VITA 62 Compliant 3U Power Supply for Conduction Cooled Systems

Overview

Dawn's VITA 62 Compliant PSC-6234 is designed to operate over a wide range of temperatures at high power levels. Models are available for air cooled, conduction to bulkhead cooled, and conduction to wedge lock cooled applications and configurations.

Dawn's embedded RuSH™ (Rugged System Health Monitor) technology provides the “smarts” which enables monitoring of critical system performance parameters including Voltage, Current, and Temperature and control of power sequencing and shutdown of all voltage rails.

Custom firmware enables additional features such as monitoring humidity, shock / vibration events or customer specified monitoring windows, power sequencing, alerts, alarms, status and control, etc.

The RuSH™ monitor is interfaced into the OpenVPX (I²C) management plane, providing an I²C communication link with system cards. FAL# and DEG# status output for direct system alert. Optional LED / Status / Power Good output. Custom power capacity and voltage input range configurations available. Contact factory for additional information.

Features

♦ True 6 Channel supply provides full Open VPX support
♦ Available in Air cooled, Bulkhead conduction cooled, and Wedge lock conduction cooled models
♦ Up to 400 Watts power output with 1 inch pitch form factor
♦ Onboard embedded RuSH™ technology actively monitors voltage, current, temperature and provides protective control
♦ Factory programmable power sequencing of all voltage rails
♦ Shutdown control for each power rail
♦ Over Voltage, Over Current, and Over Temp protection
♦ Current share compatible with additional PSC-6234 units
♦ I²C interface for Status & Control
♦ Standard INH# and EN# power control signals
♦ VBAT for support of VPX memory backup power bus
♦ Front I/O panel includes LED status indicator, USB port for firmware upgrade and VBAT battery access
♦ VITA48.2 Compliant Inject / Eject levers for easy installation

Specifications

Mechanical
Extended Shock and Vibration Per MIL-STD-810F
Card Guide style and Mounting: Wedge Locks
Connector: VITA 62 Compliant power connector
Dimensions: Standard 1” Conduction cooled form factor
Weight: 1.65 Lbs / 0.7478 Kg.
Inject & Eject: VITA 48.2 compliant inject and eject features
Covers: ESD covers on both sides of the board, accommodate military two-level maintenance

Electrical
PCB Design: 10-Layer, 2 oz. copper, high performance
Input Voltage: 18-36VDC, 36-75VDC
Voltage Rails: +12V (VS1), +3.3V (VS2), +5V (VS3), Aux+12V, Aux-12V, Aux+3.3V, VBAT (+3.0V typical)
Output Current for Each Voltage Rail:

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Max Output Current (Amps) for each channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>12V (VS1)</td>
<td>16.7</td>
</tr>
<tr>
<td>5.3V (VS2)</td>
<td>30</td>
</tr>
<tr>
<td>5V (VS3)</td>
<td>40</td>
</tr>
<tr>
<td>AUX_3.3</td>
<td>4</td>
</tr>
<tr>
<td>AUX_-12</td>
<td>3</td>
</tr>
<tr>
<td>AUX_-12</td>
<td>3</td>
</tr>
</tbody>
</table>

| Wattage Max +5V rail: 200W@28 or 48 V input |
| Wattage Max +12V rail: 200W@28 or 48 V input |
| Total Maximum Power: 400W@28 or 48 V input |

Ripple: <45mVp-p on +3.3V and +5V, <2mVp-p on +12V and -12V
Isolation Voltage: Input to Output (1500V)

Environmental
Storage Temperature: -40°C to +100°C
Operating Temperature: -40°C to +85°C (at the Wedge lock edge)

Power supply output dependant on chassis cooling capability

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Another Performance Design from the Team at Dawn

Ordering Information
P/N 06-1016234-WXYZ

W = Power Input
X = Cooling/Coating Option
Y = Firmware Options
Z = Special Options

1 = 12VDC Nominal
A = Air Cooled, No Conformal Coat
1 = Standard Firmware
0 = None

2 = 28VDC Nominal
B = Conduction to Bulkhead, No Conf. Coat
2 = Custom, Includes Humidity

3 = 48VDC Nominal
W = Conduction to Wedge Lock, No C. Coat

4 = 120VAC, 47-400Hz
1 = Air Cooled, Conformal Coated

5 = 240VAC, 47-400Hz
2 = Conduction to Bulkhead, Conformal Coated

6 = 90-264VAC, 47-400Hz
3 = Conduction to Wedge Lock, Conformal Coated

Note: AC and 12VDC Nominal input option not available with this P/N

Factory select options below provide extended capability beyond the VITA 62 specification. Available on request.

Duration of input 12VDC too low for AC input. AC and 12VDC Nominal input option not available with this P/N

Other Products from Dawn:
Card cages and enclosures for commercial, aerospace and military applications
Enclosure 3D solid model design, manufacturing and production from commercial to full-rugged conduction cooled military
Custom and Standard product PCB design, layout, production
RuSh™ Rugged system health monitor
Backplanes for cPCI 2.1, cPCI 2.16, VME, VME64x, VXI, VXS, VPX, CUSTOM, Build to Print Powered Enclosures for Development, Prototype, Production, Deployment Prototype Boards, Extender Boards, Form Factor Extenders, Front Panels, Filler Panels, Custom Panels, Build to Print Panels, Build to print machining, fabrication and assembly