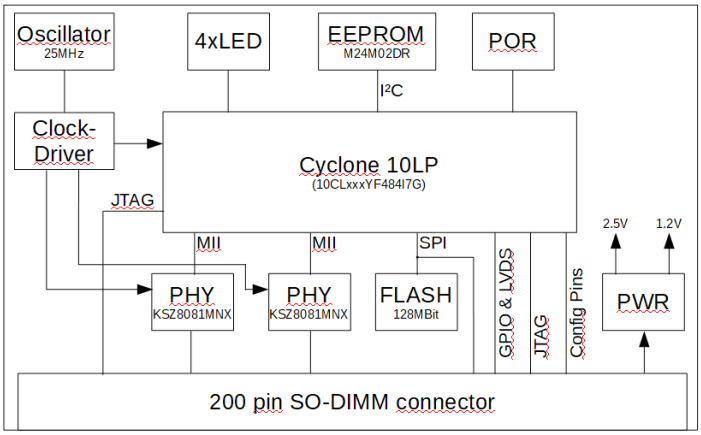
Xynergy^{CY10}

System-on-Module with Intel Cyclone 10 LP
Scalable networking & EtherCAT

DSP Systeme GmbH
Embedded DSP & FPGA Technology

Xynergy^{CY10} is a general purpose SO-DIMM module based on Intel's Cyclone 10 LP FPGA family. Scalable design allows using Cyclone 10 LP variants from 25k to 120k logic elements to meet required price, performance and power targets. With two internal 10/100 Ethernet PHYs it is designed for realtime Ethernet applications, like EtherCAT. All main supplies are generated on the board and a single 3,3 Volt rail is sufficient to power the module. Power consumption is heavily dependent on the chosen Cyclone variant and the users application.

On-Board flash memory, EEPROM and a hardware reset controller allow for standalone use of the module on a minimal mainboard, providing only the required connectors and a single power supply. A mainboard for evaluation and boundary scan tests is available.



Simplified Xynergy^{CY10} Block Diagram

Typical applications:

- Industrial Automation
- EtherCAT Slave
- Image Processing
- Artificial Intelligence
- Data Mining
- Embedded Computing
- Interfaces and connectivity
- Real time applications
- Smart Gateways

Features

- SO-DIMM 200 (DDR2) compatible module
- Cyclone 10 LP in 484 BGA package
- Scalable from 25k to 120k logic elements
- Two integrated 10/100 Ethernet Phys KSZ8081
- Support for Beckhoff EtherCAT Stack
- Integrated Core Power Supply, Vcc 3.3V only
- Selectable I/O Bank voltage
- 11 differential LVDS TX pairs
- 11 differential LVDS RX pairs
- 64 GPIOs that may be used as LVDS
- 128Mb flash with external access for updates
- 256K EEPROM
- Precision Clock inputs and outputs
- Four on-board LED indicators
- JTAG Interface for Debug and Boundary Scan
- Configuration Interface for slave boot
- On-Board flash memory for master boot

Dimensions: 67.6 x 37.5 x 5mm
Weight: approx. 6grams
Matching Socket: e.g., TE Connectivity 1473005-4

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