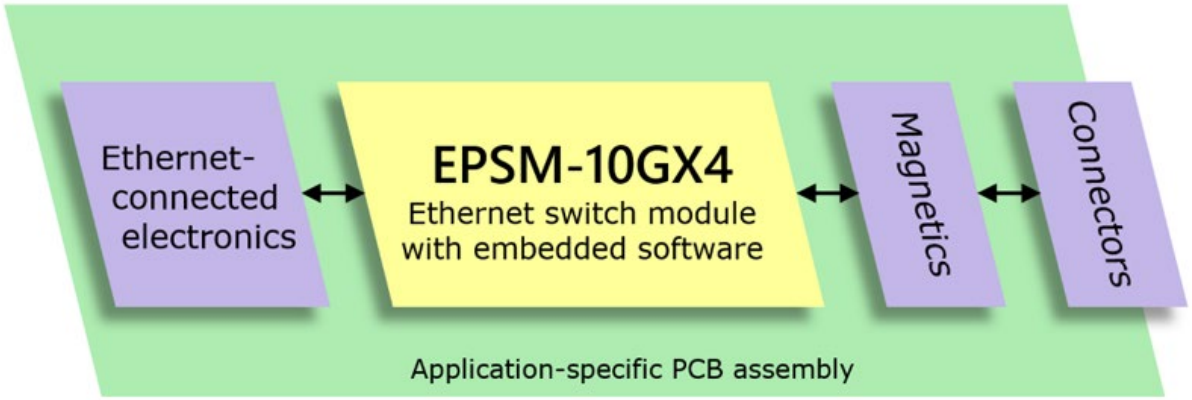
EPSM-12G2F 26-Port Miniature Rugged Managed Ethernet Switch Module

Description

EPSM-12G2F is a managed Ethernet switch module in an ultra-compact 2.2" x 3.3" (55 x 84mm) size offering 24 10/100/1000Mbps copper ports and 2 1-2.5Gbps SFP ports. It supports an embedded software package offering a full suite of Layer 2 managed Ethernet switching capabilities. The module is intended to be used on a carrier board to implement a complete Ethernet switching solution. The core Ethernet switching technology is almost fully encapsulated on the module; for many applications, only the "last inch" of magnetics and I/O connectors is required to complete the circuit, enabling easy development of custom form factor compact, rugged Ethernet switch solutions.



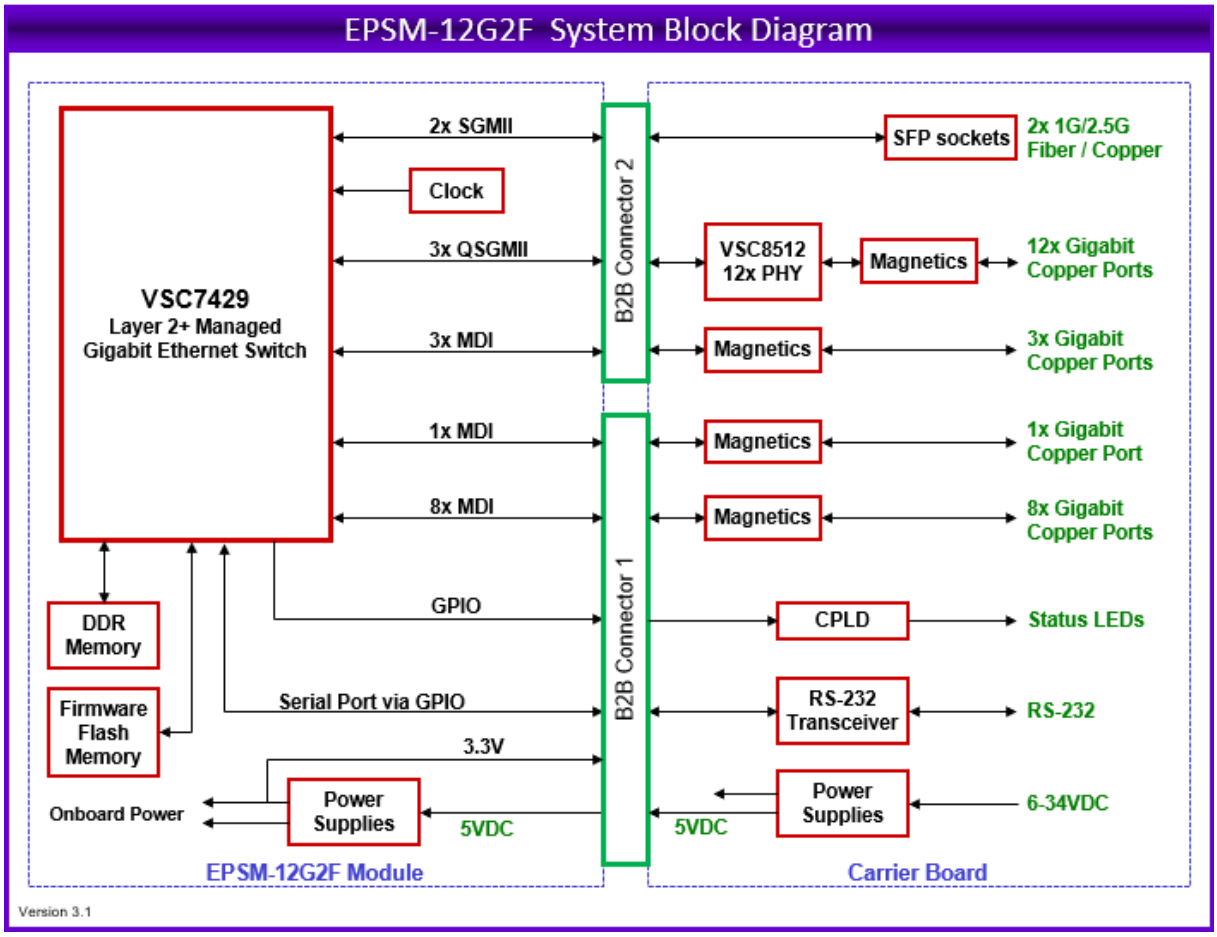
EPSM-12G2F offers compelling advantages over in-house designed Ethernet switches requiring mid-range software features:

