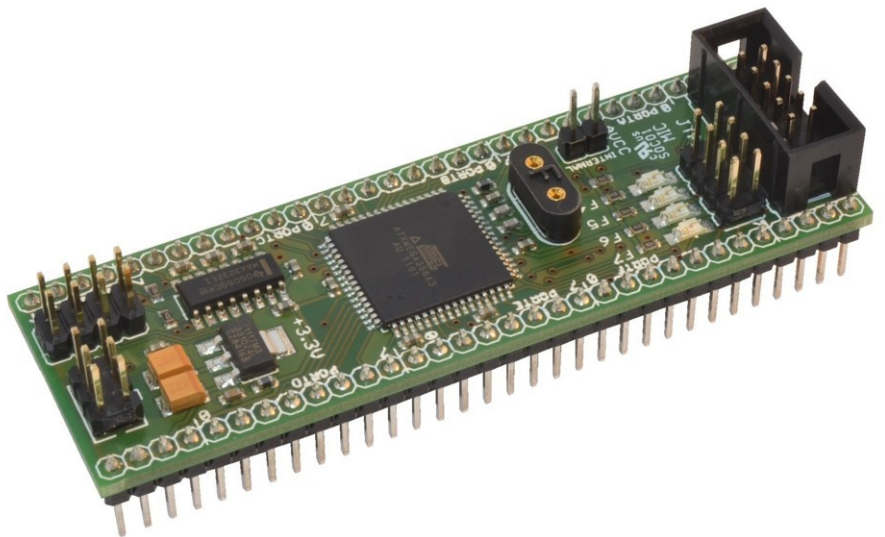
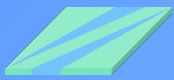


