

The Development Board is a printed circuit board, size 118x91x15 mm and prototypical field 91x52 mm (hole pitch 2.54 mm) with installed the 32-bit microcontroller AT91SAM7S64 (AT91SAM7S128 or AT91SAM7S256) DD1 of the company ATMEL in the housing TQFP-64 with flash memory and full-speed USB-connection.



A family of Flash microcontrollers ATMEL AT91SAM7S is based on processor ARM7 and provides the highest performance compared to 8/16-bit microcontrollers. Devices have up to 256-kB memory Flash, high-speed consecutive communications channels, including USB, and also a complete set of functions to perform secure transactions, watchdog timer, built-in RC generator, power management monitors and hardware protection of the Flash memory.

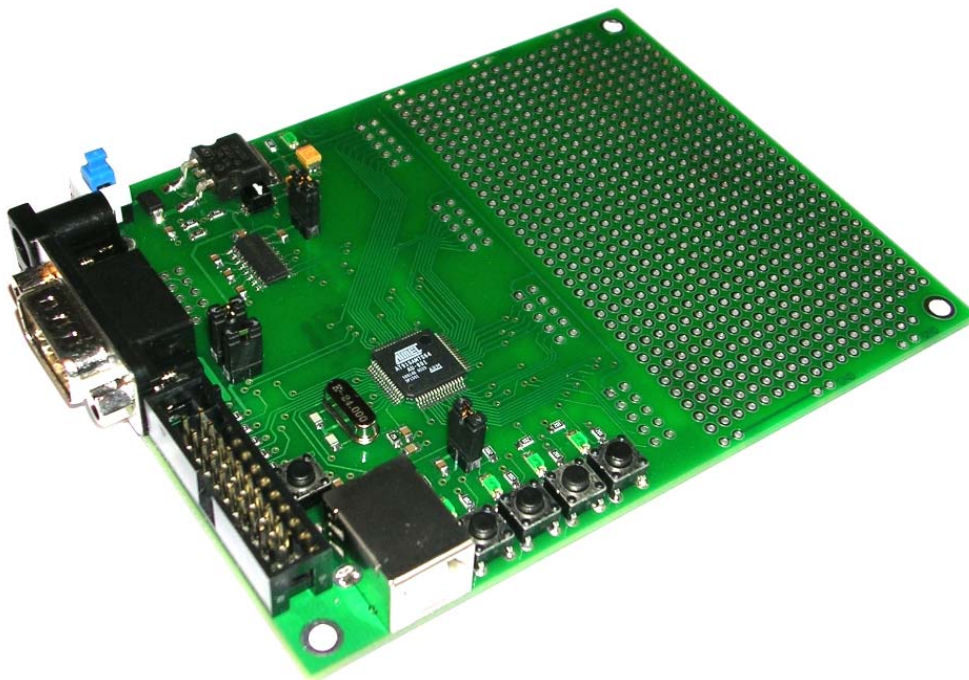


Fig. 1. General view of the development board.

The development board is intended for prototyping devices designed on microcontrollers AT91SAM7S, and also for assembly completed devices by mounting necessary components on the prototypical field of the board. Use of the kit allows minimizing the implementation time of the product on the market.

The board has the 9-contact connector DB-9 (XS3) to connect «direct» cable to the consecutive port RS-232 of the computer, and also it is supported attachment pads for connector IDC-10MS (XS4) of interface DUSART. The board has a driver of interface RS232 ADM202EARN (DD2).

Power is carried out from the external stabilized power supply 9...12 V (XS1).

Frequency of the microcontroller is given by the quartz resonator ZQ1 24 MHz. SW6 button is used to turn on and off the external power supply. LED VD2 indicates power-on state.

SW1 button (RESET) intended for hardware reset to restart the controller.

In-System Programming of the controller is carried out via interface JTAG-ICE with using the programmer J-LINK USB-to-JTAG of the company IAR Systems or analog devices. J-LINK is connected by the loop to the standard connector IDC-20MS (XS2).

The board has a connector for USB interface (XS5).

