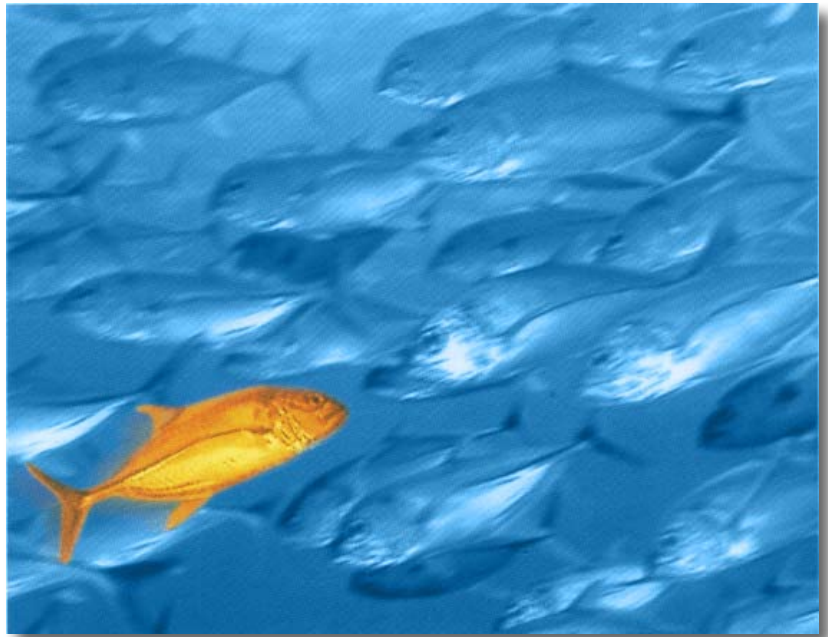
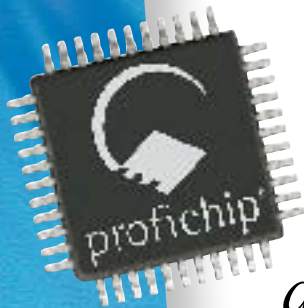


VPCLS2

PRODUCT INFORMATION



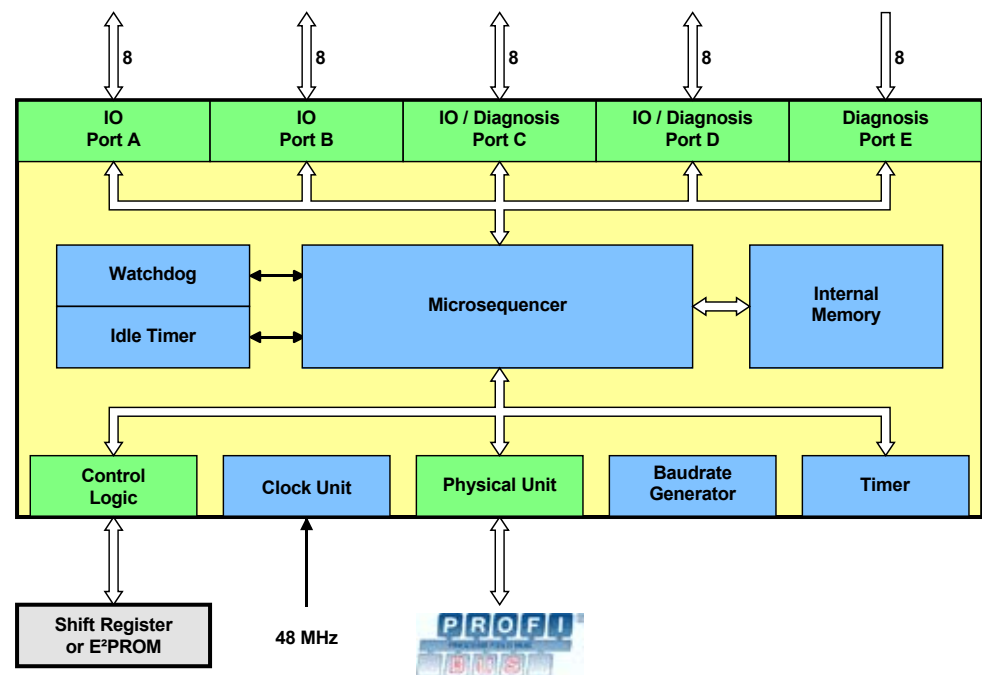
PROFIBUS Lean Slave ASIC



*automation **in** silicon*

General Description

The VPCLS2 ASIC is a complete single chip solution for PROFIBUS DP. It provides 32 I/O points, which can be set to input, output or diagnostics (in groups of 8 bits). No additional microcontroller or software is needed. Therefore this ASIC is the ideal solution for simple digital field devices. The VPCLS2 is pin-compatible to the LSPM2 ASIC from Siemens.



Features:

- Protocol PROFIBUS-DP
- Asynchronous interface according to PROFIBUS-DP
- Maximum data transfer rate 12 Mbit/s
- Automatic recognition of data transfer rate
- 8 bit diagnostic inputs (fixed)
- 32 bits I/O, thereof 16 bits configurable as additional diagnostic inputs
- EEPROM or DIP-Switches can be used to set the network address and ID number
- Clock supply 48 MHz
- Supply voltage 5 V
- Pin-compatible with LSPM2 from Siemens
- Package PQFP80 (RoHS compliant)

The VPCLS2 handles all communication- and diagnosis-tasks of the Profibus-DP-slave-protocol independently. No additional micro-controller or software is needed. All necessary timers and monitoring functions are implemented in hardware. After the VPCLS2 has received an error-free telegram, it automatically generates the requested response telegram. Therefore this ASIC is optimally suited for a cost effective single-chip-realization of simple digital I/O devices.

