PCIe Gen3 Module for PCIe Bus Expansion– PCI123

KEY FEATURES

- PCIe Gen3 (x16) Bus Expansion module
- Connects to root complex node board using up/down stream ports
- Options for (1x) of x16 PCIe, (2x) of x8 PCIe or (4x) of x4 PCIe utilizing SFF-8644 connectors
- Allows the use of standard copper or fiber cabling (mix of fiber/copper across the four ports is allowed)
- RoHS compliant

Benefits of Choosing VadaTech

- PCIe Gen 3 Bus Expansion via 4x SFF-8644
- Standard copper or fiber cabling can be utilized
- Supports aggregate raw data rate of up to 128 Gbps
- Electrical, mechanical, software, and system-level expertise in house
- Full ecosystem of front and rear boards, enclosures, specialty modules, and test/dev products from one source
- AS9100 and ISO9001 certified company

The PCI123 is VadaTech’s 3rd generation PCIe expansion module based on the PCI-SIG specification. The board is a high-speed bridge from the host PCIe bus to VadaTech’s UTC006 PCIe Gen 3 x16 MCH.

The PCI123 allows expansion into up to four separate μTCA or ATCA systems independently. The PCIe expansion board supports an aggregate raw data rate of 128 Gbps, which can be partitioned as a single x16 link, dual x8 (64 Gbps each) or quad x4 (32 Gbps each) as required.

Standard copper or fiber cabling can be used with the PCI123. The board can support up to 500m connection over fiber.

VadaTech can modify this product to meet special customer requirements. Contact us to discuss your application.
INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of ATCA and μTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTM), Power Modules, and more. The company also offers integration services as well as pre-configured Application-Ready Platforms. Please contact VadaTech Sales for more information.

BLOCK DIAGRAM

![PCIe Gen3 Module for PCIe Bus Expansion – PCI123](image)

**Figure 1: PCI123 Functional Block Diagram**
BUS EXPANSION EXAMPLE

Remote PC links up to 500m using fiber

ATCA or MTCA System

Figure 2: Example Showing Alternative Bus Expansion Configurations

FRONT PANEL

Figure 3: PCI123 Front Panel
# SPECIFICATIONS

<table>
<thead>
<tr>
<th>Architecture</th>
<th>Dimensions</th>
<th>Single module</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>4.2” (107 mm)</td>
<td></td>
</tr>
<tr>
<td>Depth</td>
<td>7.8” (181.5 mm)</td>
<td></td>
</tr>
</tbody>
</table>

| Type          | PCI Expansion Module | PCI module for I/O bus expansion |

| Standards     | PCIe Lanes | x16 |

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Power</th>
<th>PCI123</th>
<th>~20W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental</td>
<td>Temperature</td>
<td>Operating Temperature: -5° to 55°C (air flow &gt; 400 LFM) industrial and military versions also available (See environmental spec sheet)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vibration</td>
<td>Operating 9.8 m/s² (1.0 G), 5 to 500 Hz</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shock</td>
<td>30Gs on each axis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relative Humidity</td>
<td>5 to 95 per cent, non-condensing</td>
<td></td>
</tr>
</tbody>
</table>

| Front Panel    | Interface Connectors | Quad SFF-8644 Connectors |
|                |                      | RS-232 via MicroUSB |

<table>
<thead>
<tr>
<th>Software Support</th>
<th>Operating System</th>
<th>N/A</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Conformal Coating</th>
<th>Operating System</th>
<th>Humiseal 1A33 Polyurethane (Optional)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Other</th>
<th>MIL Hand book 217-F @ TBD Hrs</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Certifications</th>
<th>Designed to meet FCC, CE and UL certifications where applicable</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Standards</th>
<th>VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Warranty</th>
<th>Two (2) years</th>
</tr>
</thead>
</table>

| Trademarks and Disclaimer | The VadaTech logo is a registered trademark of VadaTech, Inc. Other registered trademarks are the property of their respective owners. AdvancedTCA™ and the AdvancedMC™ logo are trademarks of the PCI Industrial Computers Manufacturers Group. All rights reserved. Specification subject to change without notice |

---

PCI Gen3 Module for PCIe Bus Expansion – PCI123

info@vadatech.com

www.vadatech.com

Doc No. 4FM737-12 Rev01

Version 3.0 – FEB/15

Doc No. 4FM737-12 Rev01

www.vadatech.com

info@vadatech.com
PCle Gen3 Module for PCIe Bus Expansion – PCI123

ORDERING OPTIONS

PCI123 – 000 – 000 – 0HJ

H = Temperature Range
0 = Commercial (–5° to +55° C)
1 = Industrial (–20° to +70° C)
2 = Military (–40° to +85° C)

J = Conformal Coating
0 = None
1 = Humiseal 1A33 Polyurethane
2 = Humiseal 1B31 Acrylic

RELATED PRODUCTS

PCI107 PCI Carrier For AMC Modules
PCI900 PCI Video Driver
UTC006 MCH PCIe Expansion

CONTACT US

VadaTech Corporate Office
198 N. Gibson Rd.
Henderson, NV 89014
Email: info@vadatech.com
Telephone: +1 702 896-3337
Fax: +1 702 896-0332

Asia Pacific Sales Office
7 Floor, No. 2, Wenhu Street, Neihu District,
Taipei 114, Taiwan
Email: info@vadatech.com
Telephone: +886-2-2627-7655
Fax: +886-2-2627-7792

VadaTech European Sales Office
Ocean Village Innovation Centre, Ocean Way,
Ocean Village, Southampton, SO14 3JZ
Email: info@vadatech.com
Telephone: +44 2380 381982
Fax: +44 2380 381983