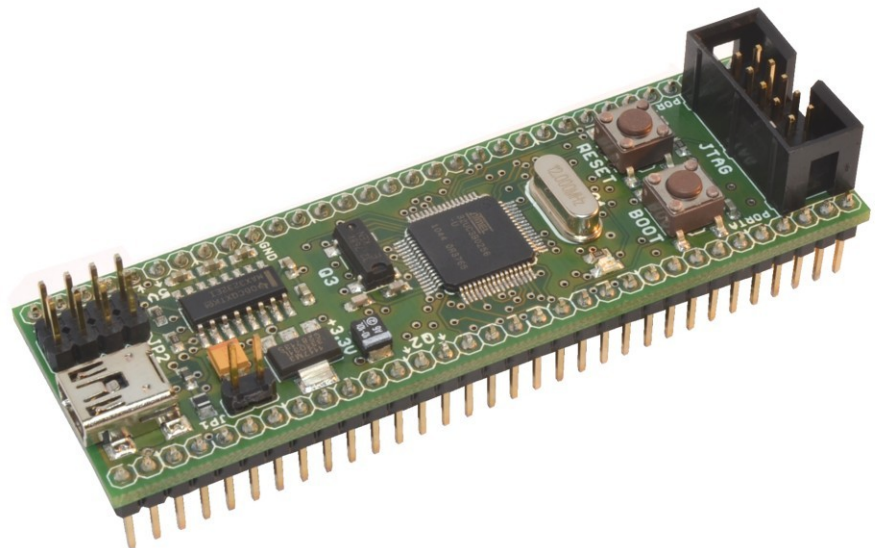
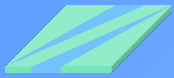


