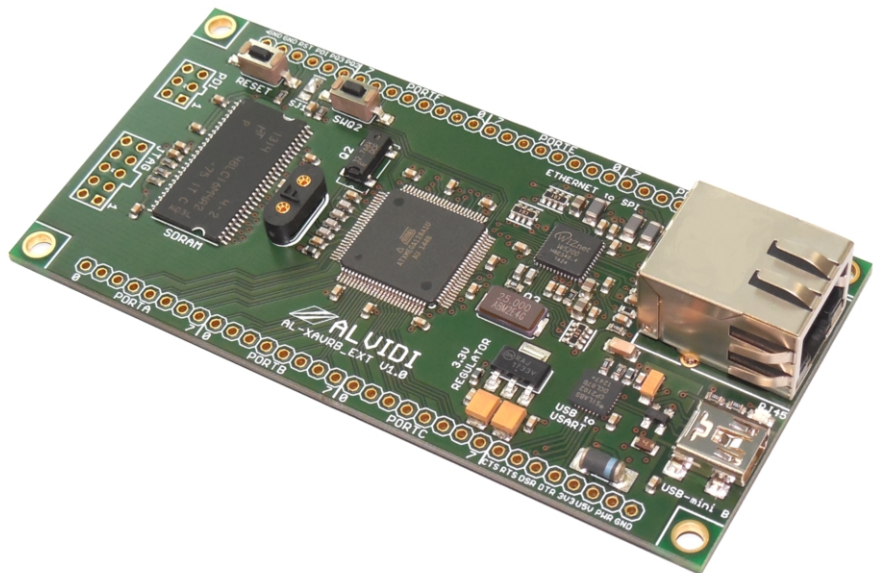


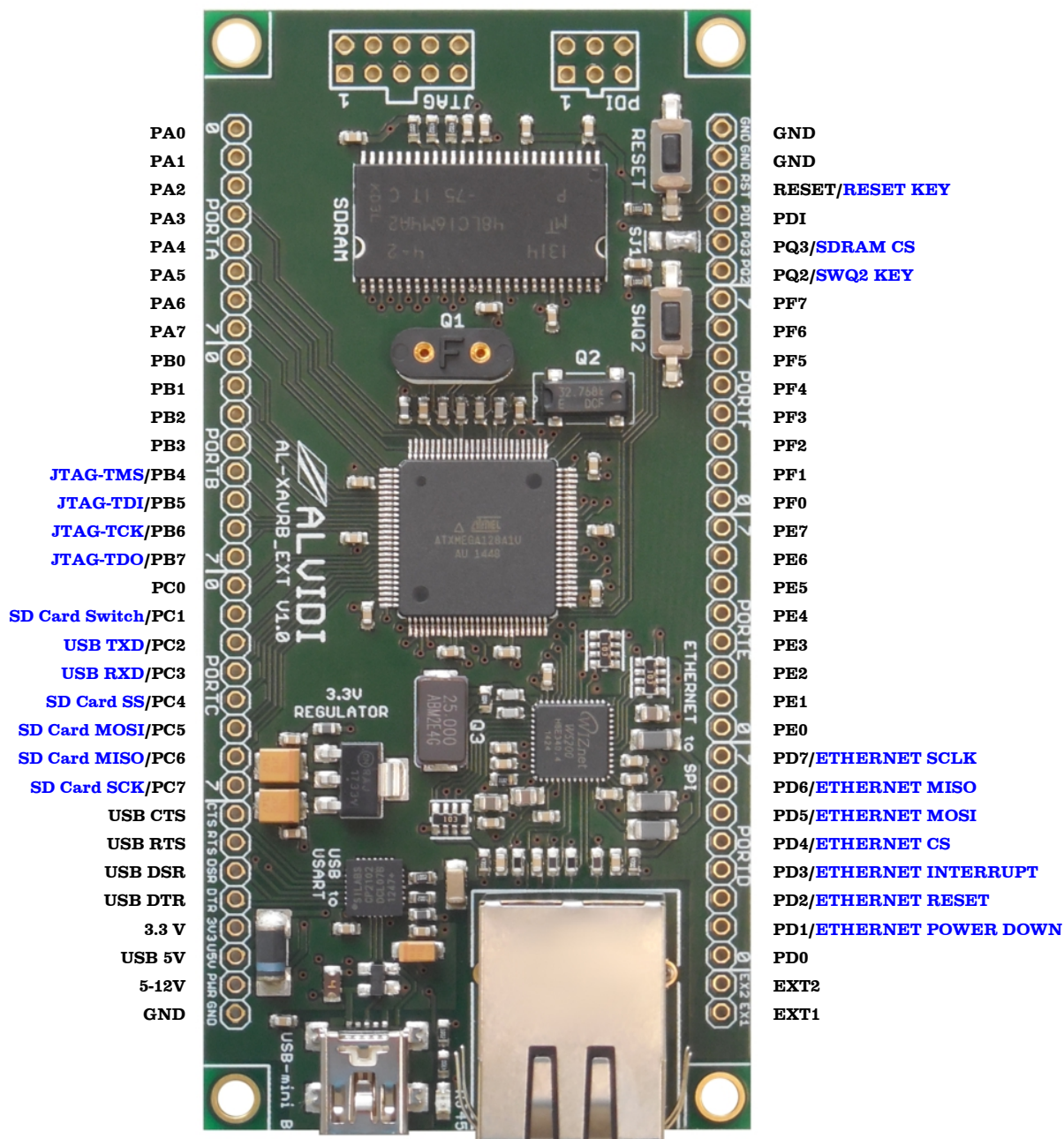
# **AVR ATxmega Development Board**

**Model: AL-XAVRB\_EXT**

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



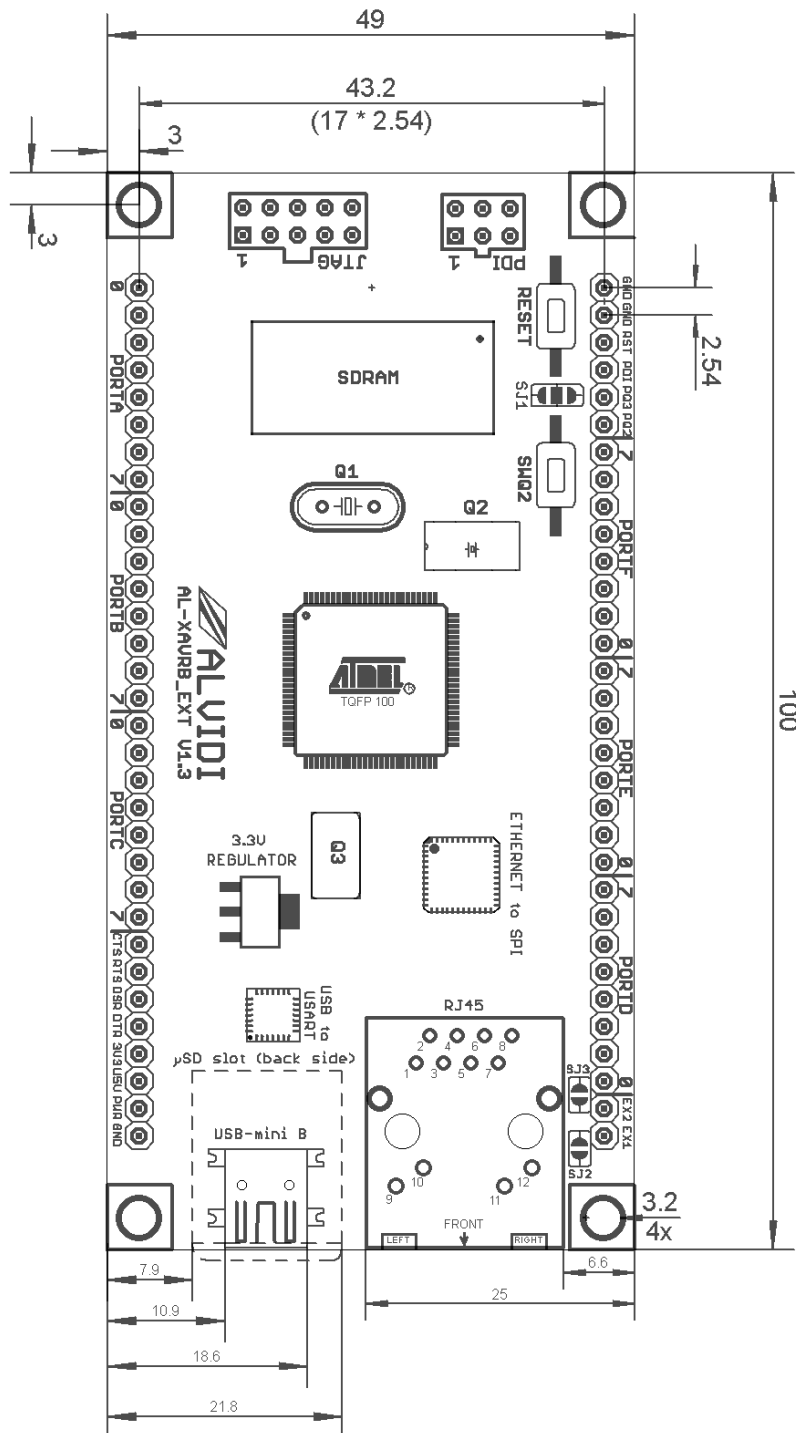
# Summary



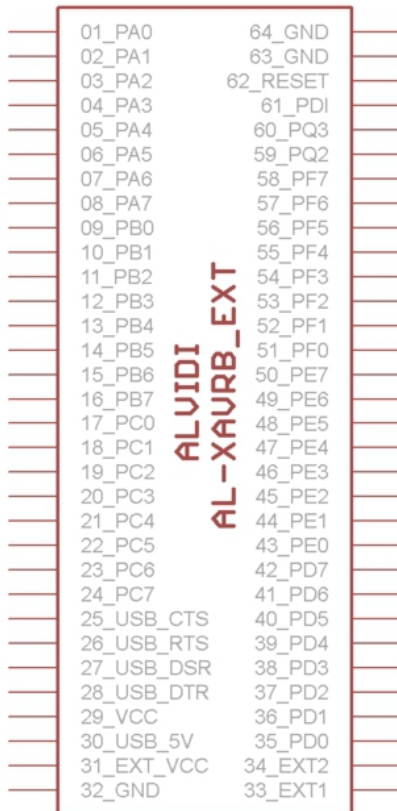
All description in **BLUE** concern the internal connection

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

# Measures



# Description



- **Controller:** Atmel AVR ATxmega128A1U-AU up to 32 MHz

- **Equipment:**

- internal voltage regulator 3.3V
- external SDRAM 64Mbit
- USB to USART CP2102 controller
- Ethernet to SPI W5200 controller
- Reset and SWQ2 keys
- quartz socket and 32.768kHz quartz
- 50 I/O
- Power LED

- **optional equipment:**

- MicroSD card slot
- site pin connectors
- JTAG and PDI connectors

