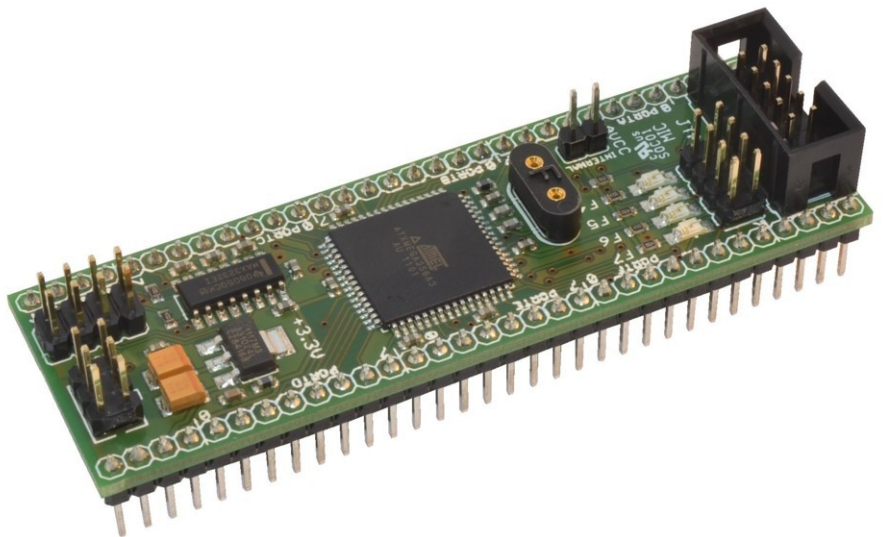
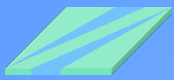


