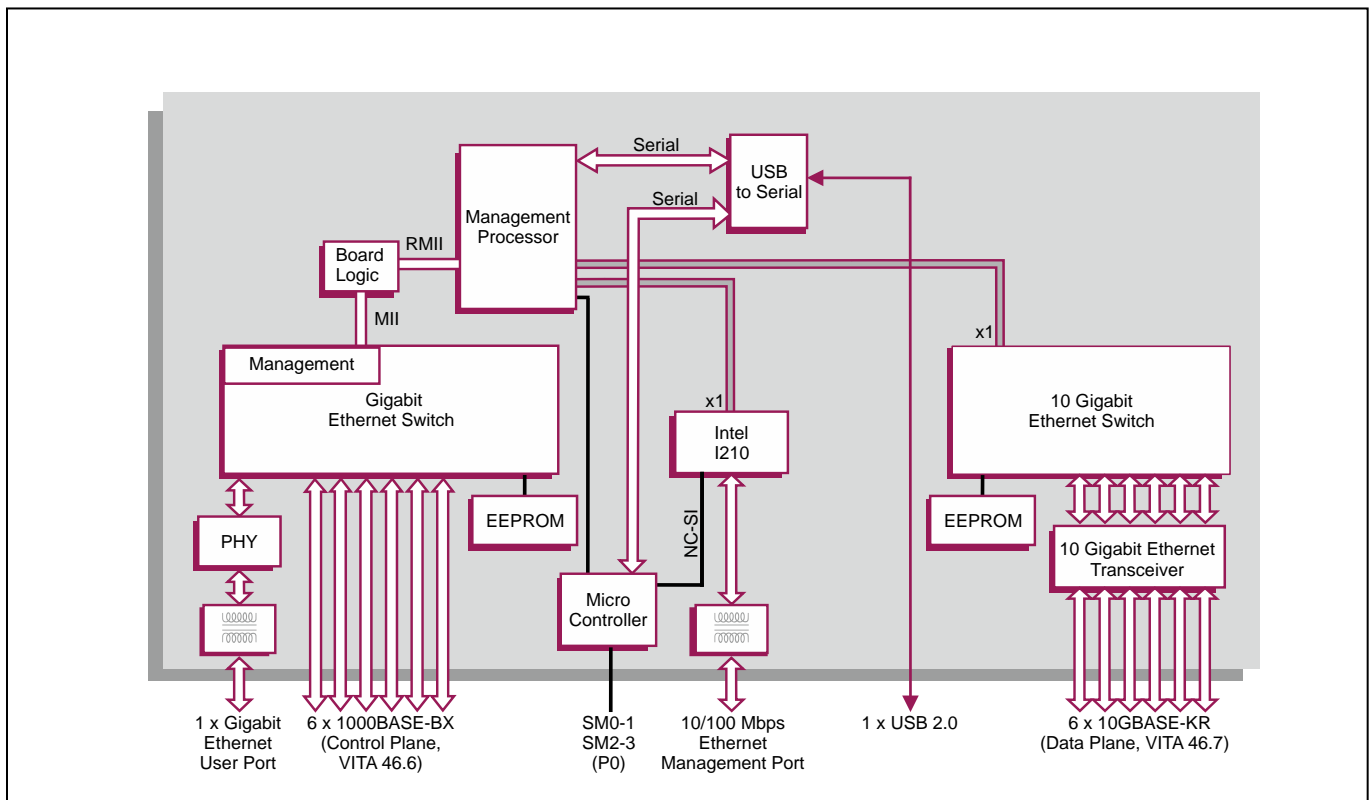## Rugged conduction-cooled 10 Gigabit Ethernet Switch for 3U VPX-REDI™ Systems

Key Features

FR 351/306-RCx is a 10 Gigabit Ethernet switch designed to provide high bandwidth communications between VPX-REDI™ modules for server, storage and processing applications. It is designed to support up to six payload slots and includes on-board processing to enable easy configuration and management.

