



## Hardwired TCP/IP Chips

WIZnet TCP-IP Hardwired Chips integrate Layers 1 (PHY) and 2 (MAC) and additionally Layers 3 and 4 (TCP/IP) of the Ethernet protocol on a gate level. They support TCP, IPv4, UDP, ICMP, ARP, PPPoE and Multicast.

WIZnet Hardwired TCP/IP Chips are available in three Integration Stages:

- **2 in 1:** TCP/IP + MAC
- **3 in 1:** TCP/IP + MAC + PHY
- **4 in 1:** Controller + TCP/IP + MAC + PHY



## Product List

Parameter Typ	Integration	Interface				Speed	MDI-X PHY	max. Sockets	Buffer kByte	Temperature Range	Package
		SPI	8 Bit	16Bit/DMA	MII / RMII						
W3150A+	2 in 1	✓	✓		✓	10/100M		4	2x8k	-40° ...85° C	LQFP 64
W6100	3 in 1	✓	✓		✓	10/100M	✓	8	32k	-40° ...85° C	LQFP 48
W5100	3 in 1	✓	✓			10/100M	✓	4	2x8k	-40° ...85° C	LQFP 80
W5200	3 in 1	✓	✓			10/100M	✓	8	32k	-40° ...85° C	QFN 48
W5300	3 in 1		✓	✓	✓	10/100M	✓	8	128k	-40° ...85° C	LQFP 100
W5500	3 in 1	✓				10/100M	✓	8	32k	-40° ...85° C	LQFP 48
		<b>RAM</b>	<b>Flash</b>	<b>Controller</b>	<b>ext. I/F</b>						
W7100A	4 in 1	64k	64k	8051	32 GPIO	10/100M	✓	8	32k	-40° ...85° C	LQFP 100
					19 GPIO						QFN 64
W7500/P	4 in 1	16k-48k	128k	Cortex M0	48 GPIO	10/100M	MII/✓	8	32k	-40° ...85° C	LQFP 64

## General Features

- **Hardwired TCP/IP:**
  - TCP, UDP, ICMP, IGMP, IPv4, ARP, Ethernet
  - 4 or 8 independent sockets simultaneously
  - Supports hybrid TCP/IP stack for software protocols
  - Internal Dual-Port-RAM (TX/RX buffer 16kByte to 128kByte)
- **Embedded Ethernet-MAC:**
  - IEEE 802.3 (10Base-T) and 802.3u (100Base-TX)
  - Multicast
  - Connection PPPoE protocol with PAP/CHAP authentication mode for ADSL
- **Interface:**
  - 8/16 Bit Address/Data Bus for direct- & indirect-mode and DMA
  - Serial Peripheral Interface for SPI-mode 0 and 3
- between 3 Mbit/s and 80 MBit/s throughput at application layer
- LED outputs: full-/half-duplex, link, speed
- 3.3V operation with 5V I/O signal tolerance

### W7100A Special Features:

- 8051 Core, 88MHz
- Three timers/counters and watchdog
- Full-duplex UART
- 2 Data Pointers (DPTRs) for fast memory block processing

### W5200 & W5500 Special Features:

- Power Down mode: 2mA typical
- Provides WoL (Wake on LAN)
- QFN 7x7mm<sup>2</sup> package

### W6100 Special Features:

- Dual IPv4 & IPv6 Stack



## Modules



## I/O

Parameter Typ	Copper	MCU Interface			MDI-X PHY	max. Sockets	Based on	Pitch [mm]	Temperature Range	Dimensions [mm]
		SPI	8 Bit	16Bit/DMA						
NM7010B+	10/100M	✓	✓		✓	4	W3150A+	2,00	0°...70°C	52x25x21
WIZ810MJ	10/100M	✓	✓		✓	4	W5100	2,00	0°...70°C	52x25x21
WIZ812MJ	10/100M	✓	✓		✓	4	W5100	2,54	0°...70°C	56x25x24
WIZ850io	10/100M	✓			✓	8	W5500	2,54	-40°...85°C	23x25x18
WIZ830MJ	10/100M		✓	✓	✓	8	W5300	2,54	0°...70°C	54x34x20
WIZ550io	10/100M	✓				8	W5500	2,54	-40°...85°C	55x26x24

## Serial-to-Ethernet Gateway

Parameter Typ	Copper	Interface				RJ45	DB9	Based on	Pitch [mm]	Temperature Range	Dimensions [mm]
		TTL	RS232	RS422	RS485						
WIZ100SR	10/100M	✓						W5100	2,00	0°...80°C	50x30x12
WIZ750SR	10/100M	✓	✓					W7500P	2,54	-40°...85°C	48x30x18
WIZ550S2E	10/100M	✓	✓	✓	✓	✓		W5500	2,54	-40°...85°C	55x30x24
WIZ107SR	10/100M	✓	✓			✓		W7100A	2,54	-40°...85°C	45x30x18
WIZ108SR	10/100M			✓	✓	✓		W7100A	2,54	-40°...85°C	48x30x18
WIZ110SR	10/100M	✓	✓			✓	✓	W5100	-	0°...70°C	75x50x17
WIZ120SR	10/100M	2						W5100	2,00	0°...70°C	50x30x9
WIZ140SR	10/100M	max 4						W5300	2,54	0°...70°C	48x36x16
WIZ145SR	10/100M	max 4				✓		W5300	2,54	0°...70°C	48x61x25

## Wireless

Parameter Typ	Interface						Data Rates [Mbps]	Compatible to	Temperature Range	Dimensions [mm]
	UART	SPI	I <sup>2</sup> C	GPIOs	MII	Ethernet				
WizFi210	✓	✓	✓	✓			11 to 1	IEEE802.11b (g/n)	-40°...85°C	32x24x3
WizFi220	✓	✓	✓	✓			11 to 1	IEEE802.11b (g/n)	-40°...85°C	32x24x3
WizFi250	✓	✓	✓	✓			150 to 1	IEEE802.11b/g/n	-20°...85°C	28x20x2
WIZ310	✓			✓			150 to 1	IEEE802.11b/g/n	-20°...85°C	25x19x15
WizFi630A	2		✓	✓		3	150 to 1	IEEE802.11b/g/n	0°...50°C	33x43x6