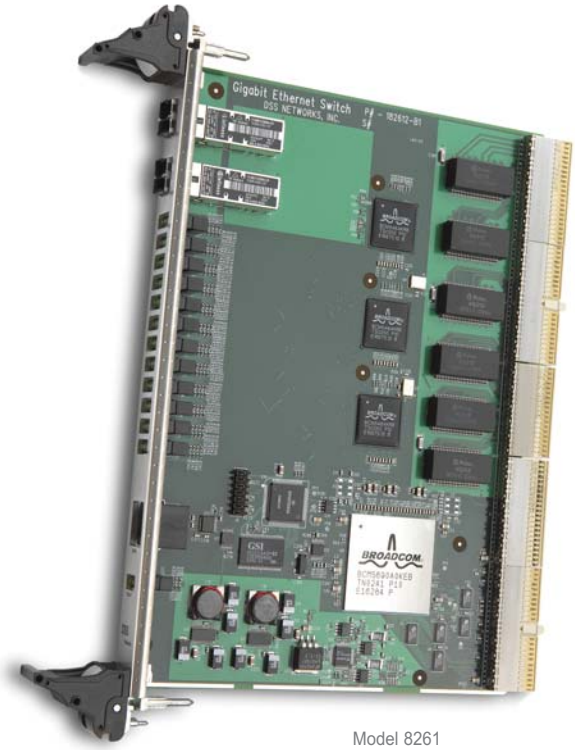
dss networks

The Gigabit Experts™

METRO-SWITCH MODEL 8261

PRODUCT DATASHEET



Model 8261

POWER AND OPERATING TEMPERATURE

· Power supply: Uses single 5V
· Power consumption: Est. @ 16W
· Operating temperature: 0-70˚ C ambient

DRIVER AND FIRMWARE SUPPORT

· Tornado 2.2 / VxWorks 5.5
· Linux versions 2.4 (2.4.18 and later), Embedded Linux
· MontaVista Embedded Linux
· Firmware for management processor
· Multiple fabric card support
· Configuration, statistics, status and diagnostics

PRODUCT DESCRIPTION

COMPACT PCI SERIES – HIGH PERFORMANCE 12-PORT GIGABIT ETHERNET SWITCH BLADE

The model 8261 features 12 ports of 10/100/1000 Base T Gigabit Ethernet over Copper with two 1000 Base SX/LX fiber uplinks. It is PICMG 2.16 6U fabric card compliant and compatible with both standard CompactPCI® and PICMG 2.16 backplanes. All 12-ports may be routed to slots on the Compact PCI backplane or externally via rear I/O. Up to two fabric boards may be used per chassis for a total of 24-ports. A system management interface is also supported via the PICMG 2.9 IPMI interface. It optionally supports two 1000 base SX/LX gigabit fiber ports with standard SFF LC connectors via the front panel. It has an onboard RISC/DSP processor for local management and can be operated as a standalone or fully managed switch. LEDS are provided for each port showing link status, transmit and receive and link quality. All LEDS are multifunction and can be used for additional functions including cable testing and energy detection. It is also PICMG 2.1 R2.0 hot-swap compliant providing support for the hardware connection layer.

The model 8261 uses the latest advanced high-performance, full-featured and highly integrated 12-port Broadcom BCM5690 multi-layer switch and BCM5464SR quad-port transceivers and is fully 802.3 compliant. It provides a fully non-blocking 24Gb/32 million frames per second aggregate switching fabric. The switching function supports an extended list of features including layer 3 switching, link aggregation, 802.1Q VLANs, 802.1D spanning tree and priority-based 802.1D/802.1p CoS/traffic class expediting and dynamic multicast filtering. The switch can be configured in a fully redundant, non-blocking network that prevents single points of failure from congesting network traffic. It provides advanced cell and packet based “head of line” blocking prevention techniques, has 1MB of onboard memory for packet buffering, and supports a 10-gig uplink interface. Extended Ethernet frame sizes to 9KB are supported. Additional advanced features including rules-based layer 2-7 packet classification/filtering on 128 multiple data flows, port trunking and port mirroring are provided for advanced networking and flow techniques. Network management support includes fully configurable routing tables and RMON, SNMP, Ethernet and extended MIB(s). A 32-bit, 66 MHZ PCI interface is also provided to support system management via the PCI bus and the switch can additionally route packets to/from the PCI interface using DMA capabilities. This would allow for example, SNMP or other management packets to be routed to an external processing component for distributed network management capabilities.

