Dawn VME Products®

VMEbus Backplanes: 3000 Series

VMEbus Backplane Series

2~21-Slot Monolithic J1J2 Microstrip/Stripline PCB Construction

Features

- 64MHz+ performance
- Exceeds ANSI/VITA 1-1994 and IEEE P1014 specification
- Optimized signal line impedance using Dawn-originated balanced and matched transmission line design; minimum crosstalk
- Low end-to-end DC trace resistance for minimal noise level
- Test tracks on each backplane ensure consistent product performance
- Maximum power distribution via 2 oz copper power and ground planes
- Optional power plane capacitors available for stabilized power distribution and filtering during peak power demand cycles
- Automatic BusGrant/IACK standard on 3 through 21 slot models
- Shrouds provided on all J2 connectors for simple I/O and overlay module applications
- Remote console connector provided as standard
- Design allows multiple backplanes in a single chassis while maintaining 0.8" slot spacing = no loss of slots!

Overview

Dawn VME Products' monolithic VMEbus backplanes are fully compliant with the VITA VMEbus specification. All slots are connected with power/ground provided exactly as per the VMEbus specification.

Due to Dawn's exceptional design technology, especially balanced and matched impedance microstrip/stripline design conventions, for which Dawn introduced to the VMEbus industry, all backplanes in the **3000 SERIES** meet or exceed 64MHz performance.

Technical Specifications

Compatibility: VITA VMEbus specification ANSI/VITA 1-1994 and IEEE P1014

Connectivity: All slots connected and power/ground provided per VMEbus specification.

Design Type: Balanced and matched impedance multilayer combination microstrip-stripline. High-power feed.

Performance Level: Exceeds 64MHz with standard capacitors installed. +5VDC interplane capacitance is 2.0~2.3pF. Optional capacitors are available to increase capacitance up to 1000uF or higher.

Impedance: 50-65 ohm effective with connectors installed.

Termination: Onboard, 330-ohm to +5V; 470-ohm to GND (194-ohm ± 5% Thevenin equivalent) at each end of backplane.

Operating Temp: 0°C ~ +70°C

Size: 10.317" H (6U) x Length x 0.125" T | Formula: Length = ((# slots-1) x 0.8") + 0.722"

Weight: 1.17 lb + 0.22 lb/slot >5 slots

MTBF: 21-slot and optional capacitors >260,000 hr, GND benign, +40°C

DIN Connector Specifications
(all connectors meet specifications per DIN41612)

Quality: Class II, 400 cycles

Contact Material: Phosphor bronze

Contact Finish: 50µ" Au contact area over Ni underplate; Tin/Lead on tails

Voltage and Current Rating: 250 V.A.C. max; 4A @ 20°C ambient; 1A @ 100°C ambient.

Mating Force: <0.94N (3.3 oz) per contact

Insulation Resistance: $>10^{12}$ ohm

Power Connector Specifications

Busbar: 7-21 slots

Power Connector Type: AMP compliant pin power bug. Mating termination #6 ring terminal w/6-32 x 1/4 screw. AMP Mate-N-Lok connectors available and are used in addition to power bugs on backplanes with <10 slots.

Maximum Power Rating: 25 Amp per power bug; 15 Amp per pin on MNL.

Maximum Power Draw Rating Per Slot:

+5V:	24A	@	20°C;	6A	@	100°C
+12V:	4A	@	20°C;	1A	@	100°C
-12V:	4A	@	20°C;	1A	@	100°C
+5 STDBY:	4A	@	20°C;	1A	@	100°C

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Ordering Information

06-10030XX-XXXX

33 = 2 slots	43 = 12 slots
34 = 3 slots	44 = 13 slots
35 = 4 slots	45 = 14 slots
36 = 5 slots	46 = 15 slots
37 = 6 slots	47 = 16 slots
38 = 7 slots	48 = 17 slots
39 = 8 slots	49 = 18 slots
40 = 9 slots	50 = 19 slots
41 = 10 slots	51 = 20 slots
42 = 11 slots	52 = 21 slots

