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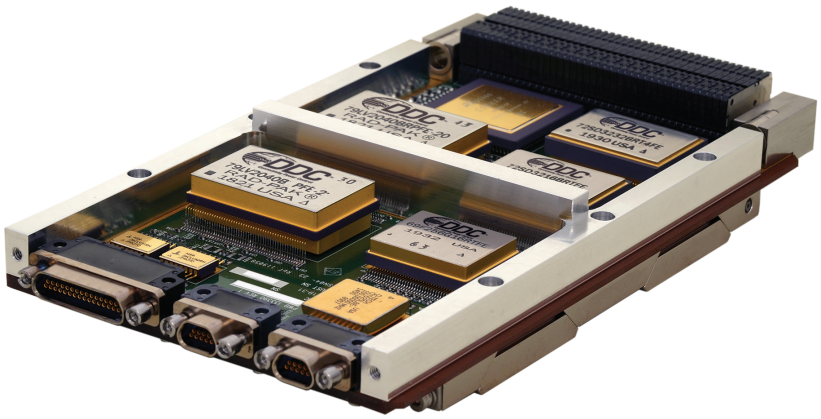
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Find the *DDC SCS3740* at our website: *Click HERE*

High-Speed, SWaP Optimized 3U SpaceVPX SBC

Product Brief

Model: SCS3740



DDC's space-proven Single Board Computer (SBC) product line now includes a compact, high performance (1700 DMIPS, 90 Linpack MFLOPS) SWaP optimized 3U SpaceVPX, offering many memory and I/O options, including: SpaceWire, UART, CANbus, I²C, SPI, GPIO, 1553, and Ethernet. Since the inception of our Space Microelectronics group, more than 20 years ago, our rad-hard SpCOTS™ and SBC products have experienced zero failures in space!

Key Features

Performance

- GR740 Rad-Hard quad-core LEON 4FT® processor
- High speed processing - 1,700 DMIPS, 90 Linpack MFLOPS

Memory

- 128 MB of EDAC corrected SDRAM
- 32 GB of BCH corrected NAND flash
- 4 MB of EDAC corrected EEPROM memory

I/O Interfaces

- Integrated SpaceWire router: (8) General purpose SpaceWire ports (up to 200 Mbps each) and (1) SpW debug port
- (2) UART (RS-422 or LVDS)
- (2) CANbus
- (2) I²C, (1) Ethernet, (1) SPI, GPIO and (1) 1553 (requires external PHY)

Operating & Environmental Specifications

- 3U SpaceVPX
- 550 Grams
- Outstanding SBC radiation hardness
  - TID greater than 100krad (Si)
  - Single Event Effects: 1 Upset in 150 Years (GEO)
- Low power consumption
  - Input power: 3.3V only
  - Power Consumption: 5W typical

Benefits

- Size, weight & power (SWaP) optimized: highly integrated SoC (system on a chip) LEON quad-core processor reduces overall parts count, enabling low power consumption and high performance, up to 1700 DMIPS, in a compact 3U SpaceVPX
- Many I/O options: provides flexibility to match a wide range of mission requirements
- Proven reliability: built on DDC's established pedigree of TRL-9 single board computers, and utilizes DDC's flight proven rad-hard Sp-COTS™ memory products
- Integrated SpaceWire router supports SpaceVPX Control Plane
- I²C supports SpaceVPX Utility Plane
- High performance computing for demanding space applications
- Ease of use
  - Development Kit available
  - Board support package (BSP available)
  - Real-time operating system support: Windriver VxWorks® and RTEMS™

Applications

- Launchers
- Satellites
- Payload processing
- Command & control

For more information: www.ddc-web.com/SCS3740

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Overview

The SCS3740 is the first off-the-shelf Quad Core LEON 4FT 3U SpaceVPX SBC and is SWaP (size, weight and power) optimized in a compact form factor – weighing 550 grams, with a low power consumption of only 5 Watts. With excellent radiation performance for total ionizing dose (TID > 100krad(Si)) and Single Event Effects (1 upset in 150 years (GEO)), the SCS3740 provides high performance processing (up to 1700 DMIPS and at least 90 Linpack MFLOPS) in a compact 3U SpaceVPX form factor. It incorporates several of DDC's Rad-Hard Sp-COTS™ (Space Commercial Off-the-Shelf) memories including 32GB of error corrected NAND Flash, 128MB SDRAM and 4MB EEPROM. In addition it offers many I/O options including (8) SpaceWire ports (200Mb/sec), (2) UART, (2) CANbus, (2) I^2C, (1) SPI, GPIO, (1)1553 and Ethernet.

