Product Brief

Marvell® Brightlane™ Automotive Ethernet Switch

7-Port Unmanaged Automotive Switch

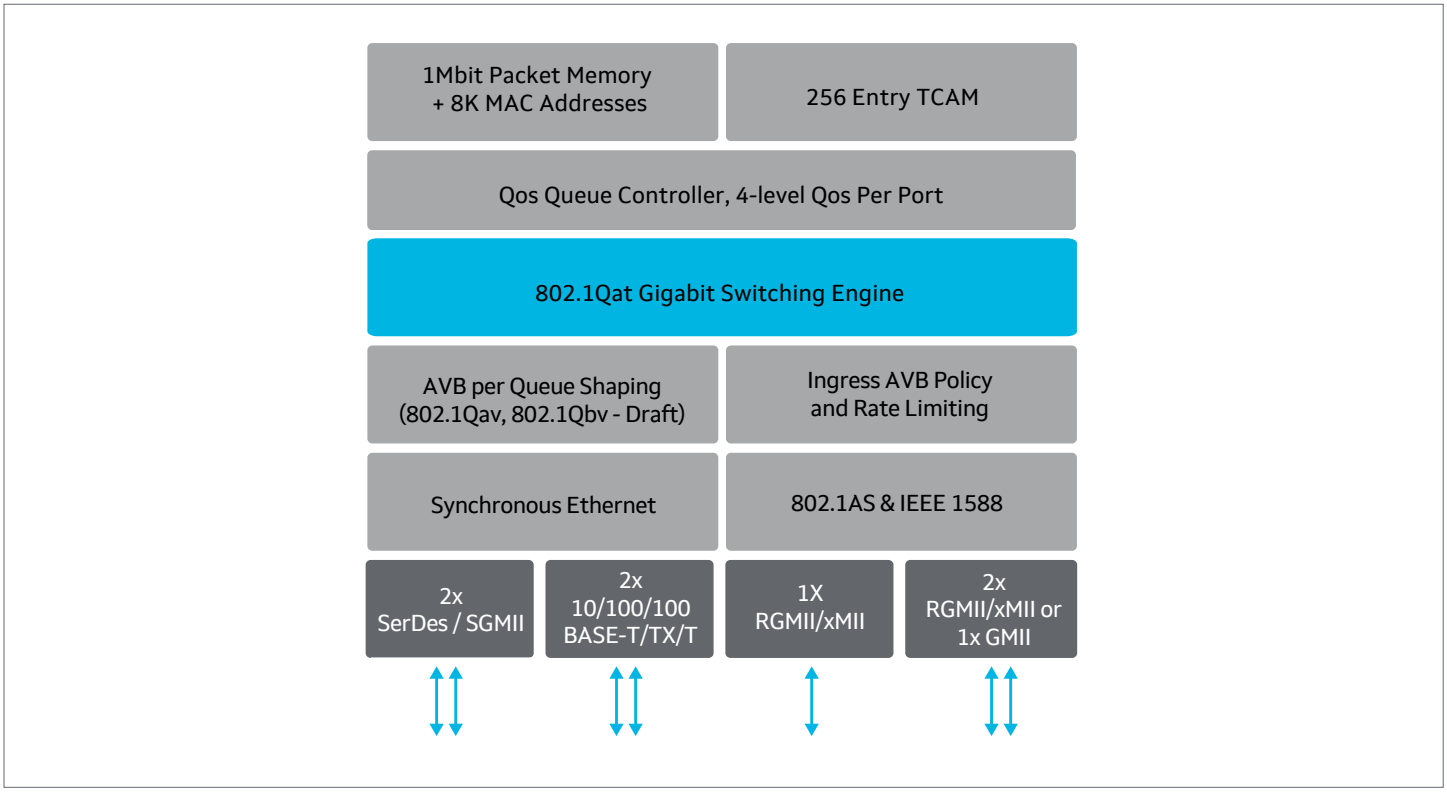
Overview

Marvell's first-generation Automotive Brightlane™ Ethernet switch, 88EA6321, is a 7-port Ethernet gigabit capacity switch that is fully compliant with IEEE802.3 automotive standard with Audio/Video bridging capabilities and supports Energy Efficient Ethernet for reduced power consumption.

The 7-port Ethernet switch offers 2 integrated IEEE 10/100/1000BASE-T/TX/T ports, 2x RGMII/xMII (2 ports can be configured to be 1GMII) ports, and 1 SGMII / SerDes port. The switch offers remote management capabilities, providing easy access and configuration of the device.

This switch utilizes AVB technologies to identify and reserve network resources for AVB traffic streams and precise streaming capabilities to for time sensitive multimedia streams such as digital audio, video to be sent over Ethernet network with low latency and robust Quality of Service. The low-latency is achieved with advanced features like cut-through switching fabric with increased routing performance. The switch can support timing synchronization in network architectures that require transmission of clock signals over Ethernet.

Block Diagram



Marvell Brightlane 88EA6321 Automotive Ethernet Switch

Key Features

Features	Benefits
IO Interfaces	• 2x IEEE 10/100/1000BASE-T/TX/T • 3x RGMII / xMII (2 ports can be configured to be 1 GMII) • 2x SerDes/SGMII • MDI Interface • Configurable GPIOs • Single Dual color LED support • 25MHz External Clock source
Package Characteristics	• 128-pin LQFP package, 0.4 mm pitch, 14mmx14mm
EEPROM	• Supports 2-wire 24C01/24C02/24C04 to configure attached EEPROMs and slave configurations
Product Variants	• 88EA6321 : Full Feature Set • 88EA6320 : Excludes TCAM, Synchronous Ethernet , CutThrough switch fabric and 802.1Qbv

Key Features

- Support Audio/Video Bridging (AVB)
- AEC-Q100 Grade 2 qualified
- Support for 10KB Jumbo Frames
- Cut-through Switch fabric for low latency
- PHYs support Energy Efficient Ethernet (EEE) as per 802.3az
- Wake-on LAN and Wake on Frame detection

Target Applications

- Gateway
- In-Vehicle Infotainment
- Body Domain Controller
- Media Converter

MARVELL

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.