



Cortina Systems® CS3242 24-Port Ethernet MAC and Queuing IC

Overview

The Cortina Systems® CS3242 is a 24-port 10/100/1000 Ethernet MAC and queuing IC (CS3242 MAC) for high density switches and transport platforms. It has an advanced rule-based classification engine and large frame buffers which provide advanced QOS capabilities.

Features

Functionality

- 24x 10/100/1000 Ethernet MACs
- 24x Gigabit Ethernet & Fast Ethernet PHYs
- Large 128MByte oversubscription DRAM eliminates frame loss
- Four queues per port for differentiated services
- Guaranteed B/W and shaped max B/W per queue
- Strict priority or RR between queues for excess B/W
- Rule-based classification engine and frame parser to layer 4
- .1p and DSCP marking and marking down of yellow frames
- Policing to committed and peak information rates
- Frames steered to GE port by SPI-4.2 channels or frame tags
- Includes provider tag insertion capability, QinQ and MPLS
- WRED active queue management
- Weighted round robin for fair bandwidth sharing between ports
- 10 K jumbo frames supported
- Full duplex and half duplex operation
- Support for Ethernet MIB and RMON

Interfaces

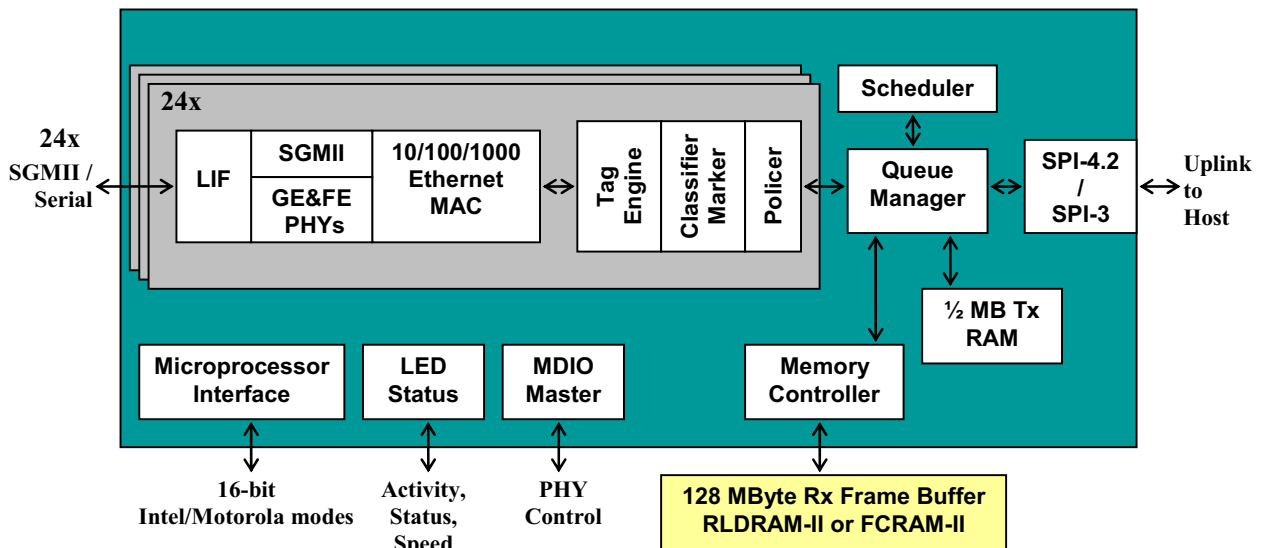
- Pin shared SPI-4.2 full rate, quarter rate and SPI-3 to host
- 24-channel and single channel operation
- 24x SGMII to copper 10/100/1000 PHYs
- 24x GE or FE Serial to SFP optical modules
- Dual-mode RLD RAM-II / FCRAM-II interface
- Microprocessor interface
- LED status lights
- MDIO master to control external copper PHYs
- JTAG and GPIO

Other

- IEEE 802.17* compliant
- Supports RPR over GFP, HDLC and GE
- External transit buffer
- SRAM Interface supports 2 to 16 Mbytes of external SRAM
- Supports single and dual transit buffer configurations
- Internal microsequencer handles fairness messages
- Support for all RPR priorities
- RPR processors can be bypassed
- Provide separate TP/Control messages buffer
- Extensive performance monitoring counters
- Support for legacy SRP equipment

