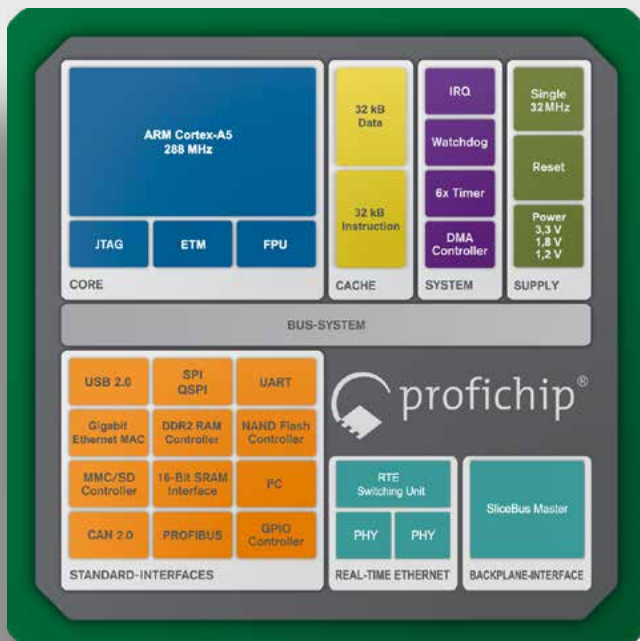


profichip[®] ANTAIOS

Real-time Ethernet Communication Controller



Discover new ways ...

- Multiple fieldbus support
- 288 MHz ARM Cortex-A5 processor
- Ethernet interface with real-time switch
- Gigabit Ethernet MAC
- SliceBus® master

... of industrial communication.



One small chip combines fast real-time Ethernet technology with traditional fieldbuses and a backplane master.

ARM Cortex-A5 Core

- 288 MHz clock speed
- 64-bit floating-point unit
- Little-endian byte ordering
- 32/32 kbyte instruction/data cache
- Debug interfaces:
JTAG, ETM, ETB, ITM

Advanced Real-time Ethernet Switch

- 3 x port switches
(2 external Ethernet + 1 internal)
- Integrated PHYs
- Programmable switch
- Microcode and software stack-based implementation for
 - » PROFINET® I/O Device RT/IRT
 - » EtherCAT® Slave
 - » Mechatrolink-III/IV Master/Slave
 - » EtherNet/IP Adapter*
 - » Other Ethernet protocols on demand

Classic Fieldbus Options

- 2 x PROFIBUS® Masters (12 Mbit/s)
 - » Protocols: DP-V0, DP-V1/V2
- PROFIBUS Slave (12 Mbit/s)
 - » Protocols: DP-V0, DP-V1/V2
- 2 x CAN Controller (1 Mbit/s)
 - » Specification: CAN 2.0B

Fieldbus Options and Stacks

- Licensed with ANTAIOS
 - » PROFIBUS Slave DP-V0
 - » PROFINET I/O Device RT/IRT library
 - » EtherCAT Slave
- Purchasing stacks (source codes)
 - » PROFIBUS Slave DP-V1/V2
 - » PROFIBUS Master
 - » PROFINET I/O Device RT/IRT
 - » PROFINET I/O Controller RT
 - » Mechatrolink-III/IV Master/Slave
 - » CANopen
 - » Others on demand

Standard Interfaces

- USB 2.0 Device Controller (480 Mbit/s)
- 2 x UART (12 Mbit/s)
- Gigabit Ethernet MAC (supports 10/100/1000 Mbit/s modes)
- SPI channel
 - » Master Mode with 80 Mbit/s
 - » Slave Mode with 24 Mbit/s
- QSPI channel Master with 384 Mbit/s
- SRAM interface
 - » Master configurable with 8/16-bits
 - » Slave with 16-bits
- 2 x I²C

SliceBus Master Controller

- Backplane or local bus communication
- Local single Master for I/O Modules
- Up to 64 nodes
- High speed of 48 Mbit/s
- Alarm and error handling

Memory Interfaces

- MMC/SD card Controller
- 8-bit NAND flash Controller
- DDR2 RAM 16-bit Controller (max. 800 MByte/s)

Other Features

- DMA Controller (8 channels)
- IRQ Controller (8 priority levels)
- Watchdog
- Six independent 32-bit timers with prescaler
- Technology function module (TechIO)
 - » Max. 26 In / 20 Out (shared pins)
 - » Configurable digital input filter
 - » 4 x counter channels
 - » Valuation for incremental encoders
 - » 4 x PWM channels
 - » 2 x SSI encoder interfaces

Package

- TFBGA380:
15 x 15 mm², 0.65 mm pitch
- TFBGA385:
19 x 19 mm², 0.80 mm pitch

*Under development

YASKAWA Europe GmbH

Ohmstr. 4
91074 Herzogenaurach
Germany

+49 9132 744-200
sales.profichip@yaskawa.eu.com
www.profichip.com

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