- **Voltage supply:**

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

- **Module size:** W x H x D 49 mm x 100 mm x 19 mm

- **Interface:**

- Auto MDI/MDIX 10/100 Ethernet
- mini USB-B connector
- JTAG
- PDI

- **external quartz:**

- quartz socket
- external 32.768KHz quartz

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

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

- **Pin configuration of AVR-Board:** shown at the left picture

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

- **Produced** in Germany

# Electrical Characteristics

	Min	Typ	Max
<b>Operating Temperature</b>			
for <b>all</b> modules with			
with microSD card slot	-25 °C		70 °C
without microSD card slot	- 40 °C		70 °C
<b>Voltage Sources</b>			
USB 5V		5.0 V	
external 3,3V	3.0 V	3.3 V	3.6V
external 5-12V *	4.3 V		12 V
<b>Frequency</b>			
operating frequency	0 Hz		32 MHz
external quartz Q1 (quartz socket)	0 Hz		16 MHz
external quartz Q2		32.768 kHz	
<b>Maximum DC Current</b>			
per I/O Pin		25 mA	

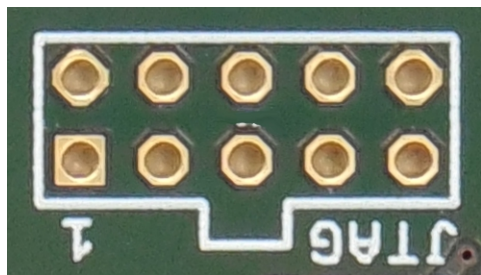
more electrical characteristics you will find on the page 74 in the data sheet [ATxmega128A1U.pdf](#)

- ▶ SDRAM: MT48LC16M4A2P-75IT
- ▶ SD card slot: micro SD push-push
- ▶ USB Controller CP2102
- ▶ Ethernet Controller W5200
- ▶ 4-layer PCB DIN ISO 9001
- ▶ with UL-Approbation
- ▶ double-side mounted

\* 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

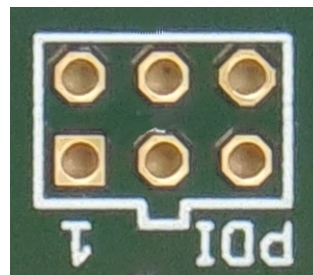
## JTAG



*Pin Configuration  
JTAG-Connector*

(2) <b>GND</b>	(4) <b>VCC</b>	(6) <b>RESET</b>	(8) <b>PDI</b>	(10) <b>GND</b>
(1) <b>TCK</b>	(3) <b>TDO</b>	(5) <b>TMS</b>	(7) <b>VCC</b>	(9) <b>TDI</b>