AVR ATxmega Development Module

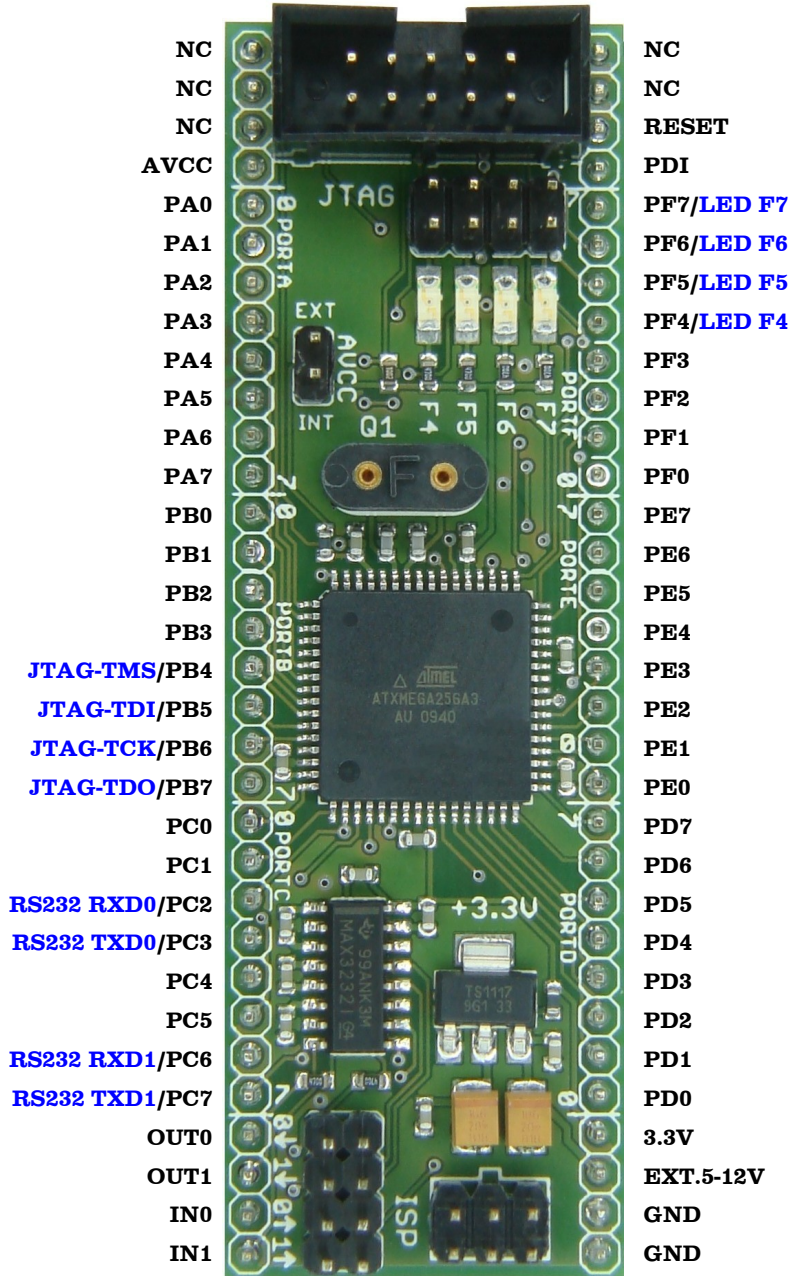
Model: AL-XSLED

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



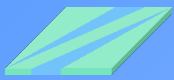


Summary

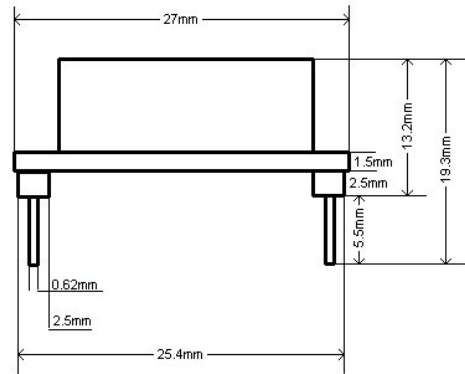
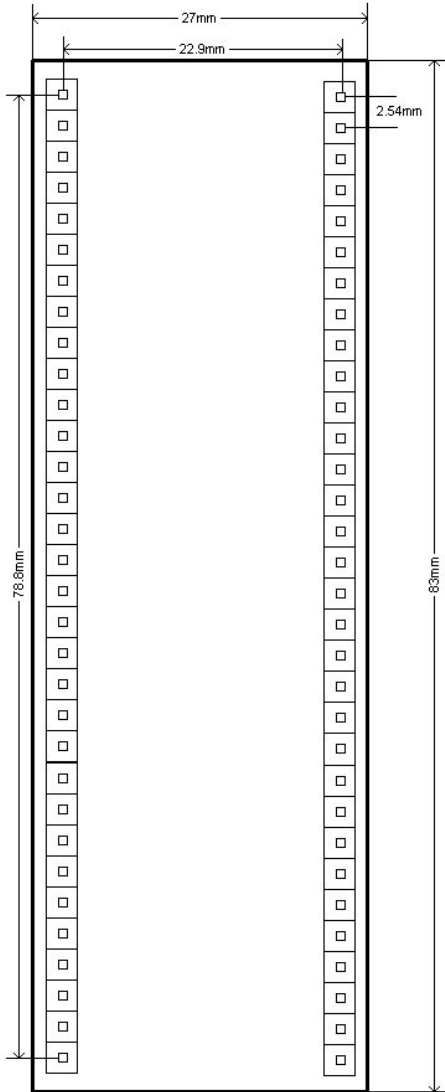


