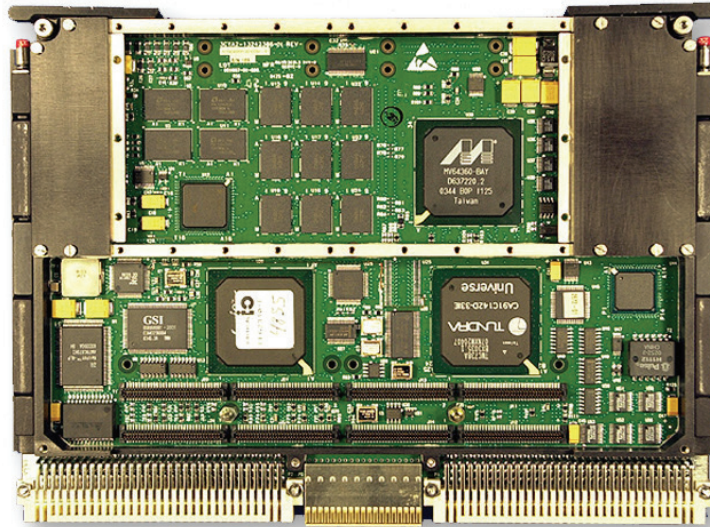**GENERAL DYNAMICS**
Mission Systems

OPEN SYSTEMS PROCESSOR 3R (OSP3R)

Power Architecture® compliant ISA

Altivec™ vector processing engine supports computeintensive applications

A full complement of memory types are fully configurable to match application needs

Compliant with Open Systems Standards

Ethernet, serial and discrete signal interfaces support a wide range of connectivity options

PMC sites are compatible with a wide range of off-the-shelf I/O boards

Compatible with conduction or convection air-cooled chassis

Product Summary

The third generation Open Systems Processor 3R (OSP3R), a General Dynamics Mission Systems-developed commercial product, provides a high-performance, highly reliable, single-board computer that is applicable to a wide variety of embedded applications where various cost and performance objectives must be met.

The OSP family has been specifically designed to address the high-performance, real-time requirements of the most severe environments including land, sea or airborne applications. The design supports the Power Architecture® 7457 with up to 512 MB SDRAM (with error detection/correction). The OSP3R provides a large complement of onboard, multi-level cache memories, coupled with a 64-bit CPU bus running up to 125 MHz. To support the application's non-volatile storage needs, the design also includes a large variety of both Flash and NVSRAM-based memory. The OSP3R design incorporates the use of an optional highspeed, independent, secondary backplane Fibre Channel interface that supplements the fully compliant IEEE 1101.1 VME64 primary backplane, freeing the two IEEE 1386.1- compatible PMC mezzanine locations for further performance and I/O expansion. The OSP is packaged in a ruggedized 6U form factor board that is adaptable for use in either conduction- or aircooled environments. A fully developed in-house software capability allows General Dynamics Mission Systems to provide rapid system solutions to the end customer using the industry standard Wind River VxWorks®, Green Hills® INTEGRITYTM or Lynx Software Technologies LynxOS® operating system.

Technical Specifications

- CPU: PowerPC 7457 (1 GHz)

- SPECINT95 Performance: 43.7

- SPECFP95 Performance: 42.0

- Memory Bus Speed: 125 MHz

- Data Memory (SDRAM): 512 MB DDR

- Cache Size: 512K L2 (in CPU) 2 MB L3;
  2 MB Private Memory

- Program Memory (FLASH): 64 MB

- Non-volatile RAM: 256 KB

- Timers: 1 x 64-bit free running
  5 x 32-bit timer
  1 x watchdog timer
  1 x RTC (time of day)

- Mezzanine Expansion: 2 IEEE - 1386.1 PMC Slots**
  (Conduction cooled)

- PCI Peripheral Bus Configurations Supported:
  1 33 MHz 32/64-bit
  1 33/66 MHz 32/64-bit

- XMC (VITA 42.0) Configurations Supported: None

- Misc I/O and Other: 2 RS-232
  2 RS-422/485
  TTL Discretes (8 In/8 Out)
  4 Discretes Interrupts
  RTC with temp sensor

- Ethernet Interface: 1 10/100 BASE-T
  1 10/100/1000 BASE-T

- Primary Backplane I/F: IEEE 1101.2, VME64
  0.8-inch module pitch

- Secondary Backplane I/F: 1 GHz Fibre Channel
  (P0 Connector) Optional

- Module Power (Typical): 28 Watts @ 85°C card edge

- Operating Temperature: -40° to +85°C at card edge

- Non-Operating Temperature: -55° to +95°C

- Sine Vibration: 10g

- Random Vibration: 7.7Grms

- Basic Shock: 30g, 11 ms

- Humidity: 100% RH condensing

- Altitude: 15,240 m (50,000 ft)

- Mass: 680g (1.5 lb)

*May not be physically compatible with all I/O Mezzanines. For more information, call or e-mail.

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