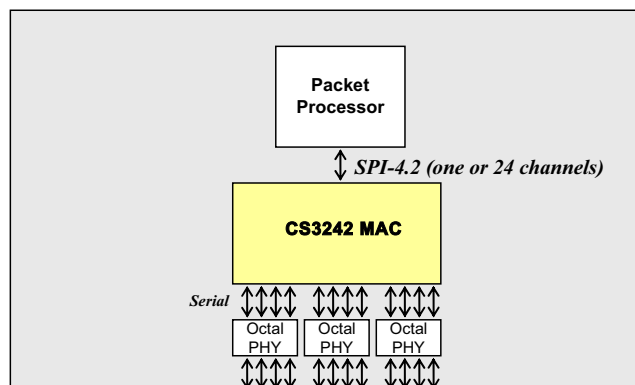
Selective Power-Down

- 1152-ball BGA, 35x35mm²
- .13 μm CMOS technology

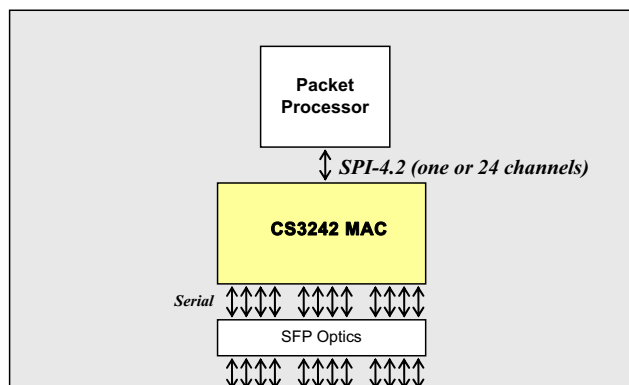


CS3242 MAC Block Diagram

Switch/Router Front End Application

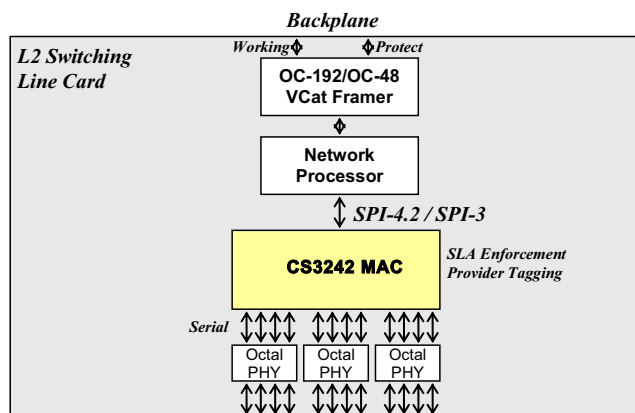


2:1 Oversubscribed
24x 10/100/1000 Ethernet Copper Ports

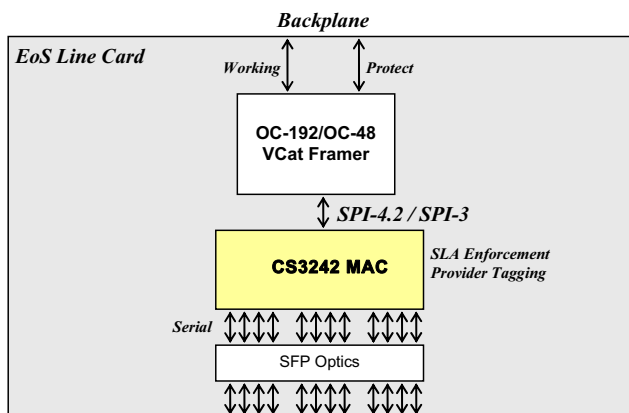


2:1 Oversubscribed
24x Gigabit Ethernet Fiber Ports

MSPB Tributary Card Application



Up to 24 10/100/1000 Ethernet Ports



Up to 24 GE Ports

Cortina in Communications

Cortina is a leading supplier of intelligent communication solutions through continuous innovations in advanced port processing and intelligent port connectivity to the Core, Metro, Access and Enterprise Market Segments. With our state-of-the-art high speed analog digital integration, we deliver a wide suite of products that address our customers'

performance, density and flexibility needs enabling faster time-to-market, longer time-in-market, and increased revenue opportunities. Working closely with our customers to understand their system requirements and anticipate their needs, we are creating the foundation ingredients for new generations of services.

*Other names and brands may be claimed as the property of others.