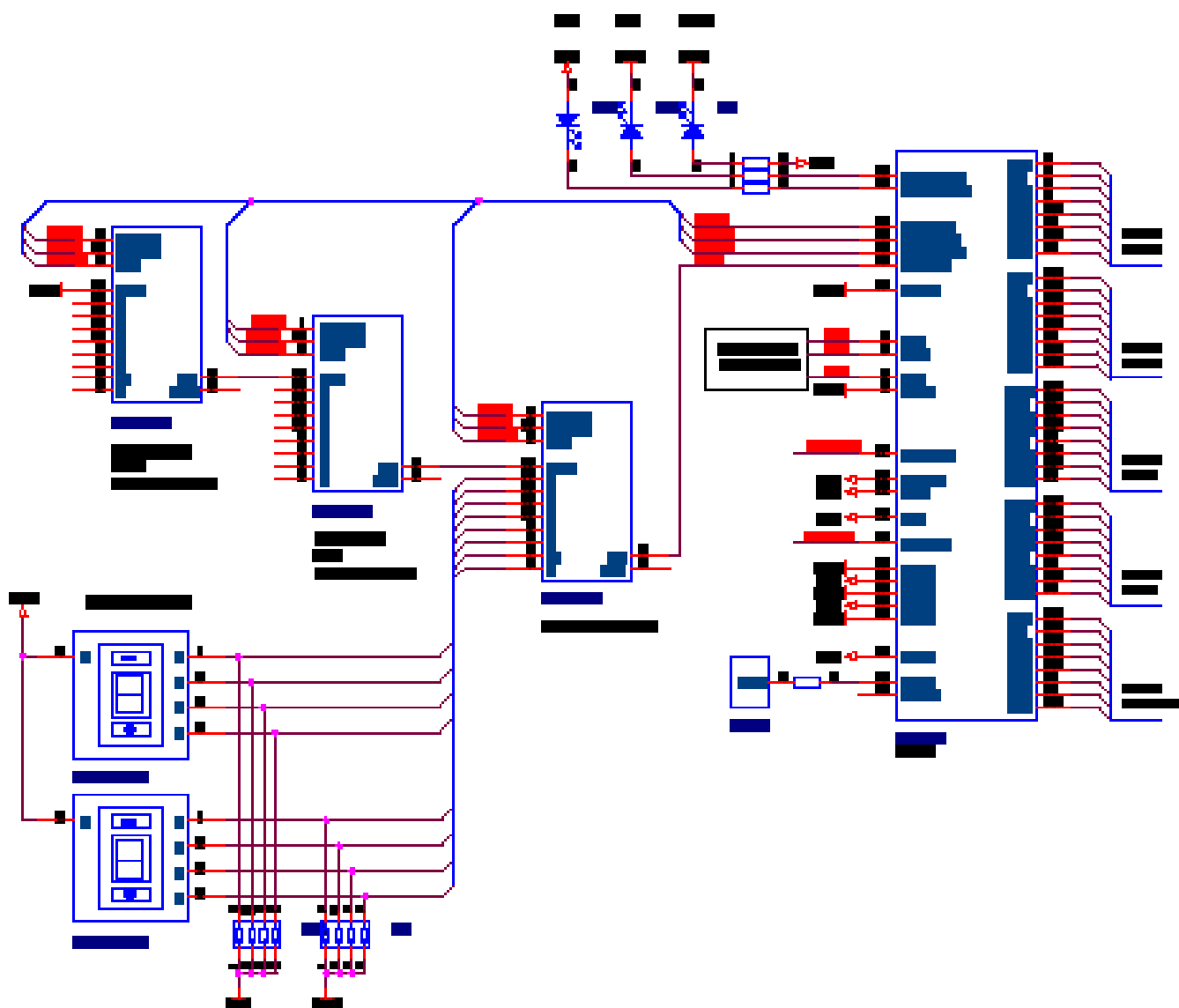
The Profibus protocol is processed by the integrated Microsequencer which is a special RISC processor architecture developed by Profichip and tailor-made for this type of Profibus slave applications. The Microsequencer checks incoming telegrams for correctness and plausibility, monitors the accuracy of the bus timings and automatically generates the response telegrams according to the Profibus standard.

The Baudrate Generator provides the internal clocks required for Profibus transmission rates of 9.6 kbit/s to 12 Mbit/s. The VPCLS2 needs to be clocked by an external 48 MHz crystal oscillator; the LSPM2 operation mode with 24 MHz clock supply and reduced transmission rates is not supported.

The I/O interface comprises four 8-bit data ports and one 8-bit diagnostic input port. Each data port can be configured to serve as input or output port, two data ports can be configured as additional diagnostic input ports. Port direction and function can be selected by five configuration pins.

The Profibus station address and ID number can be stored in an external EEPROM or serial shift register. The integrated control logic generates the signals for controlling the serial EEPROM or external shift register depending on the selected interface type.





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