

Esduino

9S12C-based Arduino-compatible*

Rev. 2

[JB4] TX/RX Communications Routing:
Place two shunts in the positions shown
US = USB-to-SCI (of the MCU)

When Xbee Option is present:

UX = USB-to-Xbee (for configuring via Host)

SX = SCI-to-Xbee (for wireless communications)

[J14][J15]: USB2MCU module goes here,
to provide USB interface to host PC;
or supply your own TTL-level signals
to/from Host

[U4]: Serial Memory
Footprint for optional
SPI memory device
(25LCxx, etc.).

[D2]: User LED
(on DIG13)

[JB2]: Digital10 Source
1-2 (left): PT4
2-3 (right): PM3

[JB3]: Digital11 Source
1-2 (left): PM4
1-3 (down): PP5 (PAD1)
1-4 (right): PT5

[U1]:
Freescale 9S12C 16-bit microcontroller

[JB8] PS/PM SELECT:
Select between PS0/PS1 and PM0/PM1
assignments for DIG0 and DIG1 pins.
This frees up the pins for GPIO or CAN.

[J9][J10]: [Xbee Option]
Plug ADXB here for Xbee Interface
(3V/5V compatible). The default connector
style supplied for this connection is female
right-angle (FRA).

[J6]: SPI peripheral connector
SPI signals, Output Enable, +5V,
and Ground are all brought out to
this convenient connector for easy
interfacing to SPI peripherals

[JB1]: 5V Source Selector
1-2 (lower): 5V from USB
2-3 (upper): 5V from U1 via VIN

[J11] BDM IN:
Standard 6-pin Background
Debug Mode (BDM) connector for
advanced debugging use

[SW1 and JB6]:
When JB6 set to MAN, use SW1 to
select Serial Monitor mode.
When JB6 set to AUTO, Serial
Monitor mode must be controlled
by host via DTR line on serial port.

[D1]: Power indicator LED

[J7] PB4, PE7, PE4, PA0:
Four bonus Digital pins.

[J8] PM0 - PM1:
Two bonus Digital pins;
may be used with an external
transceiver to implement a
CAN interface.

[U3]: 3.3V regulator (800 mA max.)

[SW2]: Reset button

[JB5]: 3V/5V Operation
1-2 (left): 3.3V
2-3 (right): 5V

[J2] AN0 - AN1:
Six Analog Inputs;
Any of these may be
used as digital inputs
or outputs instead

[J7] AN6 - AN7:
Two bonus Analog Inputs;
may be used as digital
inputs or outputs instead

Power Configurations:

Instead of deriving 5V to power the board from the USB Host connection, it can be derived from on-board regulator U1. Two different power connections are provided, as user-installed options: J13 is a 2-pin Molex connector, and J12 is a barrel jack connector (2.1mm center-positive) compatible with most common AC-to-DC adapters. If J12 is present, and a voltage supply is plugged in, it will automatically override J13. The applied voltage (VIN) can be anywhere in the range of 7 to 15V DC. To choose VIN as the source of system 5V (via regulator U1), set jumper block JB1 to the 2-3 (upper) position.

NOTE: Square pad denotes pin 1 on all components with reference to schematic diagram.

Order Codes:

ESD12C32 (with 9S12C32; surface-mount devices only)

ESD12C128 (with 9S12C128; surface-mount devices only)

ESD12C32-KIT (ESD12C32 plus kit of through-hole parts)

ESD12C128-KIT (ESD12C128 plus kit of through-hole parts)

ESD12C32-UR (fully assembled with 9S12C32, USB2MCU and connectors)

ESD12C128-UR (fully assembled with 9S12C128, USB2MCU and connectors)

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* Footprint and pinout are compatible with standard Arduino-style shields; Arduino software environment support pending.



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