AVR32-Module with EEPROM

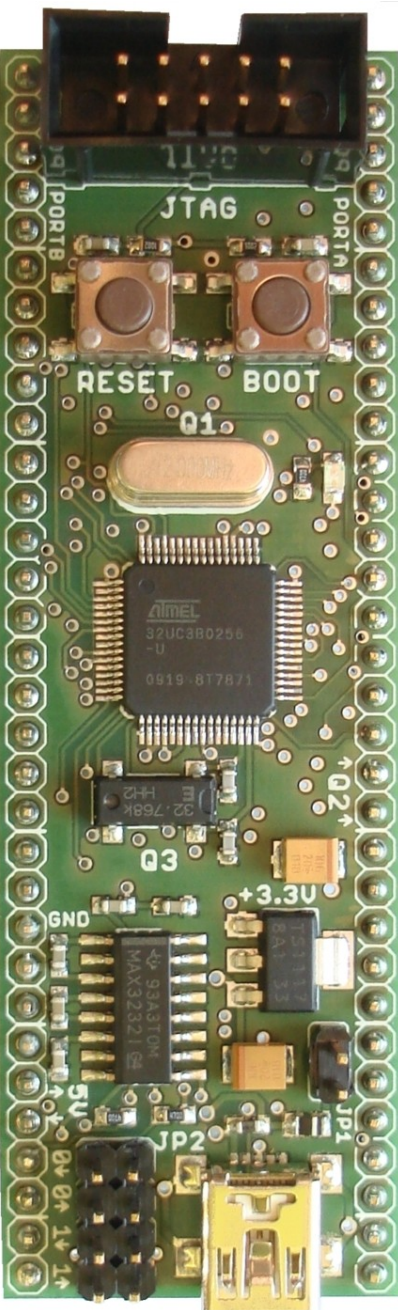
Model: AL-UC3BMB

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





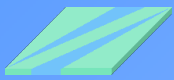
Summary



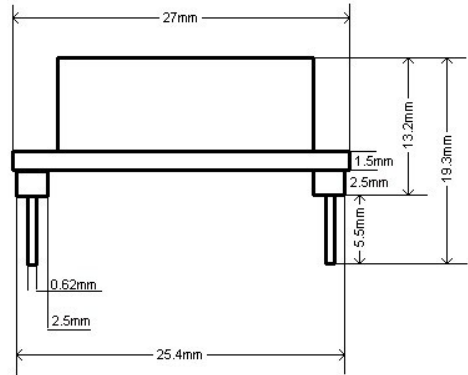
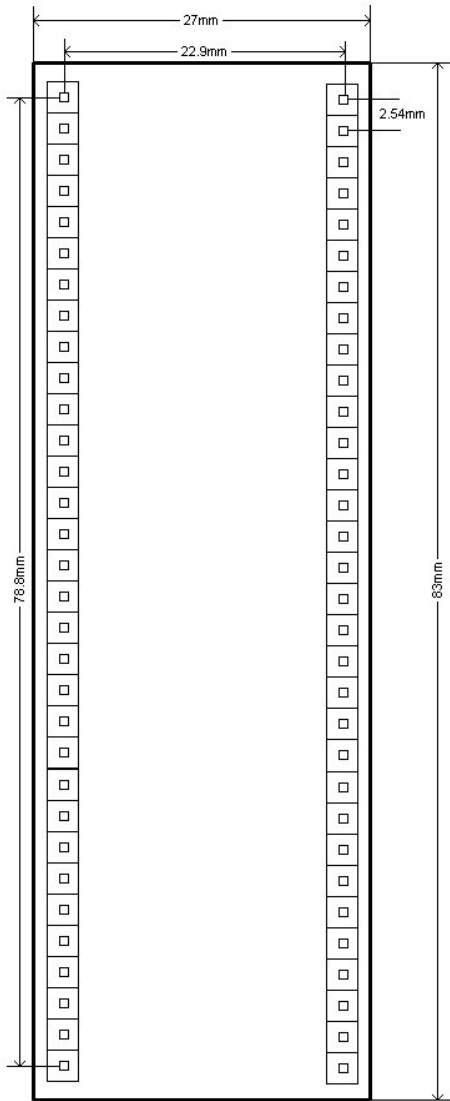
PB00	NC
PB01	NC
RS232 TXD1/PB02	NC
RS232 RXD1/PB03	PA03
PB04	PA04
PB05	PA05
PB06	PA06
PB07	PA07
PB08	PA08
PB09	PA09/EEPROM SCL
RS232 RXD0/PB10	PA10/EEPROM SDA
RS232 TXD0/PB11	NC
NC	NC
NC	PA13/BOOT-KEY
NC	PA14
NC	PA15
NC	PA16
NC	PA17
NC	PA28/for ext. 2. quartz
NC	PA29/for ext. 2. quartz
NC	PA20
NC	PA21
GND	PA22
GND	PA23
RESET-KEY/RESET	PA24
3.3V	PA25
5-12V	PA26
USB 5V	PA27
OUT0	NC
IN0	NC
OUT1	PA30
IN1	PA31

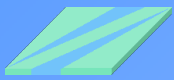
All description in **BLUE** concern the internal connection