Jumper JP4 is used to select the level of the ADC reference voltage. With established jumper there is used the power supply of the microcontroller. You can connect to the jumper a reference voltage different from the net of microcontroller instead of a bridge.

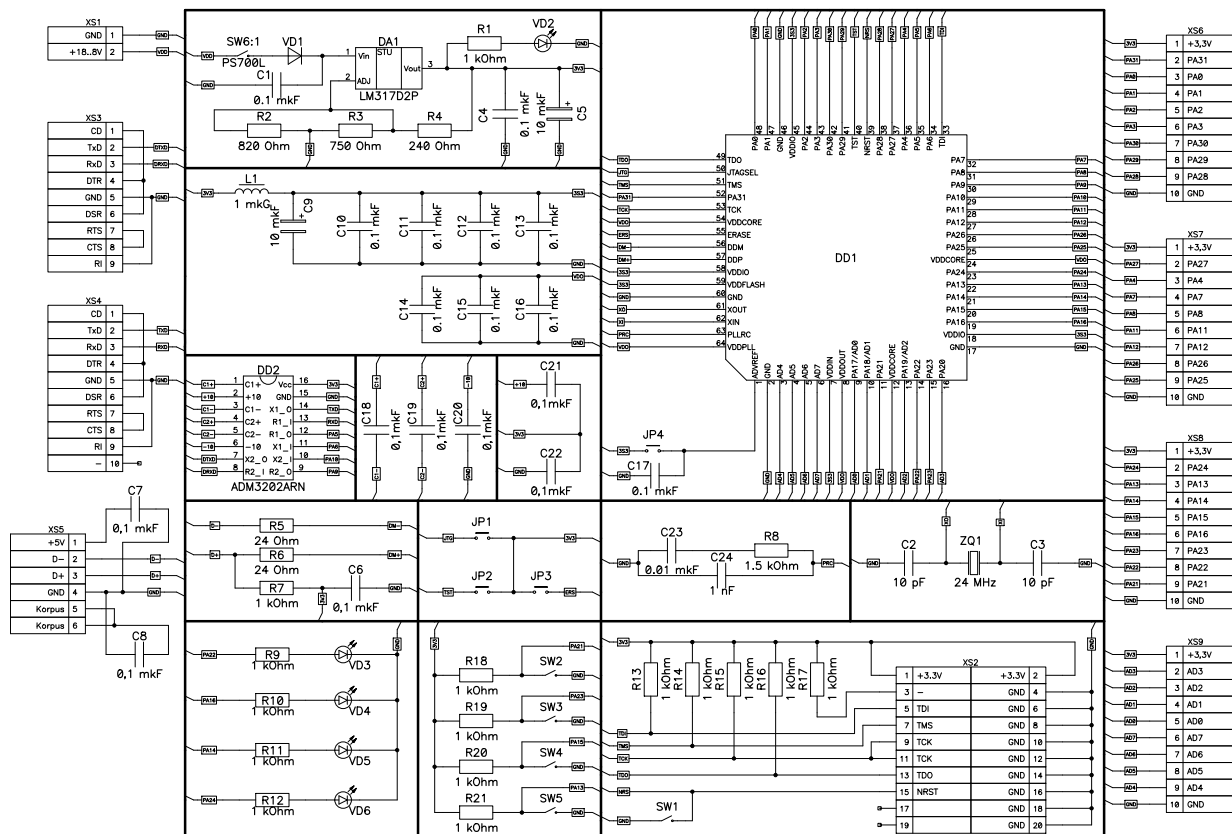


Fig. 2. The electrical scheme.

There are four LEDs VD3-VD6 and four buttons SW2-SW5, on the board which are connected with controller leads. It is intended for simplification of designing and can be useful during the test of project.

