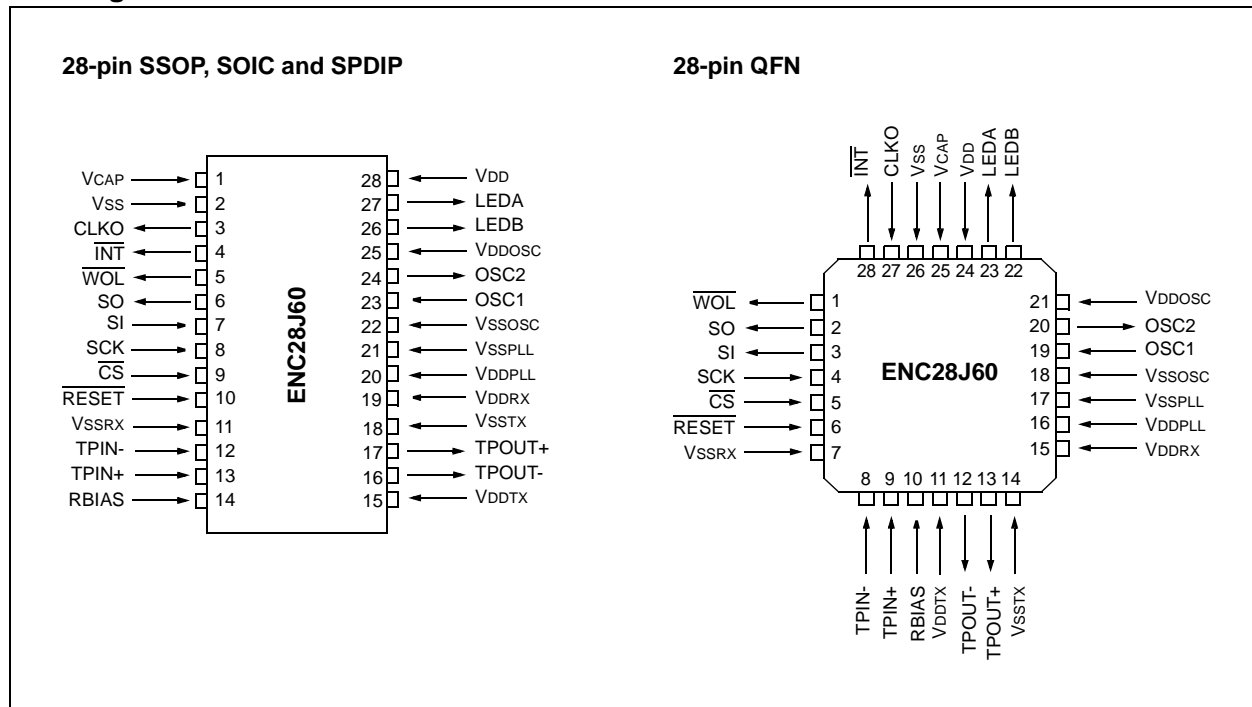


Stand-Alone Ethernet Controller with SPI™ Product Brief

Features

- IEEE 802.3 Compatible Ethernet Controller
- Integrated MAC and 10BASE-T PHY
- 8-Kbyte Transmit/Receive Packet Dual Port Buffer SRAM
- Receiver and Collision Squelch Circuit
- Supports one 10BASE-T Port with Automatic Polarity Detection and Correction
- Programmable Automatic Retransmit on Collision
- Programmable Padding and CRC Generation
- Programmable Automatic Rejection of Erroneous Packets
- 10 Mbit/s SPI™ Interface
- Buffer:
 - Configurable transmit/receive buffer size
 - Hardware managed circular receive FIFO
 - Byte-wide random and sequential access
 - Internal DMA for fast memory copying
 - Hardware assisted IP checksum calculation
- MAC:
 - Support for Unicast, Multicast and Broadcast packets
 - Programmable pattern matching
 - Programmable wake-up on multiple packet formats, including Magic Packet®, Unicast, Multicast, Broadcast, specific packet match or any packet
 - Loopback mode
- PHY:
 - Wave shaping output filter
 - Loopback mode
- Operational:
 - Outputs for 2 LED indicators
 - Transmit and receive interrupts
 - 25 MHz clock
 - Clock out pin with programmable prescaler
 - Operating voltage range of 3.14V to 3.45V
 - Temperature range: -40°C to +85°C Industrial, 0°C to +70°C Commercial (SSOP only)
- 28-pin SSOP, SOIC, SPDIP and QFN packages