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

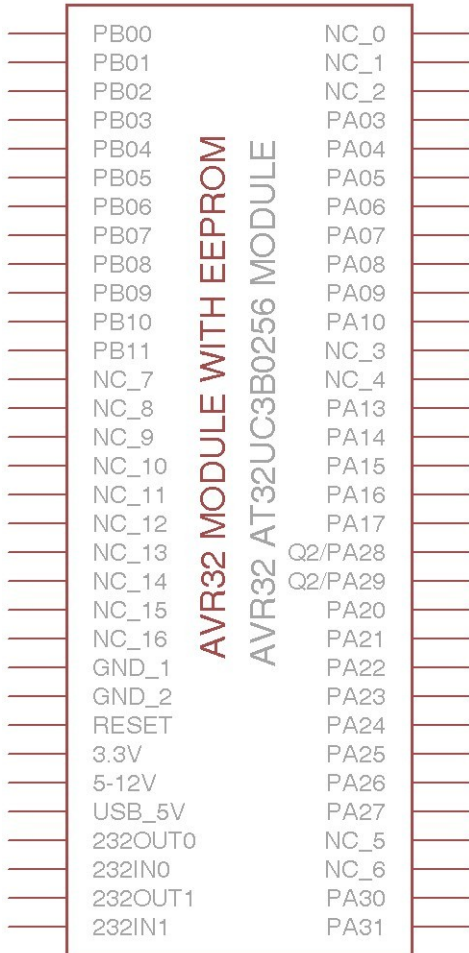


Measures





Description



- **Controller:** Atmel AVR32 AT32UC3B0256 up to 60 MHz

- **Additional equipping:**

- internal voltage regulator 3.3V
- I²C/TWI EEPROM 8KByte
- RS-232 Transceiver

- **Voltage Supply:**

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

- **Module size:** W x H x D 27 mm x 83 mm x 19.3 mm

- **Integrated Quartz:**

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

- **PC-Connection:**

- Mini-USB or
- 2 x RS232, separable with jumpers

- **Compatibility:**

- compatible with IC-Socket 64-pin and
- hole matrix board 2.54 mm

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

- **Programming:**

- JTAG MKII Connector or
- USB Boot Loader

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

- **Pin configuration JTAG and USB:**

- JTAG connector 10-pin, standard of Atmel
- USB connector 5-pin, type B mini

- **Conformity:** RoHS compliance

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

- **Produced** in Germany

Electrical Characteristics

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

for all modules with	Operating Temperature		
MAX3232EID (actual)	- 20 °C		70 °C
MAX3232IDR (actual)			
MAX3232ECD	0 °C		70 °C
on request	- 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	

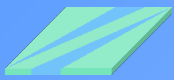
	Frequency		
operating frequency	0 Hz		66 MHz
external quartz Q1		12 MHz	
external quartz Q2	0 Hz		16 MHz
external quartz Q3		32.768 kHz	

	Maximum DC Current		
per I/O Pin		4 mA	

more electrical characteristics you will find on the page 613 in the data sheet [AT32UC3B0256.pdf](#)

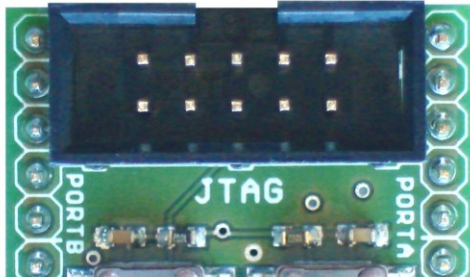
- ▶ voltage regulator TSI117CW-33
- ▶ 4-layer PCB DIN ISO 9001
- ▶ double-side mounted
- ▶ mini-USB connector type B

* 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.

