Product Brief

Marvell® Brightlane™ 88Q6113 Secure Multi-Gig Aggregation Automotive Switch

11-port Automotive Ethernet Switch with Advanced Security & Support for TSN

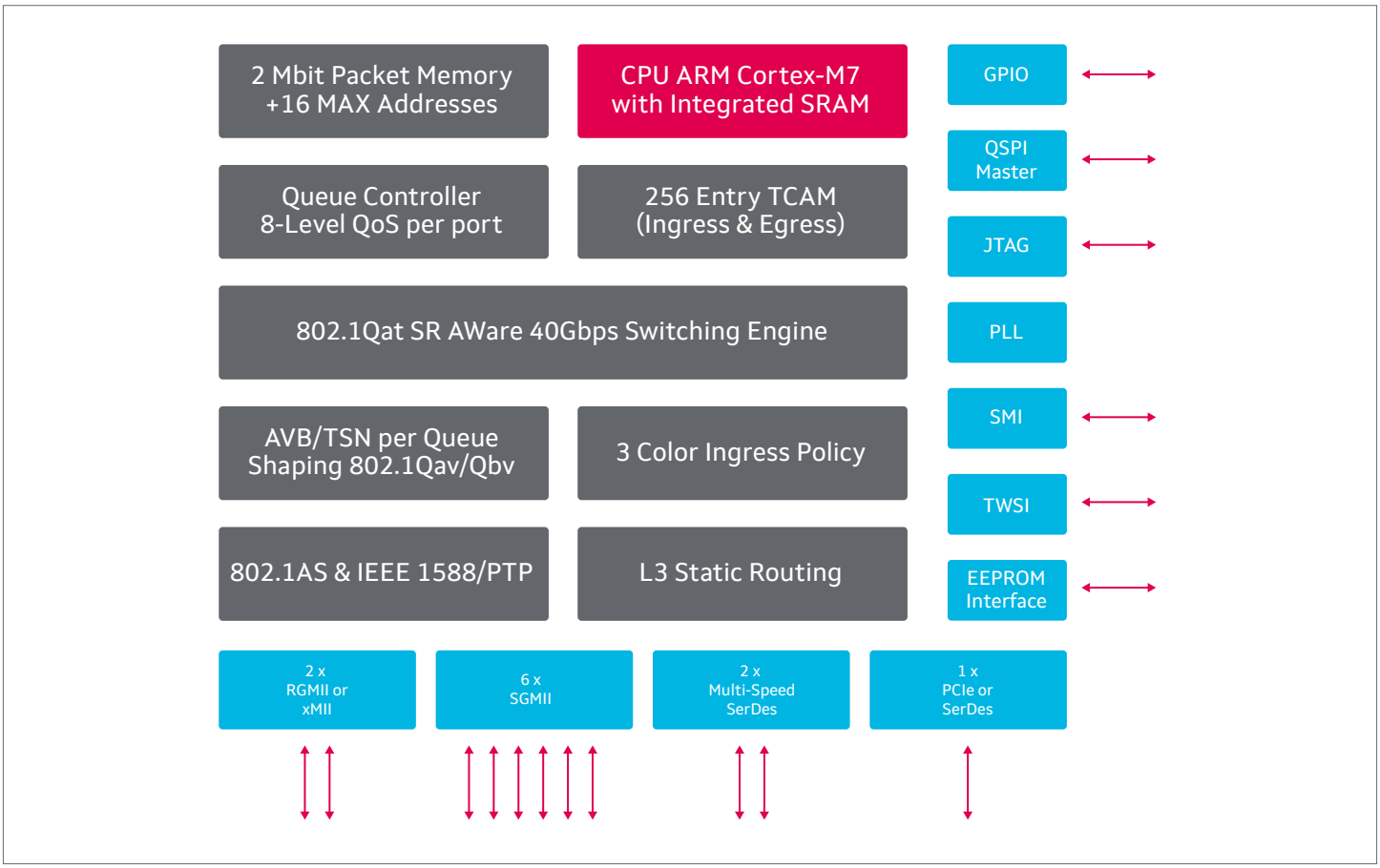
Overview

Marvell's Brightlane™ first generation high-port count Automotive Ethernet switch, 88Q6113, is an 11-port aggregation ethernet gigabit capacity switch that is fully compliant with IEEE802.3 automotive standard, delivering high bandwidth with advanced routing and security.

The 11-port Ethernet switch offers all ports at gigabit capacity MAC interfaces with 2x RGMII or MII/RMII/GMII ,6x SGMII, 2x XFI Multi-Speed SerDes (1/2.5/5/10 Gbps) or SGMII port, MII/RMII/GMII, 1xPCIe or SerDes. The switch offers local and remote management capabilities, providing easy access and configuration of the device.

This switch includes a high-performance ARM® Cortex M7 CPU with dedicated on-chip memory to support AVB protocols such as Precision Time Protocol (PTP) and security firewall to protect from external malicious attacks. The switch employs advanced routing engine to support Gigabit routing of the incoming packets without the CPU intervention. It offers highest level of security with deep packet inspection (DPI) techniques, Denial of Service (DoS) engine and Trusted Boot functionality to secure the vehicle networks.

Block Diagram



Marvell Brightlane™ 88Q6113 Block Diagram

Key Features

Features	Benefits
Processor	• Integrated ARM Cortex-M7 CPU, 350MHz with 1MB SRAM

IO Interfaces	• 2x RGMII or MII/RMII/GMII ports
	• 6x SGMII
	• 2x XFI (up to 10Gbps (1000BASE-X/SGMII, 2500BASE-X, 5GBASE-R, 10GBASE-R, USXGMII)
	• 1x PCIe (Gen 3x2, 16Gbps) or SerDes (1/2.5Gbps)
	• 2x SMI
	  • 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 Interface for debugging

Package Characteristics	• 17mmx17mm, 356-pin ball array TFBGA, 0.8 mm pitch
EEPROM	• Slave interface with loader to configure the switch (32Kb-512kb)

Target Applications

- Autonomous Drive
- Advanced Driver Assistance Systems (ADAS)
- Central Gateway

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