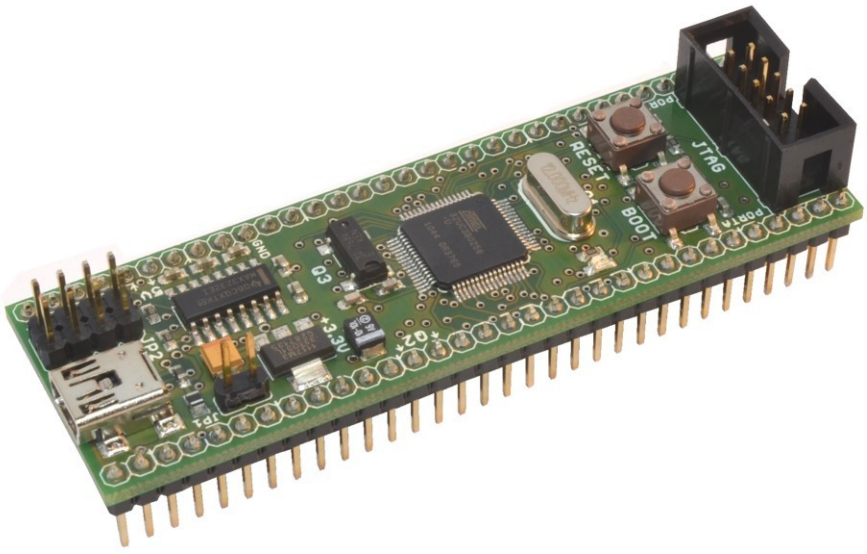
ALVIDI

AVR32-Module with EEPROM

Model: AL-UC3BMB

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



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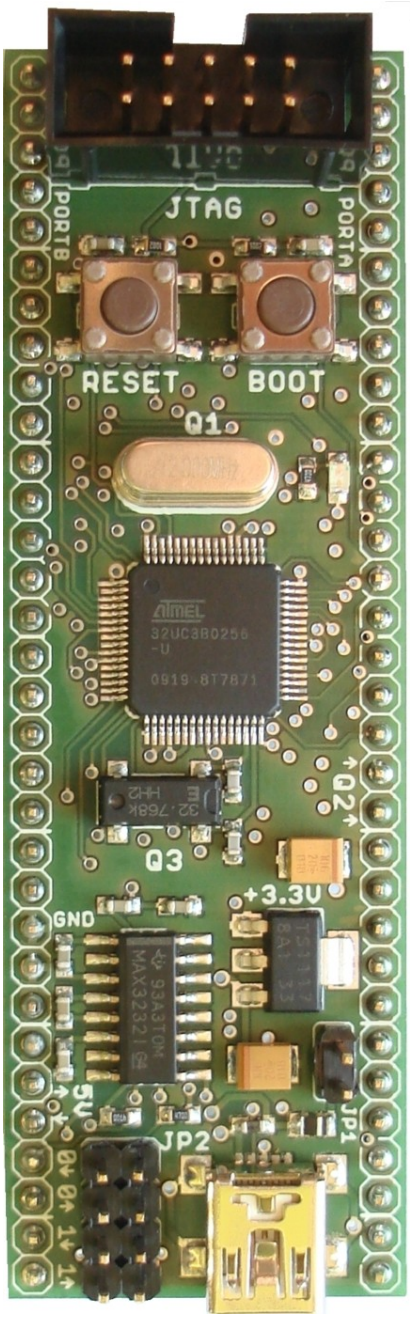
Summary

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!!!