AVR ATxmega Development Module

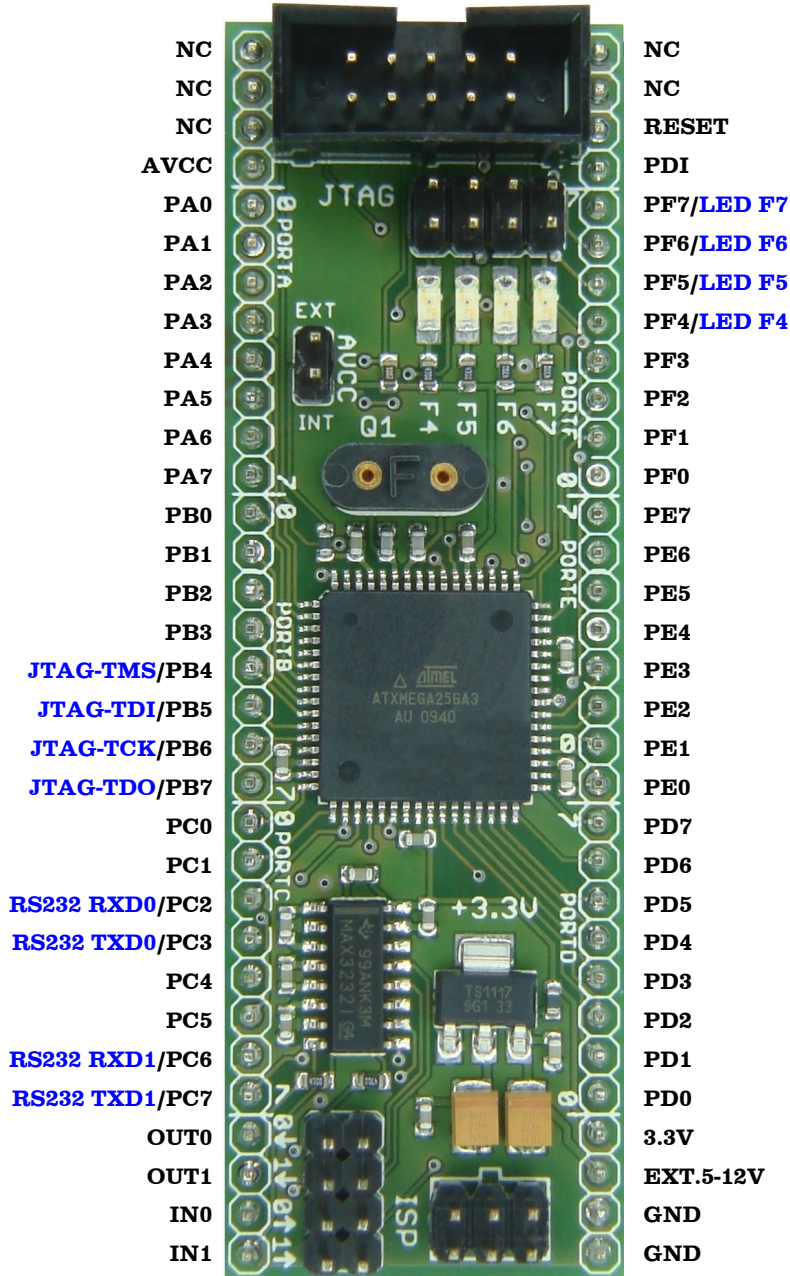
Model: AL-XSLED

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



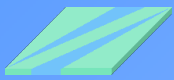


Summary

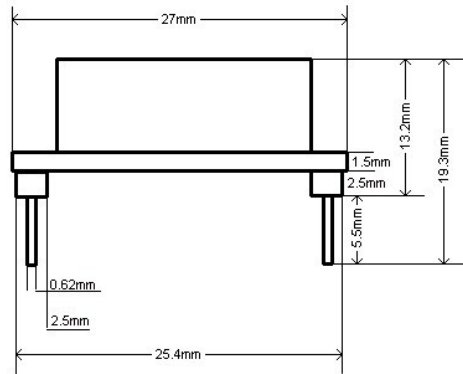
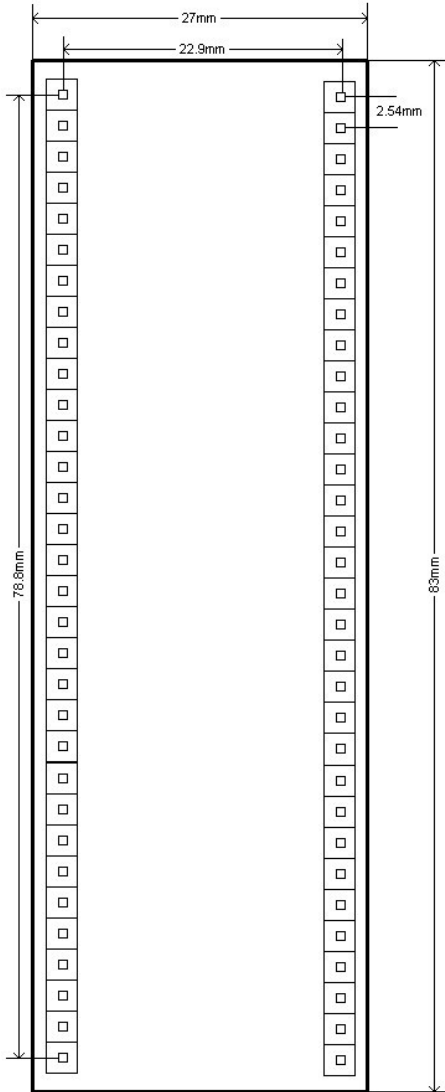


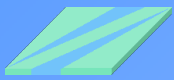
All description in **BLUE** concern the internal connection

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

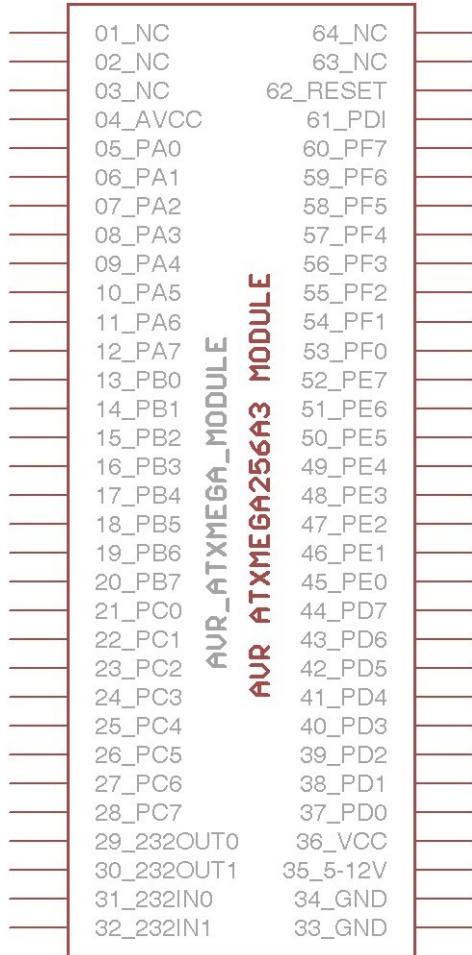


Measures





Description



- **Controller:** Atmel AVR ATxmega256A3-AU up to 32 MHz
- **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		20 mA	

