

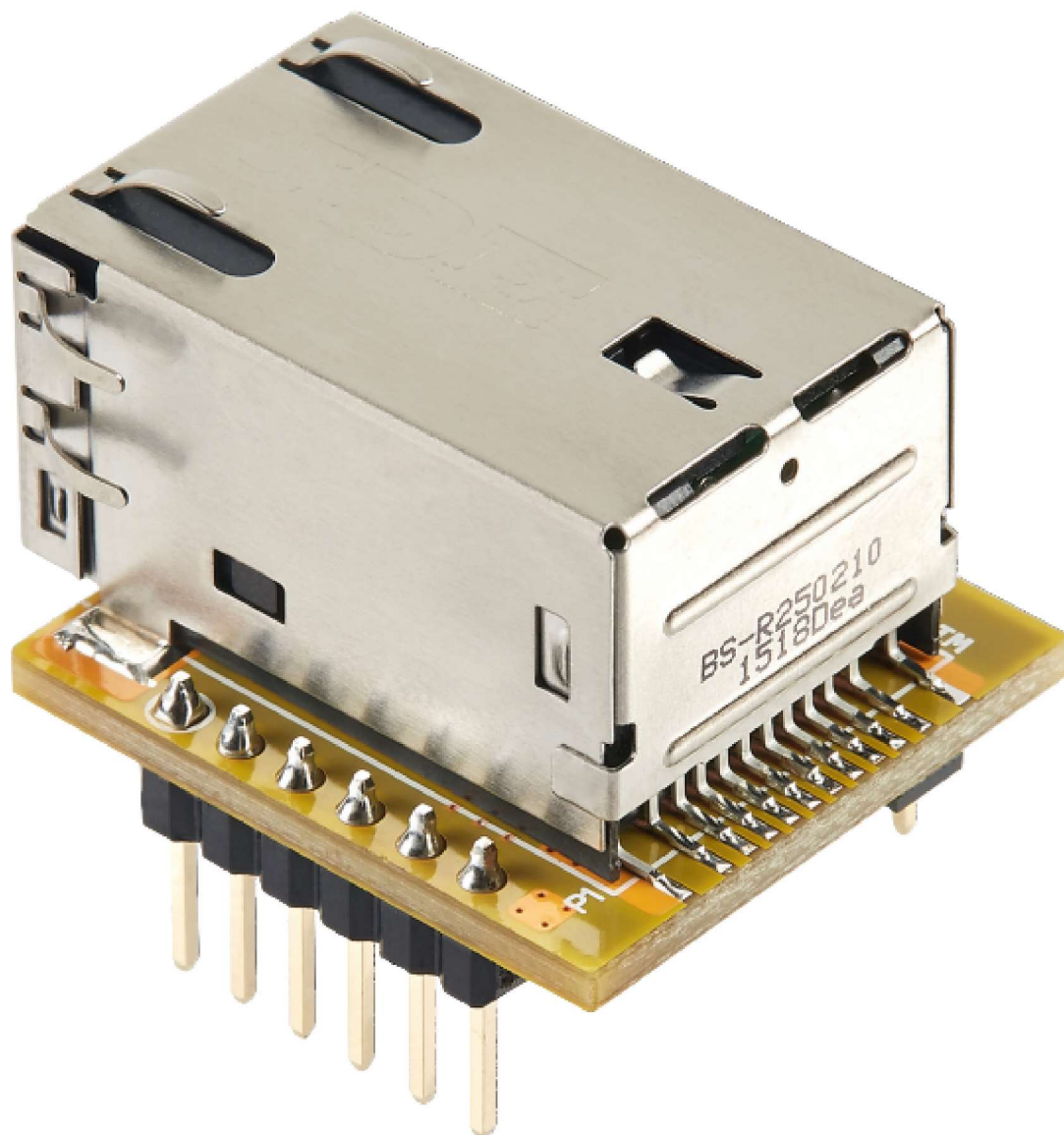


# WIZ850io

## Overview

WIZ850io is a compact size network module that includes a W5500 (TCP/IP hardwired chip and PHY embedded), a transformer and RJ45. It can be used as a component and no effort is required to interface W5500 and Transformer. The WIZ850io is an ideal option for users who want to develop their Internet enabling systems rapidly. WIZ850io is hardware compatible with WIZ820io. WIZ820io users, to migrate to WIZ850io, need to modify the Firmware.