Pin Diagrams



ENC28J60

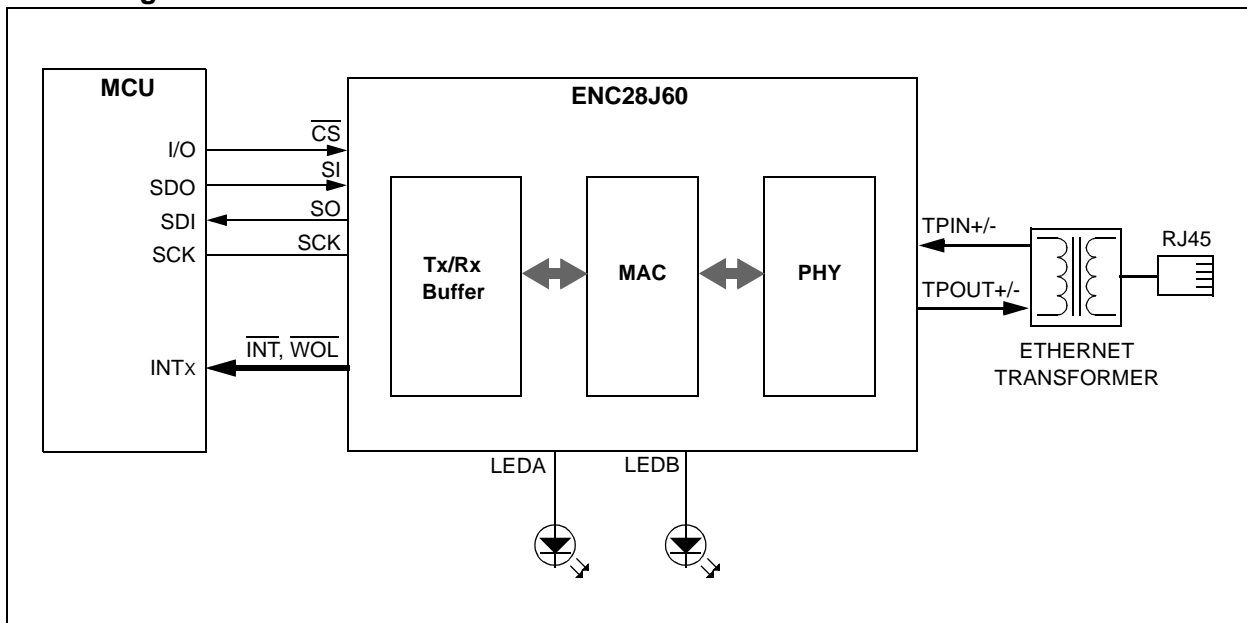
Description

The Microchip Technology Inc. ENC28J60 is a stand-alone Ethernet controller with an industry standard Serial Peripheral Interface (SPI™). It is designed to serve as an Ethernet network interface for any microcontroller equipped with SPI.

The ENC28J60 meets all of the specifications for IEEE 802.3. It incorporates a number of packet filtering schemes to limit incoming packets. It also provides internal DMA for fast data throughput and support for hardware assisted IP checksum calculation.

Communication with the microcontroller is implemented via SPI, with data rates up to 10 Mbit/s. Dedicated pins are used for LED link and activity indication and for transmit and receive interrupts.

Block Diagram



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Microchip received ISO/TS-16949:2002 quality system certification for its worldwide headquarters, design and wafer fabrication facilities in Chandler and Tempe, Arizona and Mountain View, California in October 2003. The Company's quality system processes and procedures are for its PICmicro® 8-bit MCUs, KEELOQ® code hopping devices, Serial EEPROMs, microperipherals, nonvolatile memory and analog products. In addition, Microchip's quality system for the design and manufacture of development systems is ISO 9001:2000 certified.



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