

6U Open VPX BACKPLANE BKP6-DIS06-11.2.15-4

VITA 46
VITA 65



Key figures:

- Compliant to VITA 46.0 baseline specification
- Compliant to VITA 65 , BKP6-DIS06-11.2.15-4
- 6 Slots VPX, 5 Payload Slots + 1 Switch Slot
- Data plane configuration: Full mesh x4 (4 FPs)
- Control plane configuration: 1x TP (available to RTM)
- M3 studs for main voltage power entry
- PCB size 261.85 mm x 149.25mm x 5.4 mm
- 5 HP from slot to slot (25.40 mm) 1"
- Flexible keying and alignment mechanism
- with geographical address pins
- Reference clock
- Auxiliary clock
- System Reset
- With JTAG connector on first slot (JT1)
- System Management Interface on the backplane (I2CA, I2CB)
- Non-Volatile Memory Read Only signal set by Jumper BR1
- Battery backup option setting by Jumper XBAT for Vbat external or connected to 3.3VAUX.
- Max. Input current per backplane :
VS1:VS2:VS3 = 168A : 168A : 132A
- Operating temperature: -40°C - +85°C
- Storage temperature: -55°C - +85°C
- Flammability rating: UL94-V0
- RoHS compliant
- Custom assembly or modification on request

Front side



Rear side



▪ **Order number: B196511560**

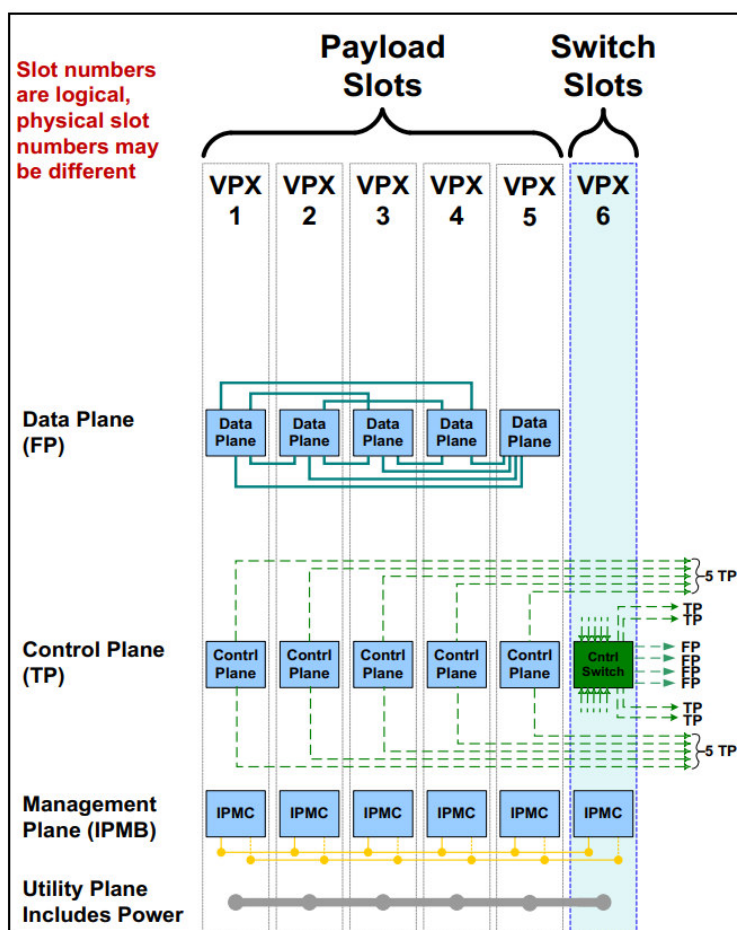
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1) Topology: 5-Slot — BKP6-DIS06-11.2.15-4 (5 Payloads + 1 Switch)

Profile Payload slots: SLT6-PAY-4F2T-10.2.2 / MOD6-PAY-4F2T-12.2.2
Profile Switch slot: SLT6-SWH-4F24T-10.4.4



2) Data Plane Port connections

Slot/ Channel		DP01	DP02	DP03	DP04
1	5-Slot Mesh Cluster 1	VPX02-DP01	VPX03-DP01	VPX04-DP01	VPX05-DP01
2		VPX01-DP01	VPX03-DP02	VPX04-DP02	VPX05-DP02
3		VPX01-DP02	VPX02-DP02	VPX04-DP03	VPX05-DP03
4		VPX01-DP03	VPX02-DP03	VPX03-DP03	VPX05-DP04
5		VPX01-DP04	VPX02-DP04	VPX03-DP04	VPX04-DP04