1 = Onboard Termination
6 = No Termination

1 = No Optional Caps
2 = Optional Caps Installed

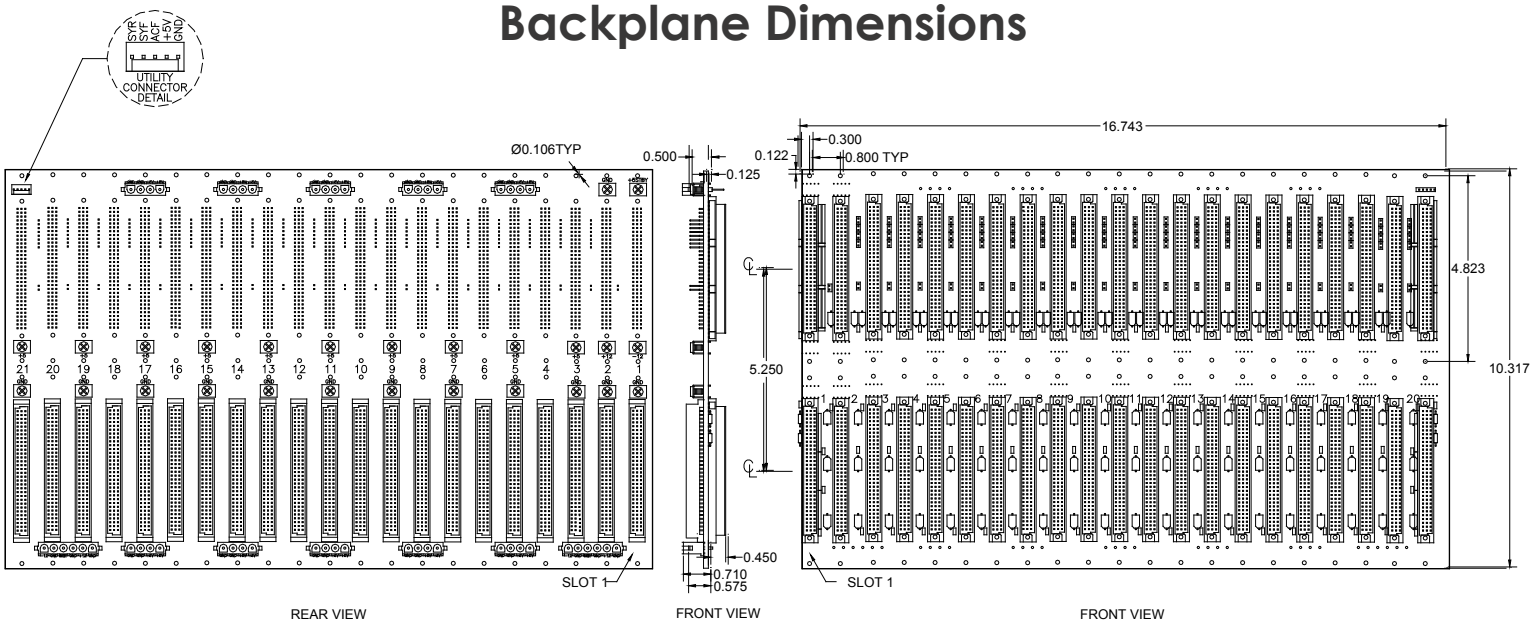
2 = Power Bugs
4 = Mate-N-Lok™
5 = Power Bugs and Mate-N-Lok™

4 = ABG J1; 13mm J2; J2 shrouds
5 = 5mm J1; 13mm J2; J2 shrouds
6 = 5mm J1; 17mm J2; J2 shrouds
7 = ABG J1; 17mm J2; J2 shrouds

Bold = standard configuration

Contact Factory for Other Configurations

Backplane Dimensions



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Dawn Factoid:

Dawn VME...

- ...is one of the founding members of the VITA Organization, and continues to be an active Executive Member
- ...is an active Executive Member of PICMG
- ...invented balanced and matched impedance designs
- ...refined and brought to market the crosstalk elimination design used in backplanes and extender boards by most manufacturers today.
- ...invented Bus Overlay Modules.
- ...invented backplane interconnect modules.
- ...invented parallel removable terminator modules.
- ...has designed and brought to market more than 10,000 VME, VME64x and CompactPCI products!

Backplane Accessories from Dawn:

- Power busbar sets for 7~21-slot backplane models
- VME and VME64x mating connector kit
- VME and VME64x removable terminator modules
- VME and VME64x overlay products
- VME and VME64x J1 and J2 bus interconnect modules (BIM)
- Power supply plug-in boards
- Backplane horizontal and vertical stiffeners
- VME and VME64x Form-Factor Extender Boards (FFE)
- Slot Load Boards
- Slot Bypass Boards
- VME, VME64x and CompactPCI development enclosures
- VME, VME64x and CompactPCI powered production enclosures
- System Health Monitor and Control Board: Pre-installed or kit

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