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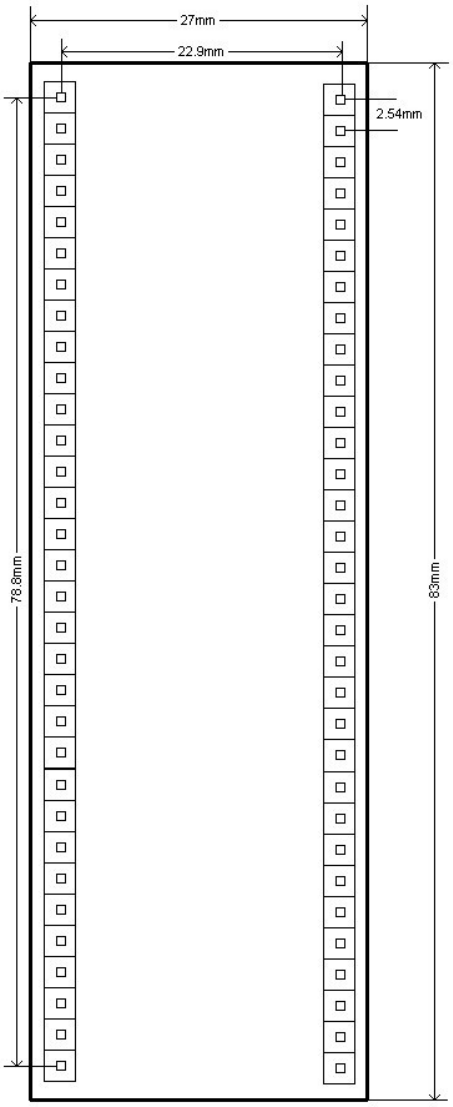
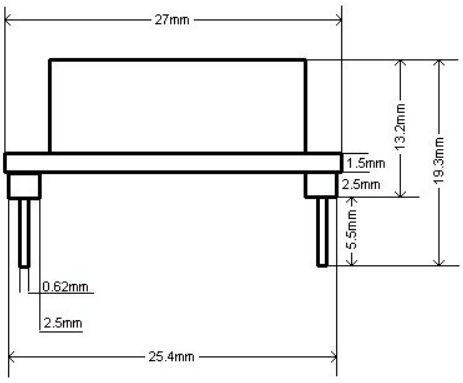
Measures





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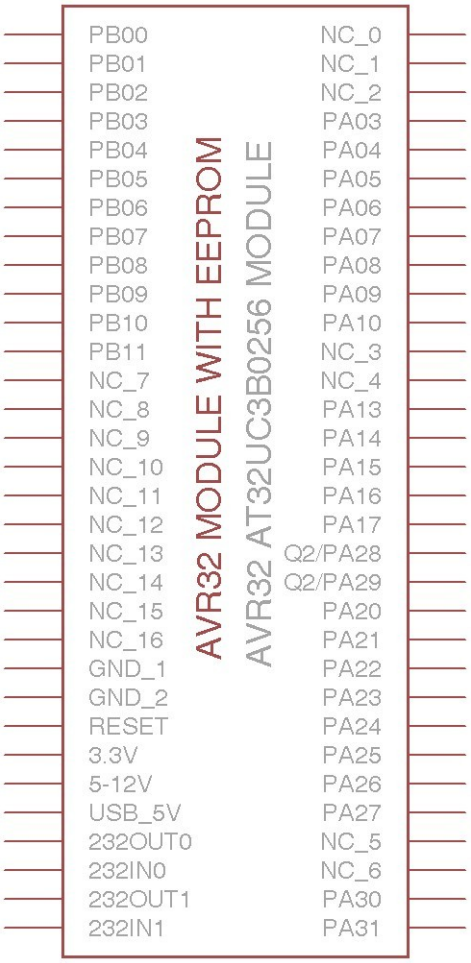
Description



- **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

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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 TS1117CW-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.

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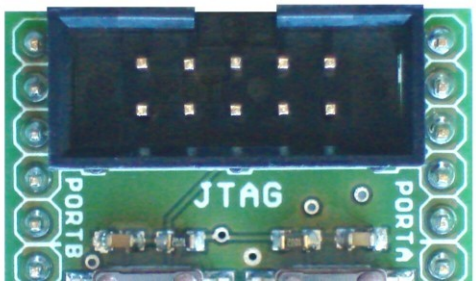
Programming

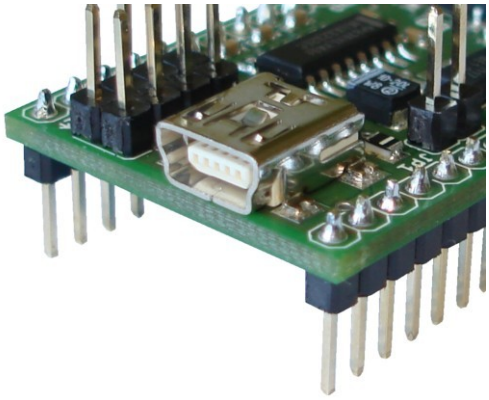
JTAG [1]



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.

