

DP-OBC-0453

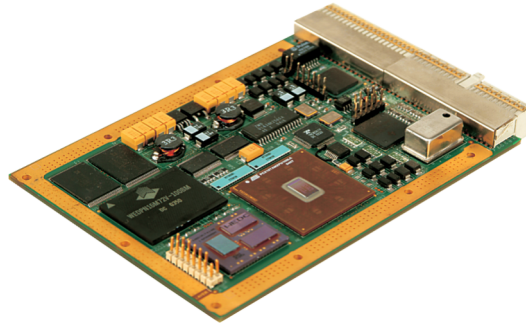
Rugged cPCI PowerPC Processor Module

KEY FEATURES AND BENEFITS

- Latest PowerPC processor (7410 with AltiVec) @ 400MHz
- In-built 2MB L2 cache
- 32 bit, 33MHz PCI bus
- 64MB flash
- 8MB boot flash
- Upto 128MB SDRAM with ECC
- Memory bandwidth upto 800 Mbytes/sec (peak)
- 10/100 Mbps fast Ethernet port
- RS422/RS232 Serial communication channels
- 3U cPCI module compatibility
- Low power consumption and dissipation
- Conduction cooled thermal management
- Wedge lock arrangements to meet shocks and vibrations
- Compact and rugged design for On-board applications
- Operating platform: VxWorks/RT Linux
- Ideal for Harsh environment requirements

APPLICATIONS

- Mission critical systems
- Harsh environment requirements
- High processing capability requirements



DESCRIPTION

DP-OBC-0453 is a rugged 3U cPCI based On-board processor module with the computation power of the Motorola PowerPC 7410.

PROCESSOR CAPABILITY

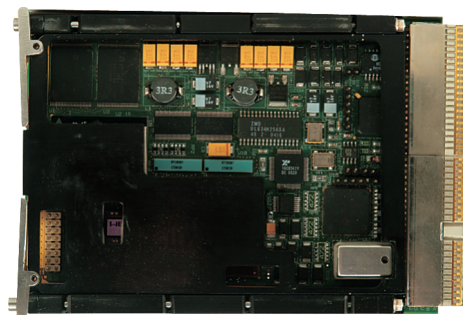
The PowerPC 7410 processor operates at the core frequency of 400MHz with AltiVec support and has an in-built 2MB L2 cache operating at 200MHz. The module has onboard 128MB SDRAM with ECC provision, 64MB of Flash, separate 8MB boot flash and 32KB of NVSRAM.

RUGGED ENVIRONMENT

DP-OBC-0453 addresses rugged military and on board applications with conduction cooling that extends the operating temperature range to meet severe environments. Usage of stiffeners and wedge lock arrangements increases its immunity to shocks and vibrations. Conformal coating further enhances its capability to handle high humidity conditions. The module features a rich set of various industrial standard communication ports and supports general purpose I/O modules.

SOFTWARE SUPPORT

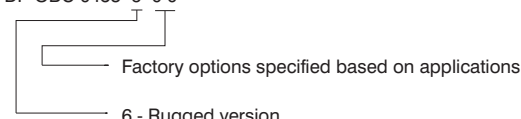
Software support includes BIST (Built-In-Self Test) and board support packages for VxWorks or RT Linux environments.



DP-OBC-0453 with Ruggediser

SPECIFICATIONS

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<p>PROCESSOR PowerPC 7410 with AltiVec - 400MHz</p> <ul style="list-style-type: none"> • AltiVec technology • Inbuilt L2 Cache • 60x Bus interface 	<p>RS422 INTERFACE RS422 driver</p> <table border="0"> <tr><td>No of channels</td><td>1</td></tr> <tr><td>Differential output</td><td>2 to 5V</td></tr> <tr><td>Common mode output</td><td>2.5V</td></tr> <tr><td>Driver current</td><td>25mA</td></tr> <tr><td>Baud rate</td><td>Upto 302.8 Kbps</td></tr> </table> <p>Opto isolated differential receiver</p> <table border="0"> <tr><td>No of channels</td><td>1</td></tr> <tr><td>Differential input</td><td>2 to 3V</td></tr> <tr><td>Input current</td><td>10mA (min)</td></tr> <tr><td>Isolation voltage</td><td>100Vdc</td></tr> </table>	No of channels	1	Differential output	2 to 5V	Common mode output	2.5V	Driver current	25mA	Baud rate	Upto 302.8 Kbps	No of channels	1	Differential input	2 to 3V	Input current	10mA (min)	Isolation voltage	100Vdc
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<p>MEMORY</p> <p>SDRAM 128MB on 64-bit wide data with ECC</p> <p>FLASH ROM Boot Flash 8MB User Flash 64MB on 64-bit wide data bus</p> <p>NVRAM 32KB SRAM device with shadow 32KB EEPROM shall provided for automatic recall on power-up and software controlled store and recall cycles</p> <p>Level 2 Cache 2MB at 200MHz</p>	<p>RS232 INTERFACE RS232 driver</p> <table border="0"> <tr><td>No of channels</td><td>1</td></tr> <tr><td>Output voltage range</td><td>±5.4V</td></tr> <tr><td>Drive current</td><td>10mA</td></tr> <tr><td>Baud rate</td><td>Upto 115200 bps</td></tr> </table> <p>RS232 receiver</p> <table border="0"> <tr><td>No of channels</td><td>1</td></tr> <tr><td>Input voltage range</td><td>±12V</td></tr> </table>	No of channels	1	Output voltage range	±5.4V	Drive current	10mA	Baud rate	Upto 115200 bps	No of channels	1	Input voltage range	±12V						
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<p>MEMORY CONTROLLER 64 bit 100MHz Memory bus with EDC</p> <ul style="list-style-type: none"> • Processor bus frequency up to 100 MHz • 32-bit PCI interface • Supports either asynchronous SRAM, burst SRAM or pip or pipelined Burst SRAM • Nap, doze and sleep modes for power saving • Two-channel integrated DMA Controller • Message Unit <ul style="list-style-type: none"> - Intelligent input/output (Two-wire interface) message controller - Two door bell registers - Inbound and outbound messaging registers • Inter-integrated circuit (Two-wire Interface) Controller, full master/slave support • Embedded Programmable Interrupt Controller (EPIC) <ul style="list-style-type: none"> - Five hardware interrupts (IRQs) or 16 Serial interrupts - Four programmable timer 	<p>JTAG INTERFACE For Power PC Processor</p> <ul style="list-style-type: none"> • 14 PIN COP Connector 																		
<p>NETWORK 10/100Mbps Ethernet</p> <table border="0"> <tr><td>No. of ports</td><td>1 (10/100 BaseT)</td></tr> <tr><td>Data transfer rate</td><td>10/100 Mbps</td></tr> <tr><td>I/O voltage range</td><td>+3.3 to +12V</td></tr> </table>	No. of ports	1 (10/100 BaseT)	Data transfer rate	10/100 Mbps	I/O voltage range	+3.3 to +12V	<p>WATCH DOG TIMER Programmable WDT upto 6.5 sec in steps of 100µsec</p> <p>MECHANICAL 100 mm x 140 mm x 12.25 mm (with ruggedizer)</p> <p>SOFTWARE Debug Monitor, Flash Loader, BSP's for VxWorks/RT Linux, Device driver of all the devices in VxWorks or RT Linux, Diagnostic software</p> <p>TYPE Standard 33MHz 32 bit 3U cPCI board</p> <p>ENVIRONMENT Rugged version only</p> <p>ORDERING INFORMATION DP OBC 0453 6 0 0</p> 												
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BLOCK DIAGRAM OF DP-OBC-0453