All description in **BLUE** concern the internal connection

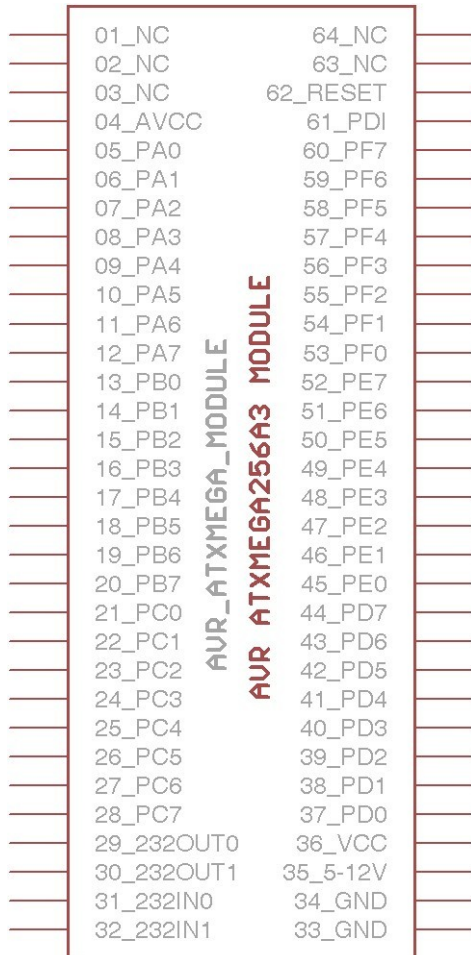
Attention! Polarity reversal and overvoltage may cause a destruction of the electronic components!!!



Measures



Description



- **Controller:** Atmel AVR ATxmega256A3U-AU* up to 32 MHz (* since 21.01.2013)
- **Additional equipping:**
 - internal voltage regulator 3.3V
 - RS-232 Transceiver
- **Voltage supply:**
 - external 3.3V or
 - external 5.0-12V
- **Module size:** W x H x D 27mm x 83mm x 19.3mm
- **Quartz:** quartz socket
- **PC-Connection:** 2 x RS232, separable with jumpers
- **Compatibility:** compatible with IC-Socket 64-pin and hole matrix board
- **Pin-Distance:** 2.54 mm
- **LED:** 4 LEDs, separable with jumpers
- **Circuit:** built on the recommendation of the manufacturer
- **Programming:**
 - JTAG MKII connector or
 - AVR ISP MKII connector
- **Pin configuration ISP & JTAG:**
 - ISP(PDI) 6-pin, standard of Atmel
 - JTAG connector 10-pin, standard of Atmel
- **Pin configuration of AVR-Module:** shown at the left picture
- **Conformity:** **RoHS Compliance**
- **Produced** in Germany

Electrical Characteristics

	Min	Typ	Max
Operating Temperature			
for <u>all</u> current modules	-40 °C		85 °C
Voltage Sources			
external 3,3V	3.0 V	3.3 V	3.6V
external 5-12V *	4.3 V		12 V
Frequency			
operating frequency	0 Hz		32 MHz
external quartz Q1 (quartz socket)	0 Hz		16 MHz
Maximum DC Current			
per I/O Pin		25 mA	

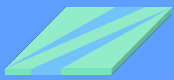
more electrical characteristics you will find on the page 70 in the data sheet [ATxmega256A3U.pdf](#)

- ▶ voltage regulator: TSI 117CW-33
- ▶ RS 232 Tranceiver: MAX3232
- ▶ 2-layer PCB DIN ISO 9001
- ▶ with UL-Approbation
- ▶ 4x LED yellow 2V 20 mA 140° 39 mcd

* 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.

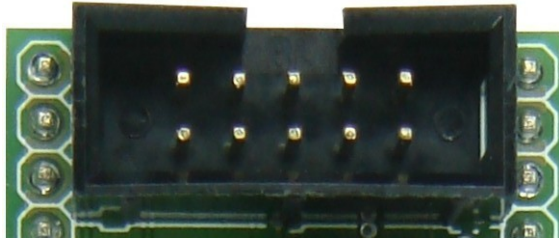
Possible Modifications

- ▣ with AtxmegaXXXA3-AU and AtxmegaXXXA3U-AU
- ▣ with mounted quartz (without quartz socket)
- ▣ without laterally pins

