

Marvell® Brightlane™ Low-Port Count Managed Switch

5-Port Automotive Ethernet Switch with Pin Compatibility to 88Q5050

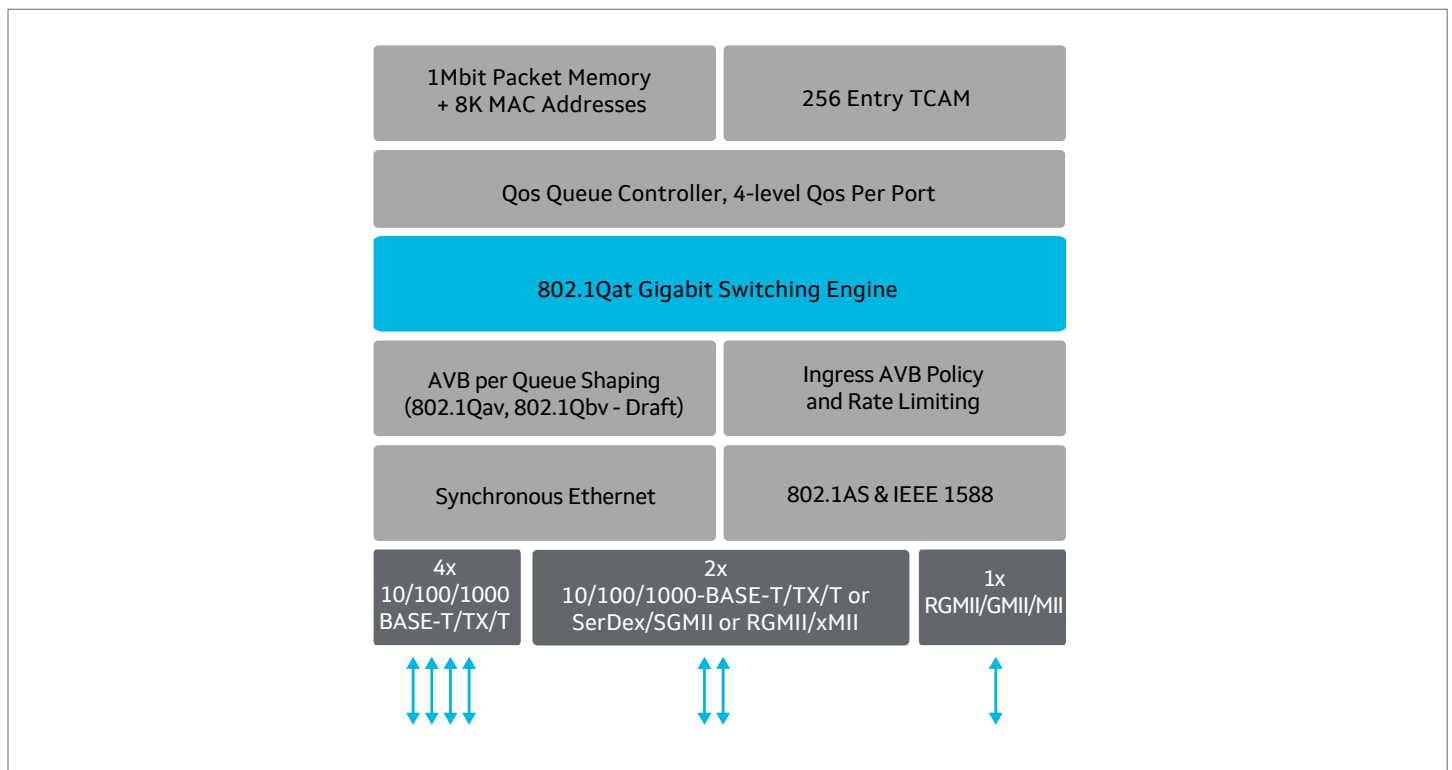
Overview

Marvell’s second generation secure Automotive Brightlane™ Ethernet switch, 88Q5030, is a 5-port Ethernet gigabit capacity managed switch that is fully compliant with IEEE802.3 automotive standard with integrated Arm M7 core and secure boot functionality.

The 5-port Ethernet switch offers 3x IEEE 100BASE-T1 ports, 1x IEEE 100BASE-T1 port, 2x MII/RMII/RGMII or GMII port, and 1x SerDes or SGMII port. The switch offers local and remote management capabilities, providing easy access and configuration of the device.

This switch employs the highest hardware security features that are designed at the root source of Marvell’s secure automotive Ethernet Switch to prevent malicious attacks or compromises to the data streamed in the vehicle. This advanced switch employs deep packet inspection (DPI) techniques and Trusted Boot functionality to deliver industries most secure automotive Ethernet switch. The switch supports both blacklisting and whitelisting addresses on all its Ethernet ports to further enhance its security.

Block Diagram



Marvell Brightlane™ 88Q5030 Automotive Ethernet Switch

Key Features

Features	Benefits
Processor	<ul style="list-style-type: none">• Integrated Arm Cortex-M7 CPU, 250MHz
IO Interfaces	<ul style="list-style-type: none">• 3 IEEE 100BASE-T1• 1 MII/RMII/RGMII port or 1 GMII port• 1 SGMII or SerDes port• 2 SMI<ul style="list-style-type: none">• Master interface to connect to external PHYs or additional switches• Slave interface to manage the switch• Configurable GPIOs• QSPI with configurable frequencies (19.2MHz-83.3MHz)• TWSI Master interface• JTAG
Package Characteristics	<ul style="list-style-type: none">• 128-pin LQFP package, 0.5 mm pitch, 14mmx20mm
EEPROM	<ul style="list-style-type: none">• Slave interface with loader to configure the switch (32Kb-512kb)

Key Features

- Support Audio/Video Bridging (AVB)
- AEC-Q100 Grade 3 qualified
- PHYs support Energy Efficient Ethernet (EEE) as per 802.3az
- TCAM-based Policy Control List (PCL) Engine
- Wake-on LAN and Wake on Frame detection
- MAC SA based 802.1X authentication

Target Applications

- Gateway
- In-Vehicle Infotainment
- Body Domain Controller
- Advanced Driver Assistance Systems (ADAS)



To deliver the data infrastructure technology that connects the world, we're building solutions on the most powerful foundation: our partnerships with our customers. Trusted by the world's leading technology companies for 25 years, we move, store, process and secure the world's data with semiconductor solutions designed for our customers' current needs and future ambitions. Through a process of deep collaboration and transparency, we're ultimately changing the way tomorrow's enterprise, cloud, automotive, and carrier architectures transform—for the better.

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