## ISP

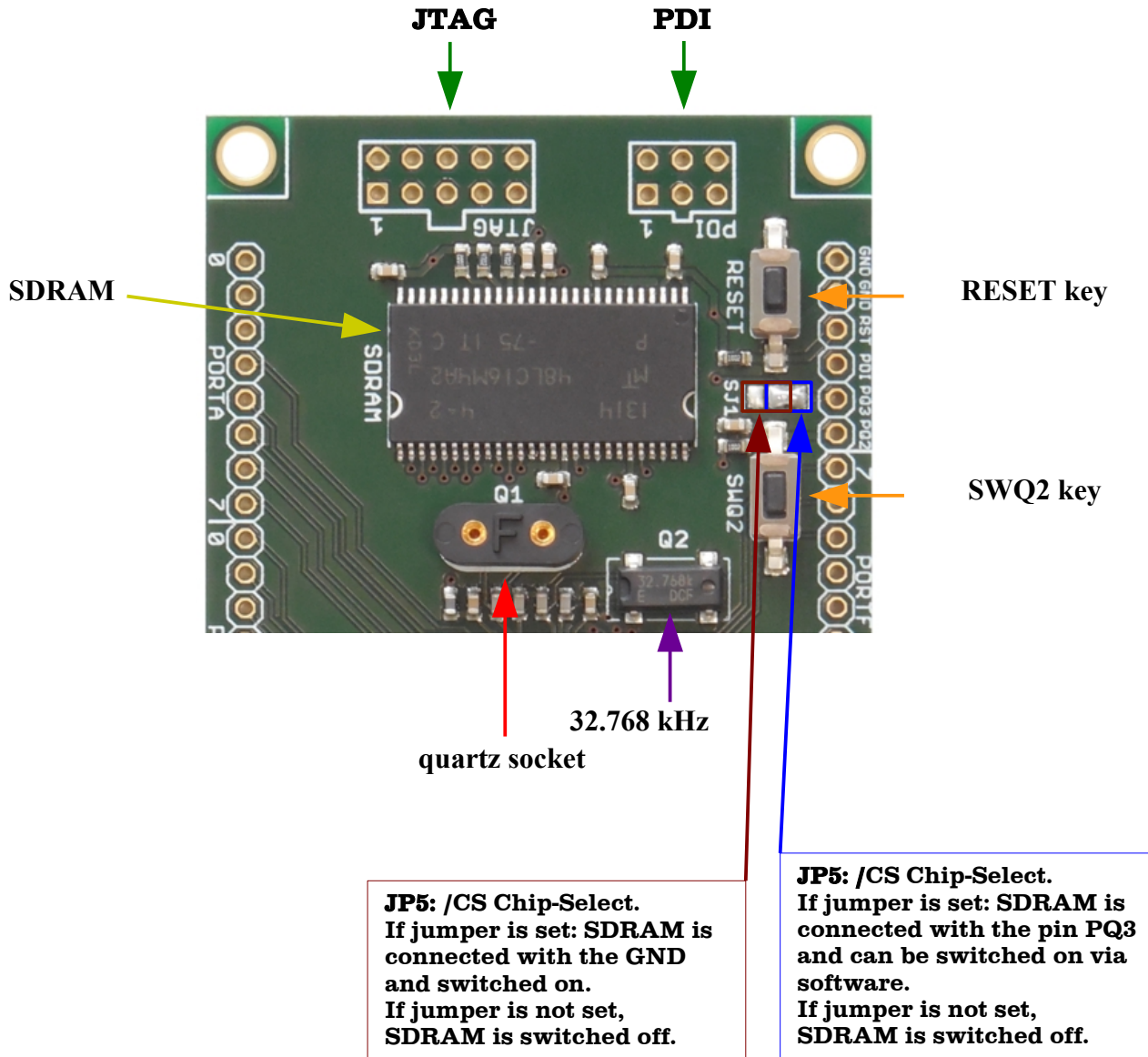


*Pin Configuration  
ISP-Connector*

(2) <b>VCC</b>	(4)	(6) <b>GND</b>
(1) <b>PDI</b>	(3)	(5) <b>RESET</b>



# Settings



Solder jumper SJ1 – SDRAM Chip Select