For the detailed information on implementation of Hardware TCP/IP, refer to the [W5500 Datasheet](#).

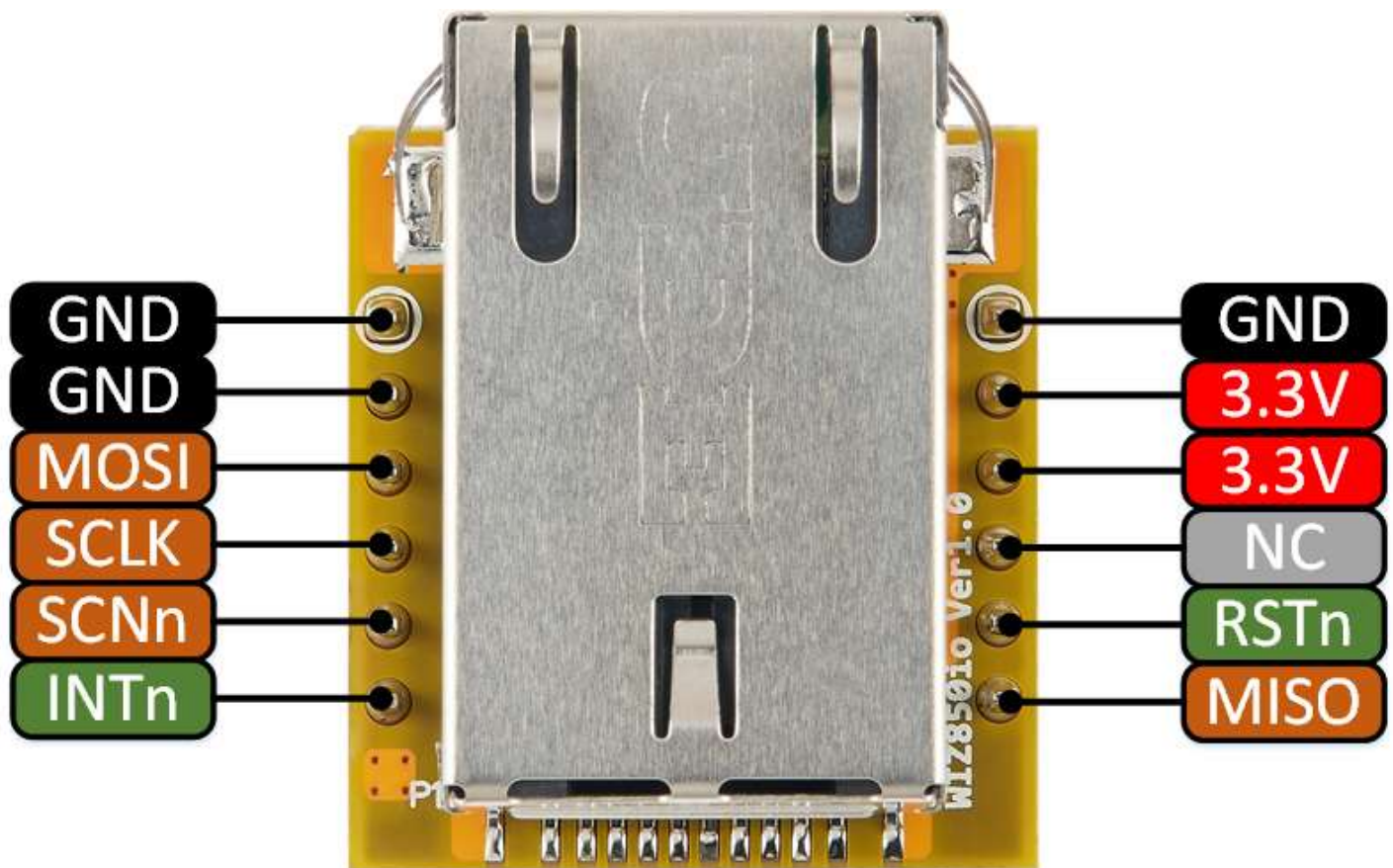


# Hardware Specification

## WIZ850io

- Plugin Network Module.
- Hardware compatible with WIZ820io.
- Usable without H/W design for W5500, Transformer & RJ45.
- Fast evaluation for W5500 & MCU in the target board.
- Support high speed SPI interface.
- Support power down mode and Wake-on-LAN function
- Very small form factor : 23mm x 25mm x 18mm
- 1 x 6, 2.54mm Pin Header x 2

## Pin Out



## Pin Description

---

Pin No.		Pin Type	Pin Name	Description
J1	1	P	GND	Ground
⋮	2	P	GND	Ground
⋮	3	I	MOSI	<b>SPI Master Out Slave In</b> This pin is used for SPI MOSI signal pin
⋮	4	I	SCLK	<b>SPI Clock</b> This pin is used for SPI Clock Signal pin
⋮	5	I	SCNn	<b>SPI Slave Select</b> This pin is used for SPI Slave Select Signal Pin when using SPI interface
⋮	6	I	INTn	<b>W5500 Interrupt</b> : Low activity This pin is used for indicating event like socket TCP connection, disconnection, data receiving timeout, WOL(Wake on Lan) and so on occurred in W5500 inside WIZ550io. The interrupt is cleared by writing IR register or Sn_IR. All interrupts are maskable.