The Metro-Switch model 8261 12-port switch is targeted for OEMs and Systems Integrators for use in Data and Telecommunications products including switches, multiplexers, edge routers, media gateways, video broadcasting equipment and storage networks. It is well suited for support of embedded broadband applications including multi-service access switching and routing, Internet voice, digital video and audio, IP security, network monitoring, military applications and test equipment.

The model 8261 is available with an OEM Developers Kit containing onboard firmware, device drivers, library functions, configuration management interfaces, loopback tests, benchmark programs, statistics and documentation.

METRO-SWITCH
MODEL 8261

COMPACT PCI SERIES – HIGH PERFORMANCE
12-PORT GIGABIT ETHERNET SWITCH BLADE

PRODUCT DATASHEET

SPECIFICATIONS

· PICMG 2.16 R1.0 packet switching backplane compliant
· Occupies fabric board slot, up to two per chassis
· PICMG 2.9 R1.0 IPMI support
· PICMG 2.0 R3.0 CompactPCI compliant - 6U form factor
· PICMG 2.1 R2.0 hot-swap (hardware connection layer)
· IEEE specifications: 802.3, 802,1D, 802.1Q, 802.1s, 802.3x, 802.3z
· 12 ports 1000 Base T routed to backplane
· Two 850nm multimode fiber LC connectors (1000 Base SX) via front panel interface
· Optional support for two 1310nm singlemode fiber LC connectors (1000 Base LX)
· 10-Gigabit Ethernet fiber uplink (extended model)

PERFORMANCE AND SWITCHING CAPABILITIES

· Line speed multi-layer switching on all 12-ports
· Performance category: 32 million packets-per-second/24Gb line rate switching
· 16384-entry ARL MAC address table (L2 table), automatic learning
· Integrated 4096-entry IPv4 host table (L3 table)
· Port trunking and mirroring support (32 trunk groups with link aggregation)
· Integrated 1MB packet memory
· Rapid spanning tree protocol support
· VLAN 802.1D, 802.1Q support (4096 VLANS, 8 Classes of service per port)
· IP multicasting
· Packet classification and L2-L7 filtering
· Traffic metering and shaping
· Advanced flow-control and head-of-line blocking prevention, packet aging, storm control
· Advanced fast filter processor and rules-based matching
· Supports jumbo frames to 9K

MANAGEMENT FEATURES

· Can be operated in managed or unmanaged mode
· Standalone switch operation with serial port CLI console management interface
· External management mode via PCI bus interface
· Onboard management provided by microprocessor and firmware
· Management functions for all onboard devices
· Serial port console CLI command line interface
· Configuration, status, statistics, diagnostics and healthy status

HARDWARE SPECIFICATIONS

· Broadcom BCM5690/5695 12-port non-blocking multi-layer switch fabric network processor
· Broadcom BCM5464SR 4-port gigabit transceivers with Serdes
· Motorola DSP56F826 management processor, 80 MHZ
· PICMG 2.1 R2.0 hot-swap support for hardware connection layer
· IPMI management interface
· 32-bit, 66 MHZ PCI bus interface
· Serial I2C EEPROM for configuration parameters, up to 128K X 8
· 2X 850nm multimode fiber LC connectors for 1000 base SX
· 2X 1310nm singlemode fiber LC connectors for 1000 base LX (optional)
· 4 multi-function LEDS per port, 3 CPU controlled multi-function LEDS
· 12-port rear I/O module with ganged CAT5 RJ-45 connectors
· RJ-11 serial port console connector via front panel

Model 8261

PARTNERS

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Microsoft® Windows® Embedded Partner

MONTAVISTA PARTNER

PCI INDUSTRIAL PICMG COMPUTERS

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