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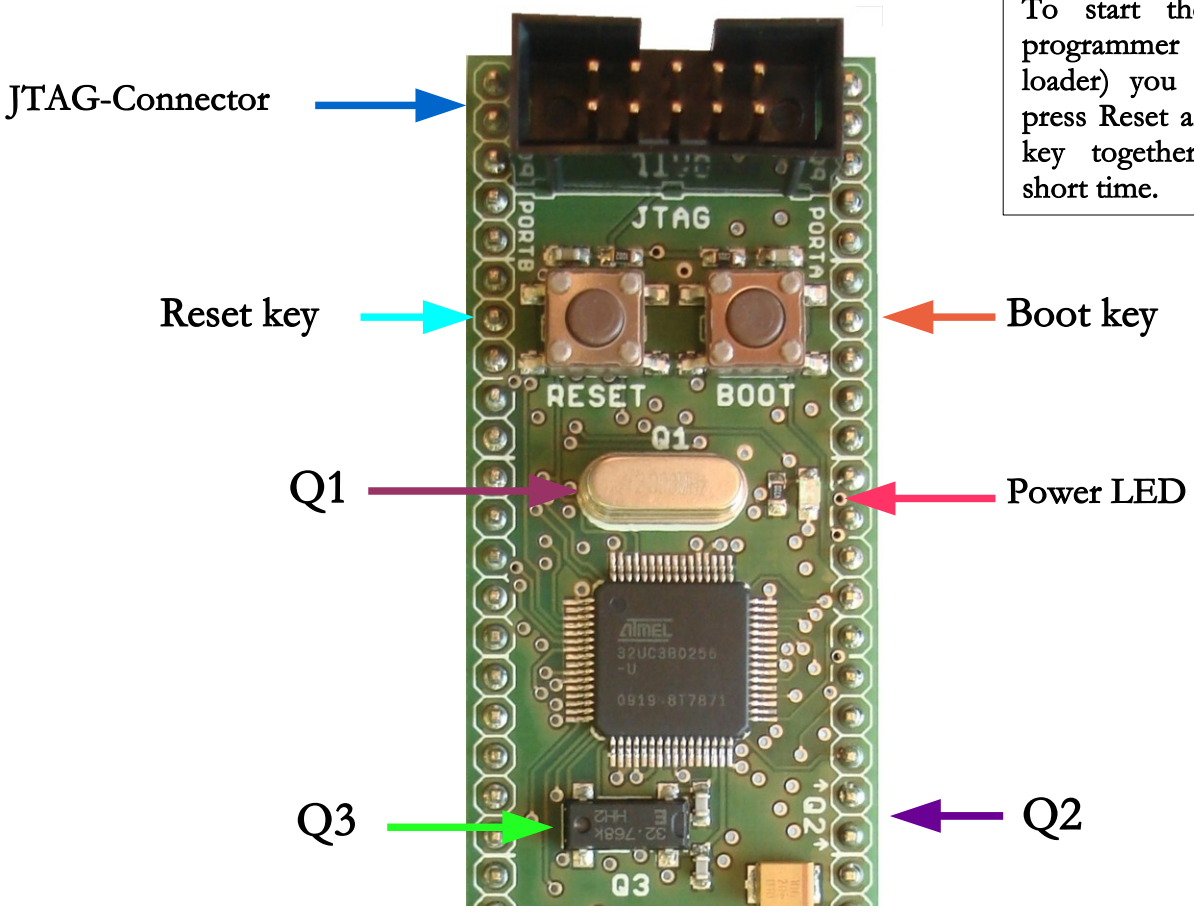
Settings



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

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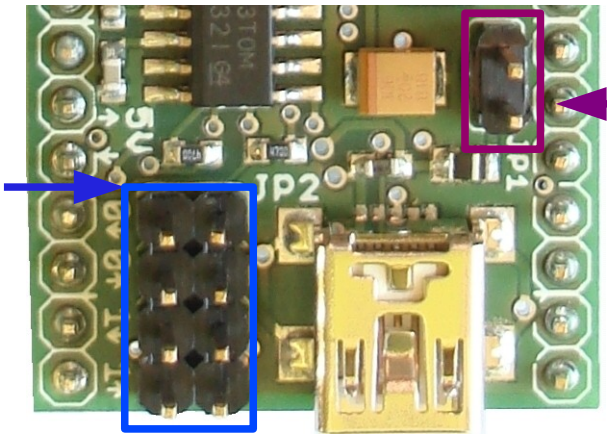
UARTs-Jumpers

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.

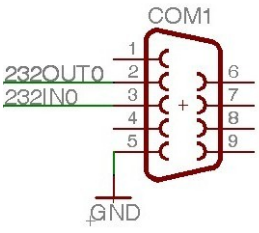


JP1 – USB 5V

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

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