The SCS3740 allows DDC to offer significant processing and I/O capabilities without requiring significant power or space from the host platform, hitting a sweet spot for rad-hard system integrators that need to minimize SWaP.

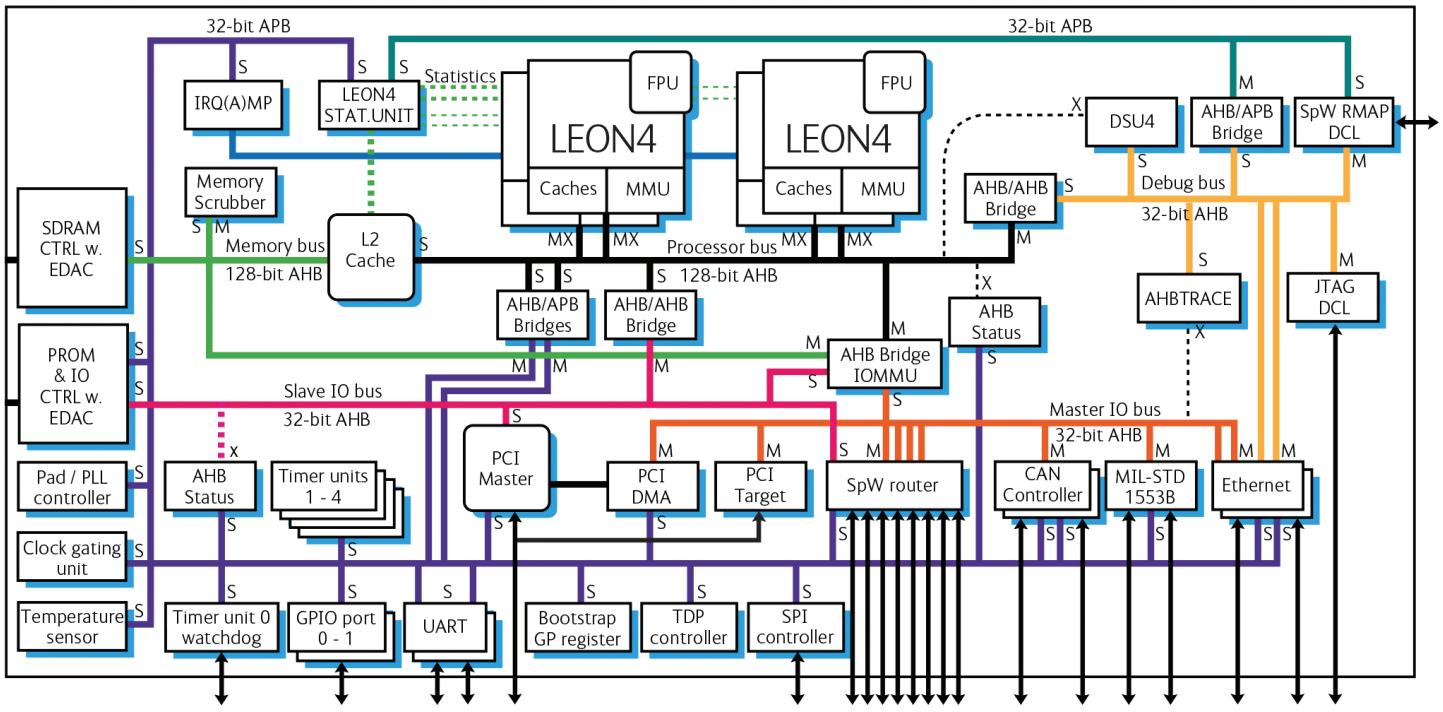
Ordering Information

SCS3740XXY

- **Screening Flow:**
  - **S** = Flight Grade – Components screened to Class S/K or Equivalent
  - **B** = Flight Grade - Components screened to 883 Class B/H or Equivalent
  - **E** = Engineering Model
    - EM level components
    - Room temp tested
- **UART PHY Option:**
  - **RS** = RS-422 UART
  - **LV** = LVDS UART
- **Base Part Number**
  - 3U SpaceVPX single board computer

Custom Design Capability - DDC can customize designs for all products, ranging from simple modifications of standard products to fully customized solutions for commercial, military, aerospace, and industrial applications.

GR740 Rad-Hard Quad-Core LEON 4FT® Processor Block Diagram





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