1. Features

- SPI Interface with clock speeds up to 50MHz/160MHz for high throughput applications

- IEEE 802.3az Energy Efficient Ethernet (EEE)

- Support interface for EEPROM

- Built-in integrated 3.3V to 1.8V low noise regulator for core and analog blocks

- Supports wake-up on LAN (WOL)

- Integrated 10/100M transceiver With HP Auto-MDIX

- Supports back pressure mode for half-duplex

- IEEE802.3x flow control for full-duplex mode

- Supports wakeup frame, link status change and magic packet events for remote wake up

- Support 100M Fiber interface.

- Integrated 16K Byte SRAM

- Supports IP/TCP/UDP checksum generation and checking

- Supports automatically load vendor ID and product ID from EEPROM

- Optional EEPROM configuration

- Very low power consumption mode:

- EMI (Class B) and HBM ESD Rating 8KV

- Support Industrial Temperature Range: −40℃ to +85℃ (DM9051INP)

- Compatible with 5V/3.3V tolerant I/O

- DSP architecture PHY Transceiver.
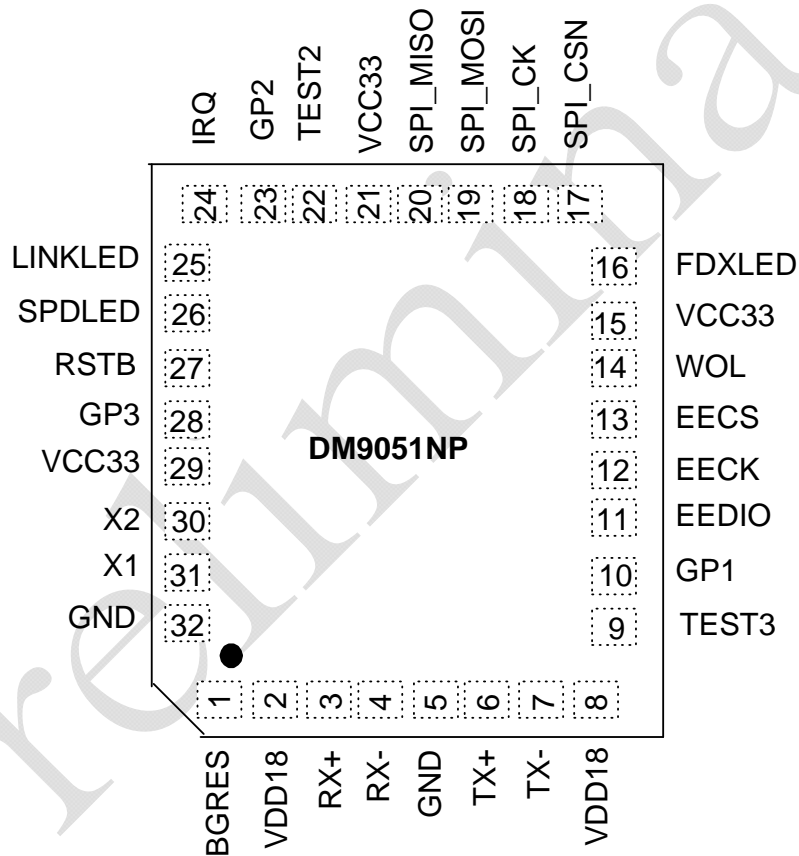
- 0.18um process

2. General Description

The DM9051 is a fully integrated and cost-effective low pin count single chip Fast Ethernet controller with SPI interface, a 10/100M PHY and 4K Dword SRAM. It is designed with low power and high performance SPI interface that support 5V/3.3V IO tolerance.
The DM9051 supports SPI interfaces to internal memory accesses for various processors. The PHY of the DM9051 can interface to the UTP3, 4, 5 in 10Base-T and UTP5 in 100Base-TX with
HP Auto-MDIX. It is fully compliant with the IEEE 802.3u Spec. Its auto-negotiation function will automatically configure the DM9051 to take the maximum advantage of its abilities. The DM9051 also supports IEEE 802.3x full-duplex flow control.
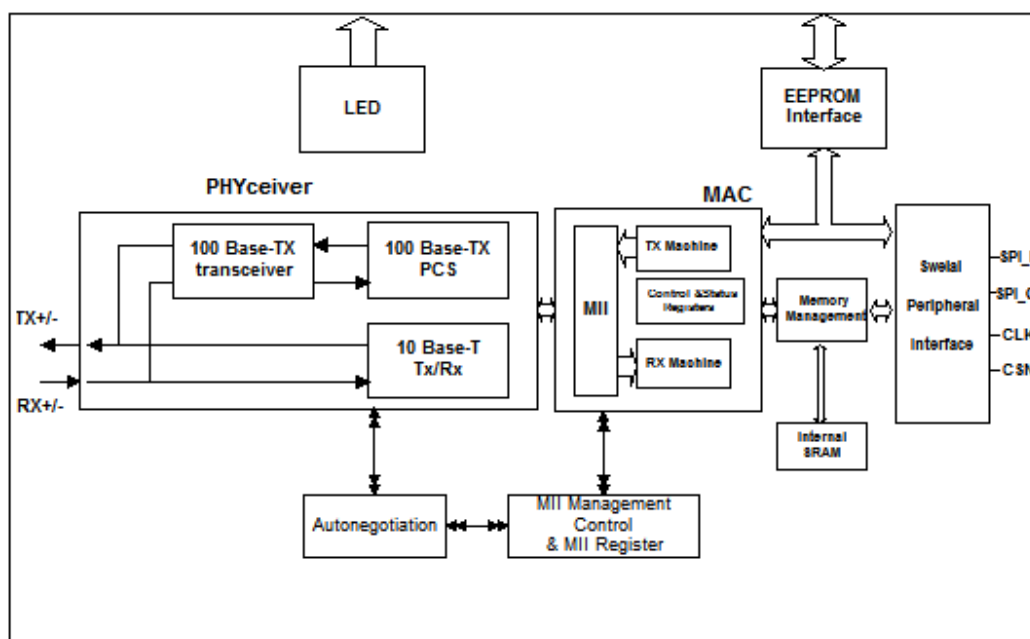
3. Applications

- Smart meter
- Industrial Control Sensor Devices
- Security, Motion Control

- Building Automation
- Voice over IP (VoIP)
- Internet Radio

4. Pin Configuration

5. Block Diagram

6. Order Information

Part Number	Pin Count	Package
DM9051NP	32	QFN
DM9051INP	32	QFN

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