- 80 Gbps non-blocking switch configured with a 10 Gigabit Ethernet data plane connection to each payload slot

- Gigabit Ethernet control plane connection to each payload slot

- Switch management via Gigabit Ethernet ports

- Data plane and control plane separation

VPX-REDI Fabric Switch Board

- conduction-cooled L2 managed 3U VPX-REDI™ fabric switch board:
  - supports 6 payload slots
  - 10 Gigabit link to each payload slot, Data Plane (VITA 46.7). Supporting 10GBASE-KR
  - 1000BASE-BX Control Plane (VITA 46.6)
  - user configurable setup via a USB port or Ethernet port
- OpenVPX™ (VITA 65) backplane profiles supported:
  - BKP3-CEN07-15.2.3-3
- OpenVPX module profiles designed to meet:
  - MOD3-SWH-6F6U-16.4.1-4
  - MOD3-SWH-6F6U-16.4.1-5
- OpenVPX slot profile supported:
  - SLT3-SWH-6F6U-14.4.1

VPX Data Plane Switch, 10G Ethernet

- high performance 80 Gbps non-blocking 10 Gigabit Ethernet switch:
  - implemented by 8-port single-chip device
- 6 x ports utilized for Data Plane (VITA 46.7)
- non-volatile storage for switch configuration data
- support for IEEE 1588-2008 Precision Time Protocol (PTP) Version 2

VPX Control Plane Switch, 1G Ethernet

- high performance full line rate IEEE 802.1 Gigabit Ethernet switch:
  - implemented by 8-port single-chip device
- 6 x ports utilized for Control Plane (VITA 46.6)
- 1 x user Ethernet port via P2 (with on-board magnetics)
- EEPROM storage for switch configuration data
- support for IEEE 1588-2008 Precision Time Protocol (PTP) Version 2

Board Configuration

- board configuration using Ethernet or USB ports with an on-board management processor
- SSH command line interface via Ethernet port:
  - 1 x 10/100 Mbps port via P2 connector (with on-board magnetics)
- serial console, command line interface via USB port:
  - on-board USB to serial device provides serial port to configure the two switches and other board setup options
  - 1 x USB 2.0 port is available via the P1 connector

LED Status Indicators

- LED status indicators on front edge of board:
  - Link/Activity LEDs for all VPX backplane 10 Gigabit Ethernet ports
  - Link/Activity LEDs for all VPX backplane 1000BASE-BX Ethernet ports

System Management Interface

- System Management interface:
  - implements SM0-3 hardware
- on-board System Management Controller
- supports VITA 46.11 management:
  - Tier 2 IPMC
  - Tier 1 Chassis Manager

Safety

- PCB (PWB) manufactured with flammability rating of UL94V-0

Electrical Specification

- typical current figures:
  - +5V @ 5.3A, voltage +5% / -2.5%
  - +3.3V @ 2.8A, voltage +5% / -2%

Environmental Specification

- conduction-cooled (VITA 48.2)
- operating temperature at card edge :
  - VITA 47 Class CC4, -40°C to +85°C
- non-operating temperature:
  - VITA 47 Class C4, -55°C to +105°C
- operating altitude:
  - -1,000 to 50,000 feet (-305 to 15,240 meters)
- 5% to 95% Relative Humidity, non condensing
- option for VPX non-rugged air-cooled version:
  - see FR 351/m06 datasheet

Mechanical Specification

- 3U VPX form-factor (VITA 46.0, VITA 48.0): 3.9 inches x 6.3 inches (100mm x 160mm)
- slot widths (VITA 48.0):
  - 0.8 inches VPX-REDI Type 2, RCT-Series
  - 0.85 inches VPX-REDI Type 1, RCS-Series, Type 1 Two Level Maintenance (VITA 48.2)
- connectors to VITA 46.0 for P0, P1 and P2
- operating mechanical:
  - shock - VITA 47 Class OS2, 40g
  - random vibration - VITA 47 Class V3, 0.1g²/Hz

Concurrent Technologies Support

- FR 351/306-RCx operates with a range of Concurrent Technologies VPX-REDI processor boards
- contact your local sales office for further details

Please contact your local Concurrent Technologies sales office for further details on board build options and accessories.

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