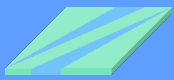
more electrical characteristics you will find on the page 63 in the data sheet [ATxmega256A3.pdf](#)

- ▶ voltage regulator: TSI 117CW-33
- ▶ RS 232 Tranceiver: MAX3232
- ▶ 4-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.

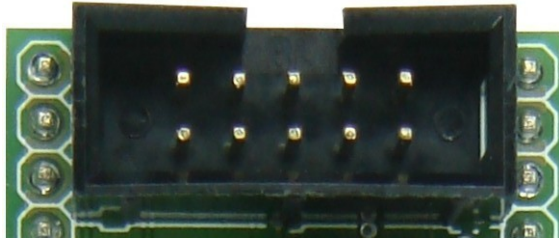
Possible Modifications

- ▣ with ATxmegaXXXA3-AU
- ▣ with mounted quartz (without quartz socket)
- ▣ without laterally pins

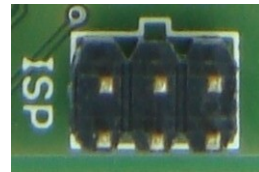


Programming

JTAG



ISP

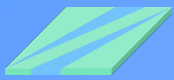


*Pin Configuration
JTAG-Connector*

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

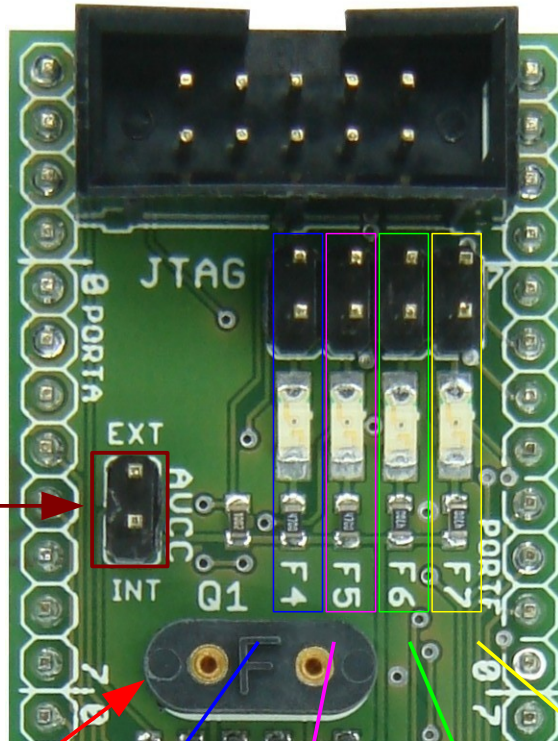
*Pin Configuration
ISP-Connector*

(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:

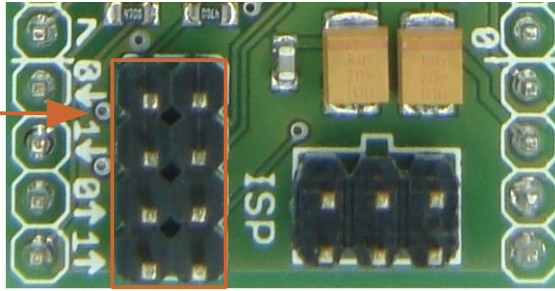
The external voltage may be applied to the AVCC-pin of the module.

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

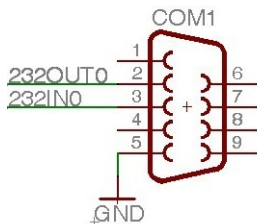
JP2-1	PC6 RxD1
JP2-2	PC2 RxD0
JP2-3	PC7 TxD1
JP2-4	PC3 TxD0



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_RS232OUT 1
	Pin 3	32_RS232IN1
	GND	33_GND