

EsduinoXtreme

9S12G-based Arduino shield-compatible¹

[JB6]: DIG11 Source
1-2 (left): PW4/PP4
2-3 (right): AN10/PAD10/DACU1

[JB4]: DIG6 Source
1-2 (left): AN7/PAD7
2-3 (right): PW2/PP2

[JB5]: DIG9 Source
1-2 (left): AN9/PAD9
2-3 (right): PW3/PP3

[JB3]: DIG3 Source
1-2 (left): IRQ*/IOC1/PT1
2-3 (right): PW0/PP0

[JB2] PS/PM SELECT:
Select between PS2/PS3 (RXD1/TXD1) and PM0/PM1 (RXCAN/TXCAN) assignments for DIG0 and DIG1 pins. This frees up the pins for GPIO or CAN.

[J9] BDM IN:
Standard right-angle 6-pin Background Debug Mode (BDM) connector for program/debug use

[JB10] SPI Pin5 Assignment:
Assign either SS0* or RST* to SPI connector J8 pin 5

[U1]: Freescale 9S12GA240
16-bit microcontroller

[J8]: SPI peripheral connector for easy interfacing to SPI peripherals

MISO0	1	6	GND
VDD	2	5	SS0*/RST* (select via JB10)
SCK0	3	4	MOSI0

[SW1]: Serial Monitor mode select.
Place in LOAD (L) position to activate; R to RUN program in Flash following Powerup or Reset

[JB8]: Select VRH source for A/D converter subsystem

[J12] DACU0/AMP0 & DACU1/AMP1:
Optional DAC0 and 1 output header; Populate R10 and R11 to suit application

[J2] A0 - A5:
Six Analog Inputs; Any of these may be used as digital inputs or outputs instead

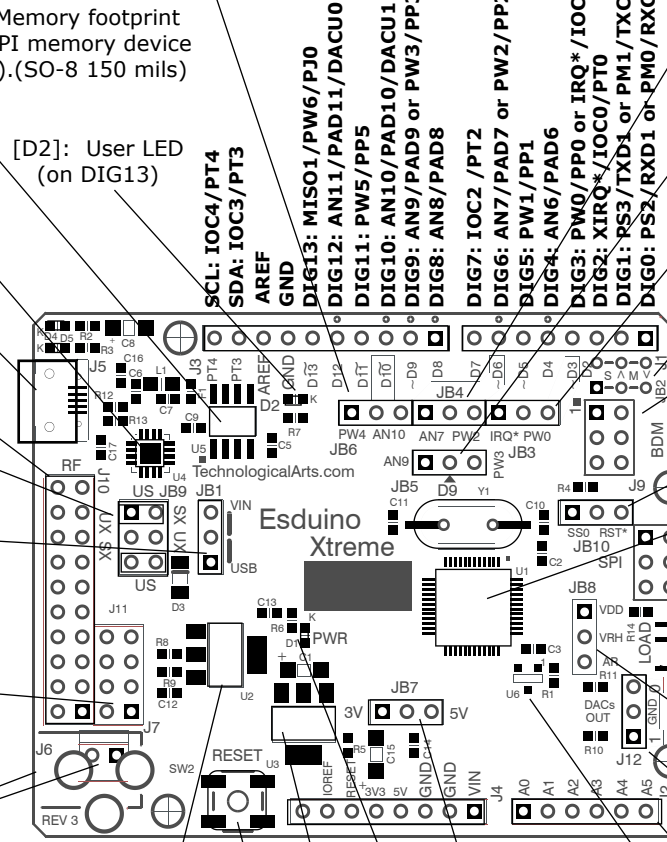
[U6]:
Optional precision voltage reference

[JB7]: 3V/5V Operation
1-2 (left): 3.3V
2-3 (right): 5V
Note that this setting has no effect when board is powered via BDM pod.

Check for updates at support.technologicalarts.ca/docs/Esduino

Product Order Code: ESD12X

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[U4]: FT230 USB-to-UART interface chip. (25LCxx, etc.).(SO-8 150 mils)
Find driver software at www.ftdichip.com

[J5]: microB USB communications connector.
Can also provide 5V power from the host PC (set JB1 to USB position); maximum 500 mA

[J10]: [Xternal RF Option]
Install header here to support optional RF adapter, enabling the use of ADXB or BOBESP12 WiFi wireless communication (3V/5V compatible).

[JB9] TX/RX Communications Routing Block:
Place two shunts in the positions shown
US = USB-to-SCI (default)
When Xbee or BOBESP12 RF Option is present:
UX = USB-to-X (for configuring Xternal RF device via Host)
SX = SCI-to-XB (for Xternal wireless communications)

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

[J11]: [Nordic RF Option]
Install a 2x4 receptacle here to support optional NRF24L01+ module for wireless networking (You must set board operation to 3V via JB7).

Power Configuration Options:

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: J6 is a barrel jack connector (2.1mm center-positive) compatible with most common AC-to-DC adapters, and J7 is a 2-pin Molex connector. Since they have overlapping footprints, you can install only one of them. The applied voltage (VIN) can be anywhere in the range of 7 to 15V DC. To choose VIN as the source of the board's system 5V (via regulator U1), set jumper block JB1 to the 2-3 (upper) position.

Notes:
1 - Footprint and pinout are compatible with most Arduino-style shields.

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



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