ITead Studio
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W5100 Ethernet Shield

-A high performance Ethernet shield for Arduino

Overview

W5100 Ethernet shield is a WIZnet W5100 breakout board with POE and Micro-SD designed for Arduino platform. 5V/3.3V compatible operation voltage level makes it compatible with Arduino boards, leafmaple, and other Arduino compatible board.

Features

- With Micro SD interface
- 5V/3.3V double operational voltage level
- 10Mb/100Mb Ethernet socket with POE
- All electronic brick interface are broken out
- Operation temperature: -40℃ ~ +85℃

Specifications

PCB size	55.88mm X 68.58mm X 1.6mm
Indicators	TX,RX,COL,FEX,SPD,LNK
Power supply	5V
Communication Protocol	SPI
RoHS	Yes

Electrical Characteristics

Specification	Min	Type	Max	Unit
Power Voltage	3V	-	5.5	VDC
Input Voltage VH:	3	-	5.5	V
Input Voltage VL:	-0.3	0	0.5	V
Current	-	-	100	mA

Hardware
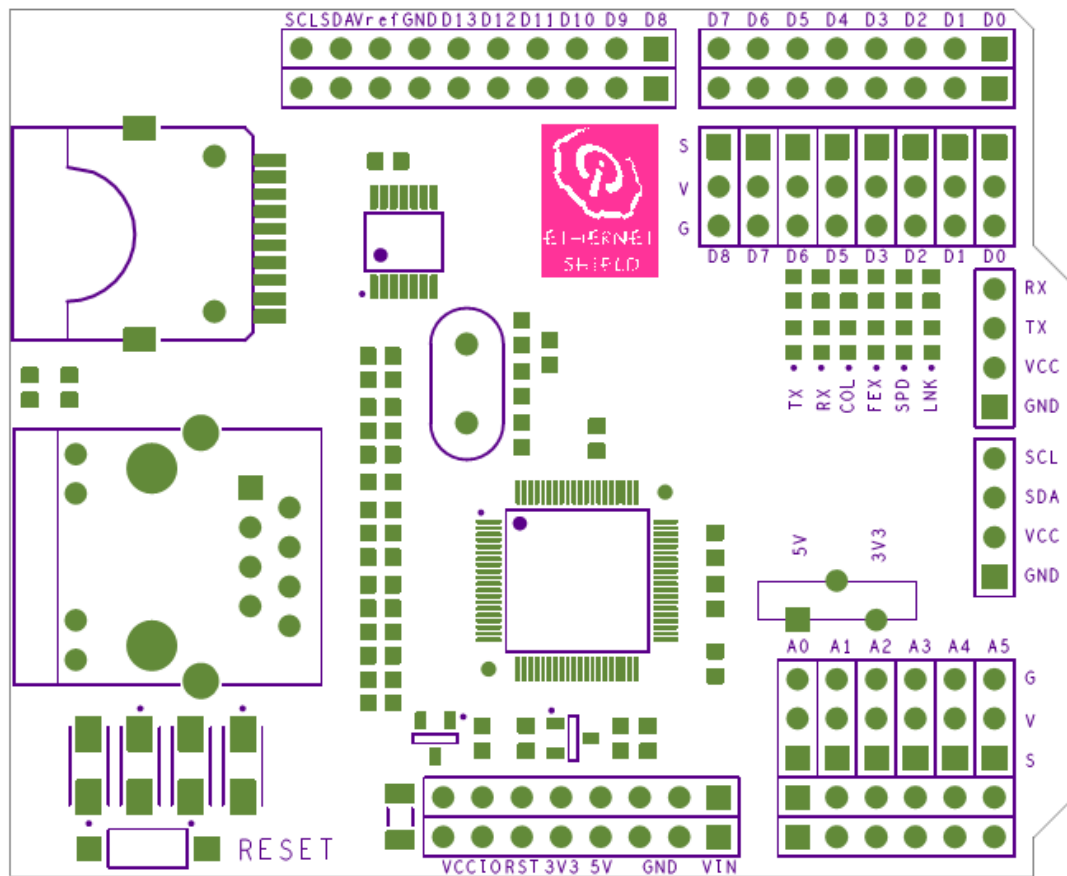
Figure 1 Top Map

Arduino PIN	Description
D0	Rx/Breakout
D1	TX/Breakout
D2	Breakout
D3	Breakout
D4	SD_CS
D5	Breakout
D6	Breakout
D7	Breakout
D8	Breakout
D9	W5100_Reset
D10	W5100_CS
D11	MOSI
D12	MISO
D13	SCK

A0	Breakout
A1	Breakout
A2	Breakout
A3	Breakout
A4	IIC_SDA/Breakout
A5	IIC_SCL/Breakout

Installation

When install W5100 Ethernet shield to Iteaduino, please check the operation voltage level of development board. If the voltage is 3.3V (IFLAT32,Leafmaple), set the Operation Level Setting switch to 3.3V. If the voltage is 5V(Arduino), set the Operation Level Setting switch to 5V.

Iteaduino communicates with both the W5100 and SD card using the SPI bus. This is on digital pins 11, 12, and 13 on the UNO/Duemilanove and pins 50, 51, and 52 on the Mega. On both boards, pin 10 is used to select the W5100 and pin 4 for the SD card. These pins cannot be used for general I/O. On the Mega, the hardware SS pin, 53, is not used to select either the W5100 or the SD card, but it must be kept as an output.
Note that because the W5100 and SD card share the SPI bus, only one can be active at a time. If you are using both peripherals in your program, this should be taken care of by the corresponding libraries. If you're not using one of the peripherals in your program, however, you'll need to explicitly deselect it. To do this with the SD card, set pin 4 as an output and write a high to it. For the W5100, set digital pin 10 as a high output.

Inductor LED

The shield contains a number of informational LEDs:

- LNK: indicates the presence of a network link and flashes when the shield transmits or receives data
- FEX: indicates that the network connection is full duplex

- SPD: indicates the presence of a 100 Mb/s network connection (as opposed to 10 Mb/s)
- RX: flashes when the shield receives data
- TX: flashes when the shield sends data
- COL: flashes when network collisions are detected

Revision History

Rev.	Description	Release date
v1.0	Initial version	2012-09-14