Controller leads and bus power are connected to the prototyping field and allow setting connectors of the type IDC-10MS:

	XS6	XS7	XS8	XS9
	1 – +3.3B	1 – +3.3B	1 – +3.3B	1 – +3.3B
	2 – PA31	2 – PA27	2 – PA24	2 – AD3
	3 – PA0	3 – PA4	3 – PA13	3 – AD2
	4 – PA1	4 – PA7	4 – PA14	4 – AD1
	5 – PA2	5 – PA8	5 – PA15	5 – AD0
	6 – PA3	6 – PA11	6 – PA16	6 – AD7
	7 – PA30	7 – PA12	7 – PA23	7 – AD6
	8 – PA29	8 – PA26	8 – PA22	8 – AD5
	9 – PA28	9 – PA25	9 – PA21	9 – AD4
	10 – GND	10 – GND	10 – GND	10 – GND

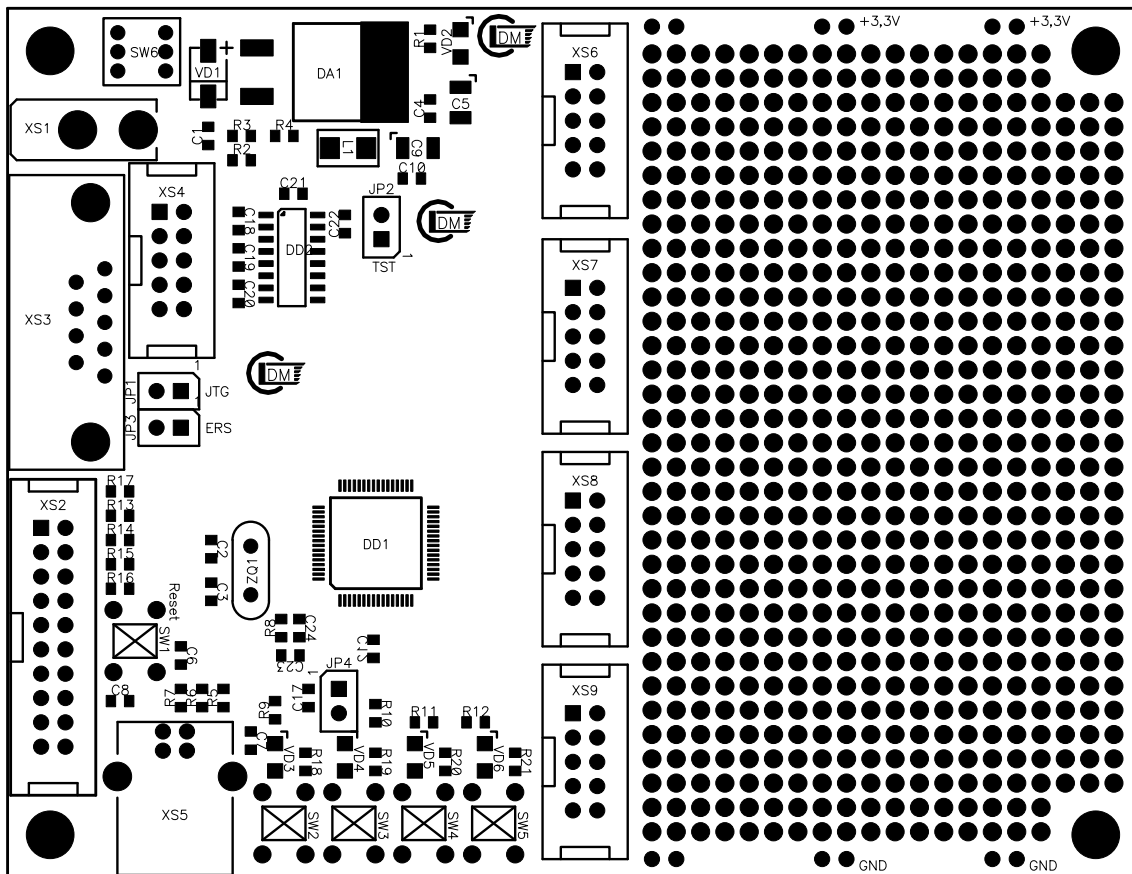


Fig. 3. External view of the printing board.

Packaging arrangements:

- The development board;
- Description of the development board;
- The compiler IAR;
- Description of the controller.