- Small size fits into robots, drones, and other applications where size and weight are critical
- Rugged design and wide temperature capability are ideal for vehicle applications where high levels of shock and vibration are present
- Off the shelf solution significantly reduces development time and risk
- Built-in embedded software provides the most popular managed switch features, all configurable via web or serial port interfaces, eliminating the need for any software development

Back to top

Block Diagram

The block diagram below shows the EPSM-12G2F module in a typical application.

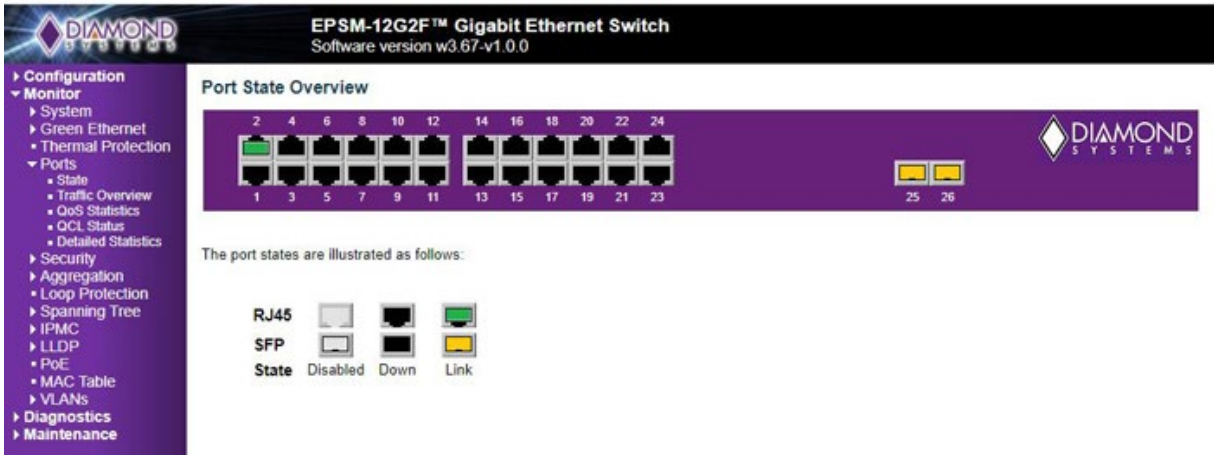


[Back to top](#)

Embedded Software

EPSM-12G2F includes the feature-rich WebStaX Layer 2 managed Ethernet switch software. The table below shows some of the more popular features included. For a complete list of features, **click here.**

8K MAC addresses and 4K VLANs (IEEE 802.1Q)
8K IPv4 and IPv6 multicast group support
Jumbo frame support at all speeds
Flexible link aggregation support based on Layer-2 through Layer-4 information (IEEE 802.3ad)
Multicast and broadcast storm control, as well as flooding control
Rapid Spanning Tree protocol (RSTP) and MSTP
Multiple protocol support: IEEE 802.1d, IEEE 802.1w, IEEE 802.1s, and IEEE 802.1X
8 priorities and 8 QoS queues per port with scheduling



[Back to top](#)

Cooling Options

Two cooling accessory options are available: A heat sink provides convection cooling in a low profile, while a heat spreader provides improved conduction cooling for superior high temperature performance in applications where physical contact with the system enclosure is available.

Back to top

Development Support

A design guide is available with circuit details and other technical information necessary to design a carrier board around the EPSM-12G2F. A development kit is also available including:

- A technical design package (schematics, PCB layout, and Bill of Materials) of our EPS-24G4X carrier board, featuring support for 12 1G ports from the module, PHY for 12 additional 1G ports, dual SFP sockets, LED control logic, and power supply circuit
- CPLD code for status LED control logic
- A complete EPS-24G4X switch with the EPSM-12G2F module installed
- A cable kit
- Free custom branding of the embedded software (logo / color / title only; custom configurations are extra charge)

Contact Diamond Systems for further information and ordering instructions.