

ERTEC 200P

Enhanced Real-time Ethernet Controller



The ERTEC 200P has been further developed from the ERTEC 200, one of the leading devices for PROFINET IRT. It has an integrated IRT-switch for high-performance PROFINET communication and an ARM926EJ-S processor for processing the customer's application program. The IRT-switch supports all the latest PROFINET specification features like "Fast Forwarding", Dynamic Frame Packing" and "Fragmentation", thus squeezing the PROFINET update cycle times down to incredible 31.25 μ s.



In addition to ultra-fast real-time communication the ERTEC 200P allows for unlimited access to TCP/IP data and services in order to transfer as well time-uncritical data in parallel.

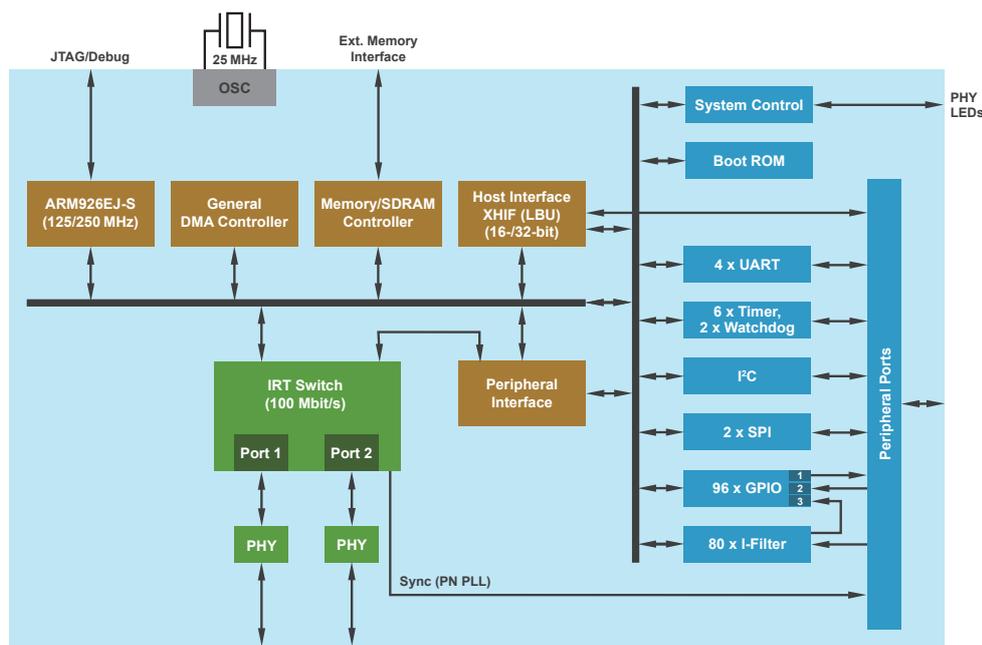
Thanks to its flexible architecture, ERTEC 200P lets you realize modular as well as compact devices. The customer's application can be executed either on the integrated ARM processor core or on an external host CPU. Numerous interfaces like SPI, UART, I²C help to fit the ERTEC 200P in almost any environment.

Applications

The ERTEC 200P is suited for usage in different kinds of field devices: fast IO-peripherals, synchronous drives and sensors, high-precision measurement and instrumentation as well as any kind of intelligent automation devices profit from ERTEC 200P's capabilities.

Profiles like PROFIsafe for failsafe communication or PROFIdrive for drive control can be seamlessly integrated.

Block Diagram



Product Features

- High-performance ARM926EJ-S RISC core
 - » 250 MHz max. clock frequency
 - » 16 kByte I-cache, 16 kByte D-cache
 - » 256 kByte TCM, with configurable ITCM/DTCM share
 - » 8 kByte boot ROM
 - » Debug and trace capability via embedded ICE and trace buffer
- Integrated ARM926 interrupt controller
- Memory management unit (MMU)
- 32-bit multilayer bus architecture
 - » 125 MHz bus clock
- Integrated 2-port switch
 - » HW support for latest PROFINET IRT
 - » 100 Mbit Ethernet support
 - » Integrated PHYs for twisted pair cables and optical transmission
- External 32-bit memory interface for support of
 - » SDRAM (125 MHz)
 - » SRAM (4 chip selects, ready control)
 - » Burst and page mode Flash
 - » 1.8/3.3 V interface level
- Additional interfaces
 - » 16/32-bit external host interface (XHIF)
 - » Up to 96 GPIOs
 - » I²C
 - » I²C for POF transceiver
 - » 4 UARTs
 - » 2 SPIs (master/slave capable)
- All clocks generated (via PLL) with 25 MHz crystal oscillator
- Other peripherals
 - » 6 timers
 - » 2 watchdogs
 - » DMA controller
- Boundary scan support
- Compact 400-pin BGA package (17 x 17 mm)
- Power supply: 1.2, 1.5, 1.8, 3.3 V
- Temperature range T_A -40°C to +85°C

Ordering Information

Part Number	Package
MC-10141F1-811-GNJ-A	FPBGA 400, 17 x 17 mm, 0.8 mm ball pitch

Documentation

Doc Reference	Type
R19DS0075ED0100	ERTEC 200P Datasheet

Further information available under www.renesas.eu/automation

Before purchasing or using any Renesas Electronics products listed herein, please refer to the latest product manual and/or data sheet in advance.

