Ensuring Reliable Networks TTTech

DESwitch Hermes 3/1 BRR

Deterministic Ethernet Solution for Application Development and Evaluation

Key Benefits

- One Ethernet switch hardware for evaluation of technologies including AVB, TSN and Time-Triggered Ethernet in combination with BroadR-Reach® PHY
- Platform for developing applications with Deterministic Ethernet functionality
- Enables customized evaluation projects using the switch as an ECU with I/Os and CAN, FlexRay and Ethernet interfaces

The DESwitch Hermes 3/1 BRR is designed for application development and evaluation of Deterministic Ethernet for in-vehicle network architectures. The device provides standard interfaces like CAN and FlexRay as well as digital and analog I/Os for customized evaluation projects.

This versatile switch has 3 x BroadR-Reach® physical layer interfaces that enable 100 Mbit/s full-duplex communication over unshielded twisted single pair (UTSP) cabling in addition to 1 x 100/1000Base-Tx port.

Convergence of Critical Traffic

The DESwitch Hermes 3/1 BRR supports multiple traffic classes converged on one Deterministic Ethernet network:

- Standard Ethernet for best effort traffic
- Quality of Service (QoS) for using VLANs and priorities
- Audio-Video Bridging (AVB) for clock synchronization and traffic shaping
- Time-Sensitive Networking (TSN) for time-aware shaping
- Time-Triggered Ethernet for fault-tolerant clock synchronization

In-Vehicle Ethernet

Deterministic Ethernet enables convergence of critical and non-critical application data streams on one network.

The DESwitch Hermes 3/1 BRR enables the evaluation of in-vehicle network requirements for diagnostics, control applications, infotainment and advanced driver assistance systems (ADAS).

It can be deployed to show the full potential for the next generation of Ethernet-based domain architectures using Deterministic Ethernet.

Application Fields

- Automotive
- Buses and Trucks
- Farming & Off-Highway

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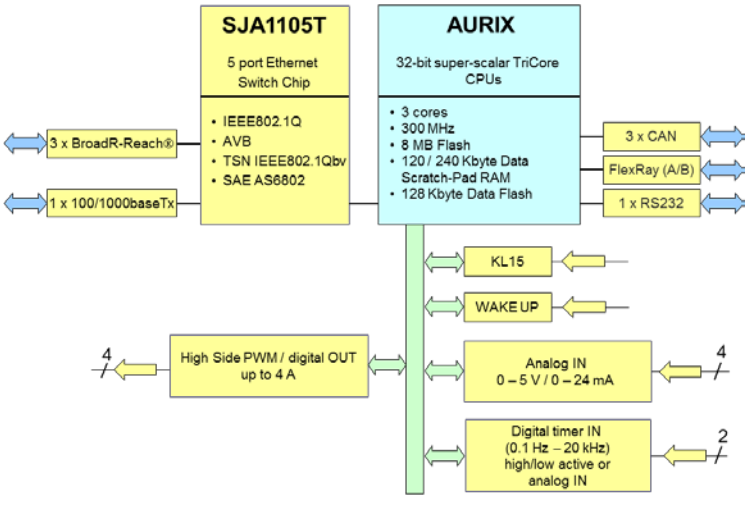
Product Features

Standards Compliance	IEEE 802.1D Layer 2 switching IEEE 802.1Q VLAN support QoS handling based on IEEE 802.1Q PCP bits Support for SR Class A, Class B and Class C traffic IEEE 802.1AS IEEE 1588v2 one-step sync forwarding in hardware IEEE 802.1Qbv (TSN pre-standard) SAE AS6802 (Time-Triggered Ethernet)
Interfaces	3 x BroadR-Reach® 100 Mbit/full-duplex 1 x 100/1000Base-Tx 3 x CAN, 125 kbit/s up to 1 Mbit/s 1 x FlexRay (channel A and B) 1 x RS-232 4 x analog IN 0 to 5 V or 4 to 20 mA 2 x digital IN (timer 0.1 Hz to 20 kHz) 4 x digital OUT high-side, PWM up to 4A
Housing	Aluminum pressure die-cast housing 48 pin connector
Environmental	Operational temperature 0 °C to +50 °C No EMC compliance Not suitable for use in series production
Management CPU	Infineon AURIX 32-bit super-scalar CPUs with 3 cores 300 MHz 8 Mbyte flash 120 / 240 Kbyte data Scratch-Pad RAM 128 Kbyte data flash Running AUTOSAR 4.2.1 and Ethernet switch management protocols
Diagnostics	Statistics for dropped frames and buffer load Frame and port mirroring for enhanced diagnostics Frame replication and retagging of traffic



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