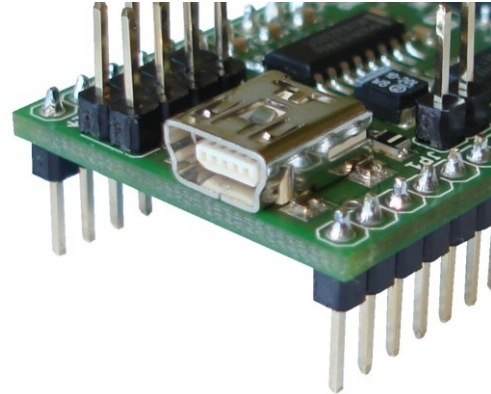


Programming

JTAG ¹



USB ²



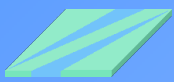
Pin Configuration JTAG-Connector

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

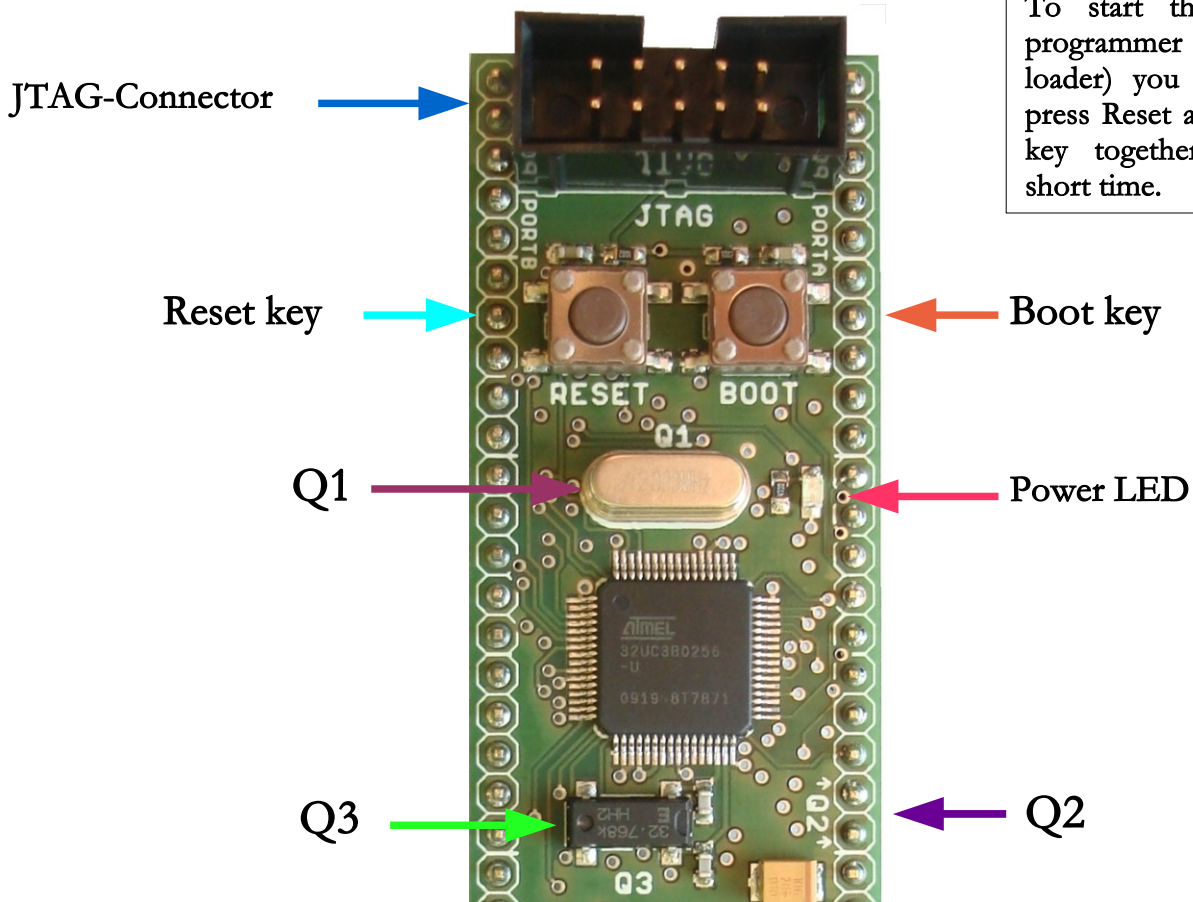
Every AVR32 controller of Atmel is programmed with a boot loader. To be able to use this free program alternative, we have installed two keys: Reset and Boot. To start the boot loader you have to press Reset and Boot key together for a short time.

1 To program AVR32-controller you need JTAG MKII.

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



Settings



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

Quartz

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

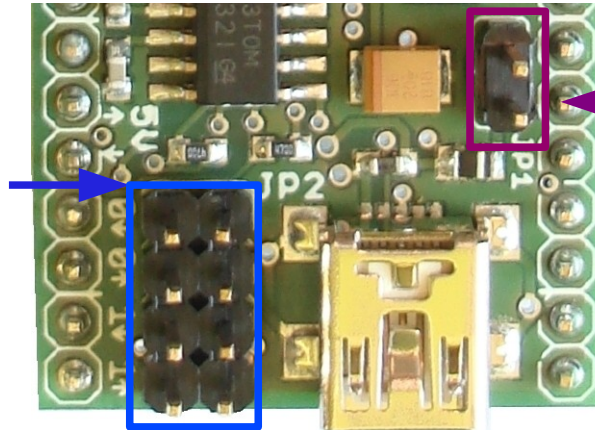
UARTs-Jumpers

JP2-1	PB11
JP2-2	PB10
JP2-3	PB02
JP2-4	PB03

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

Attention!

When using the RS232-transceivers, the UART-pins (PB10 and PB11 or/and PB02 and PB03) should be free of any connection.

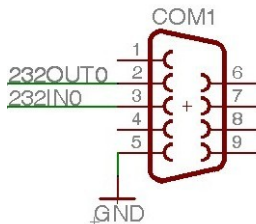


JP1 – USB 5V

If USB connection is available and jumper JP1 is set, the AVR32 module will be supplied with USB 5V.

Mini-USB type B

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



	D-SUB 9-p.	AL-UC3BMB
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