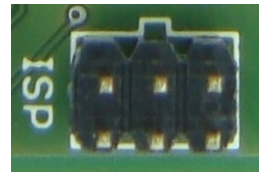


Programming

JTAG



ISP

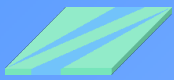


*Pin Configuration
JTAG-Connector*

*Pin Configuration
ISP-Connector*

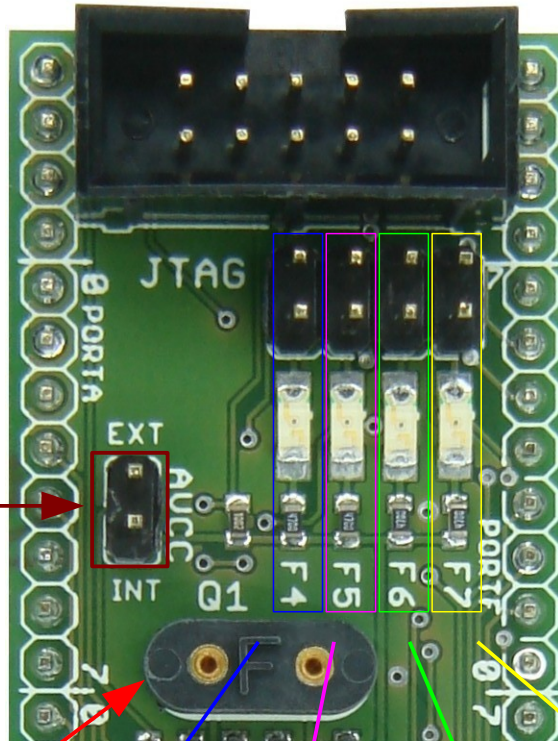
(9) TDI	(7) VCC	(5) TMS	(3) TDO	(1) TCK
(10) GND	(8) PDI	(6) RESET	(4) VCC	(2) GND

(5) RESET	(3)	(1) PDI
(6) GND	(4)	(2) VCC



Settings

JTAG



AVCC-Jumper JP3

JP3 is set:

The internal voltage of 3.3V is applied on the AVCC-pin of the module and on the AVCC-pin of the controller.

JP3 is opened:

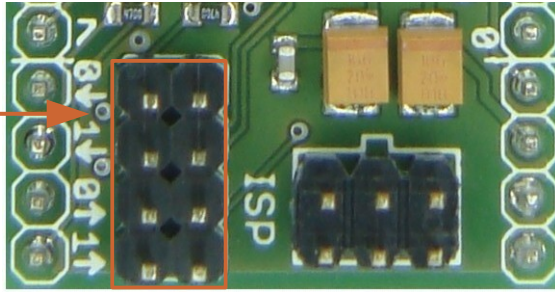
The external voltage may be applied to the AVCC-pin of the module.

quartz socket

<u>LED-Jumper JP5-4</u>	<u>LED-Jumper JP5-3</u>	<u>LED-Jumper JP5-2</u>	<u>LED-Jumper JP5-1</u>
+LED F4 (yellow) +resistor	+LED F5 (yellow) +resistor	+LED F6 (yellow) +resistor	+LED F7 (yellow) +resistor
Jumper is connected to the pin PF4	Jumper is connected to the pin PF5	Jumper is connected to the pin PF6	Jumper is connected to the pin PF7

USART-Jumpers ¹

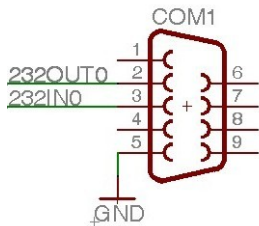
JP2-1	PC6 Rx/D1
JP2-2	PC2 Rx/D0
JP2-3	PC7 Tx/D1
JP2-4	PC3 Tx/D0



ISP(PDI)

These jumpers separate RS-232 Transceiver from the USART Pins of the controller. While using RS232 the corresponding external USARTs Pins of the module, USARTC0 (external Pins: PC2 and PC3) and USARTC1 (external Pins: Be PC6 and PC7) should be free of any connection.

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



	D-SUB 9-p.	AL-XSLED
CH 0 example in the left picture	Pin 2	29_232OUT0
	Pin 3	31_RS232IN0
	GND	33_GND
CH 1	Pin 2	30_RS232OUT1
	Pin 3	32_RS232IN1
	GND	33_GND

USB connection