Pin No.		Pin Type	Pin Name	Description
J2	1	P	GND	Ground
⋮	2	P	3.3V	<b>Power</b> : 3.3V power supply
⋮	3	P	3.3V	<b>Power</b> : 3.3V power supply
⋮	4	-	NC	<b>Not Connect</b>

Pin No.		Pin Type	Pin Name	Description
...	5	I	RSTn	<b>Reset</b> : Low activity Hold at least 500us after asserted to LOW and keep HIGH until next Reset needed.
...	6	O	MISO	<b>SPI Master In Slave Out</b> This pin is used for SPI MISO signal pin

User need to wait for 50ms after this pin is changed to HIGH to communicate with WIZ850io. (Refer to 5. Timing Diagram)

# Characteristic

## DC Characteristic

Symbol	Parameter	Pins	Min	Typ	Max	Unit
VDD	Supply voltage	3.3V	2.97	3.3	3.63	V
VIL	High level input voltage	ALL	2.0		5.5	V
VIH	Low level input voltage	ALL	-0.3		0.8	V
VOL	Low level output voltage	ALL			0.4	V
VOH	High level output voltage	ALL	2.4			V
LOL	Low level output Current	ALL	8.6	13.9	18.9	mA
LOH	High level output Current	ALL	12.5	26.9	47.1	mA
IDD	Supply Current	3.3V		132		mA

Symbol	Parameter	Pins	Min	Typ	Max	Unit
	(Normal operation mode)					
LOH	Supply Current (Power Down mode)	3.3V		13		mA

## Power Dissipation

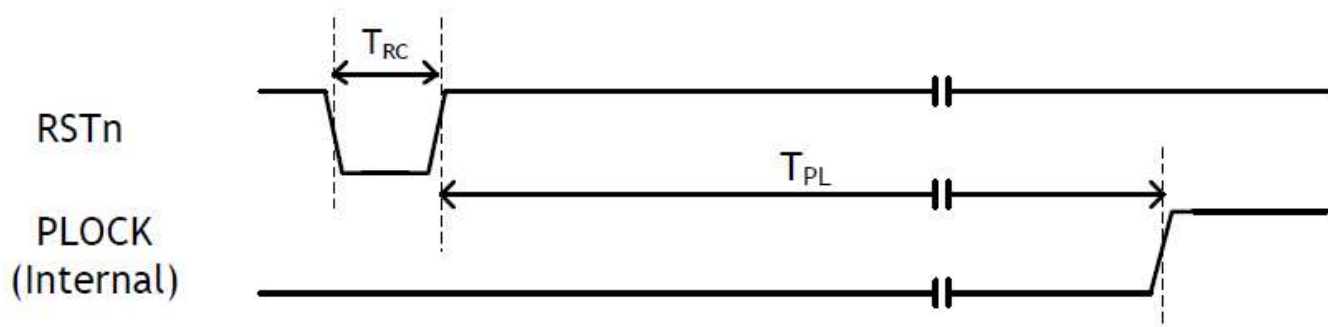
Condition	Min	Typ	Max	Unit
100M Link	-	128	-	mA
10M Link	-	75	-	mA
Un-Link (Auto-negotiation mode)	-	65	-	mA
100M Transmitting	-	132	-	mA
10M Transmitting	-	79	-	mA
Power Down mode	-	13	-	mA

## SPI Operations

As WIZ850io consists of W5500 and others, SPI operation of WIZ850io follows one of W5500. For more information about SPI operation of WIZ850io, please refer to [W5500 Datasheet](#).

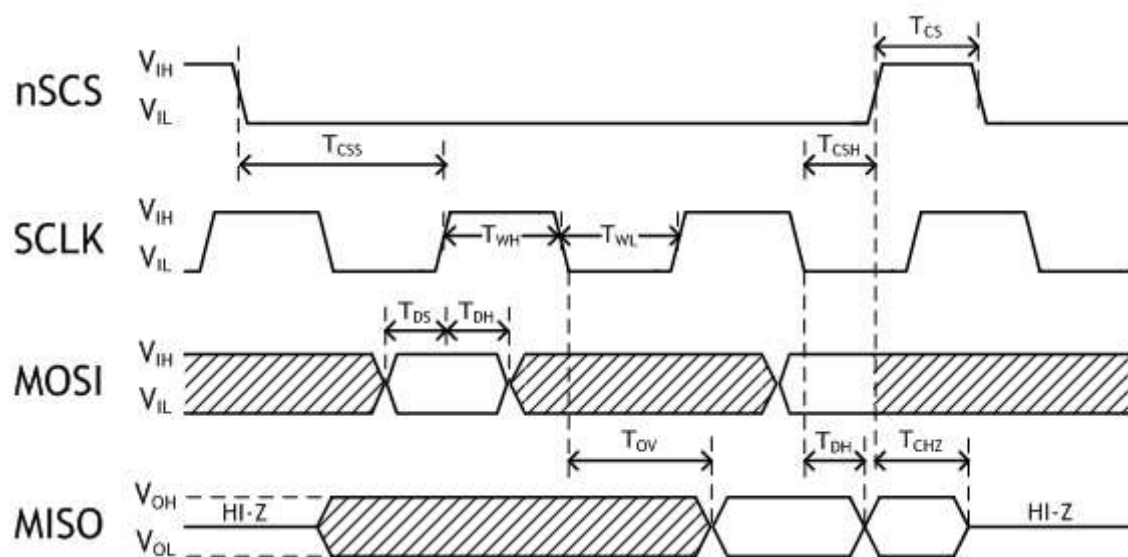
## Timing Diagram

### Reset Timing



Symbol	Description	Min	Max
TRC	Reset Cycle Time	500us	-
TPL	Internal Auto Configuration Time	-	50ms

## SPI Timing



Symbol	Description	Min	Max	Units
Fsck	SCLK Clock Frequency	-	80	MHz
TWH	SCLK High duration	6	-	ns
TWL	SCLK Low duration	6	-	ns

Symbol	Description	Min	Max	Units
TCS	nSCS High duration	5	-	ns

## Schematic

- Revision 1.0 [WIZ850io Rev1.0 Schematic\(PDF\)](#)
- Revision 1.0 [WIZ850io Rev1.0 Schematic\(Altium\)](#)

## Dimension

- WIZ850io V1.0 3D PDF :[Download](#)\\* This PDF must be run using the 'Adobe Acrobat'.