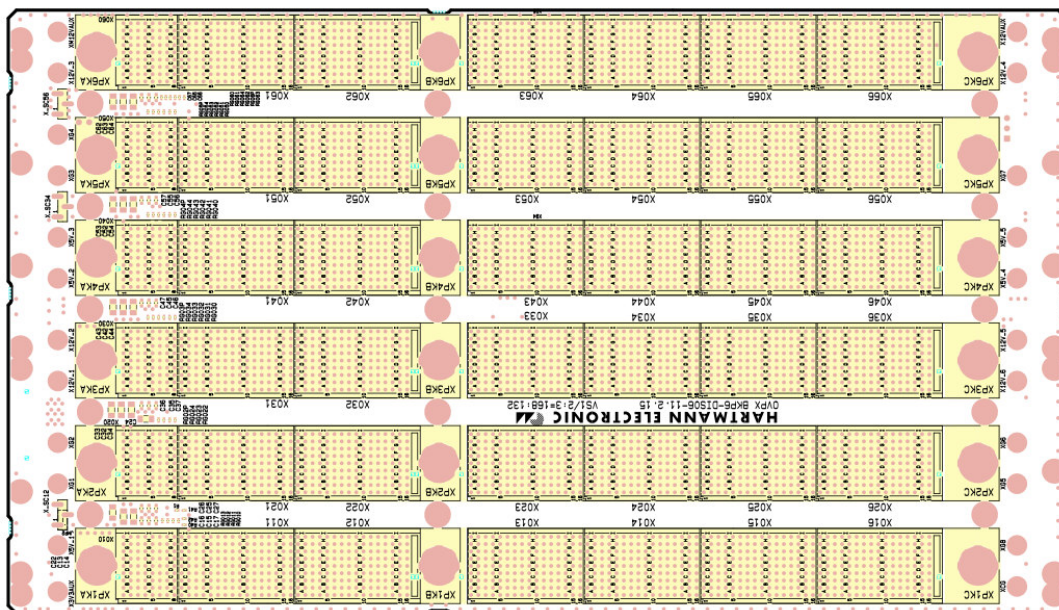
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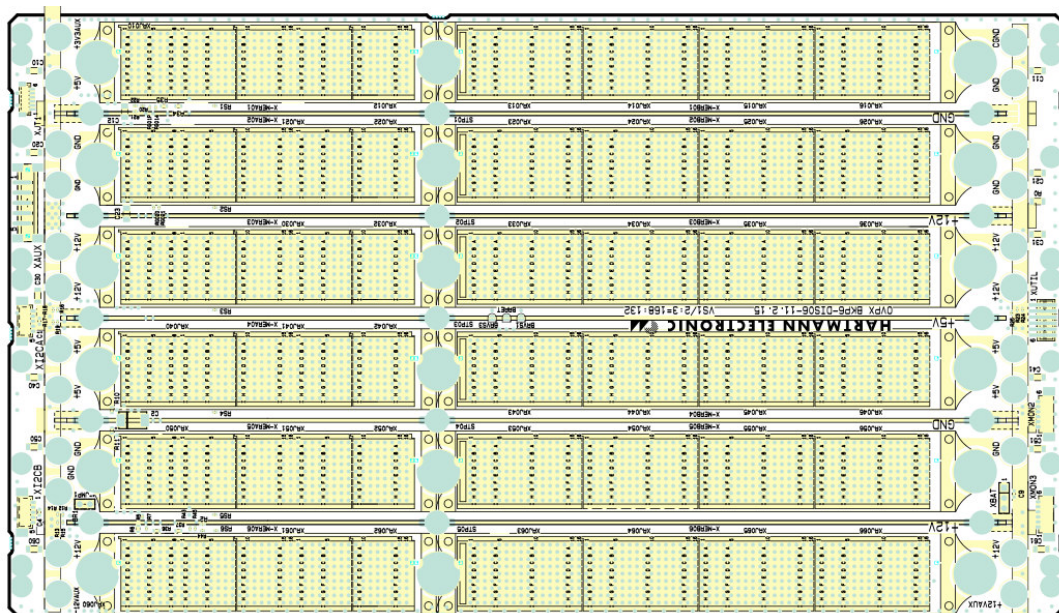


3) Drawings

Front side



Back side



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4) Pin Assignment

Pin Assignment VPX J0 (Utility Connector)

	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	Vs1	Vs1	Vs1	Vs1	No Pad*	Vs2	Vs2	Vs2	Vs2
2	Vs1	Vs1	Vs1	Vs1	No Pad*	Vs2	Vs2	Vs2	Vs2
3	Vs3	Vs3	Vs3	Vs3	No Pad*	Vs3	Vs3	Vs3	Vs3
4	GND	SM2	SM3	GND	-12V_Aux	GND	SYSRESET*	NVMRO	GND
5	GND	GAP*	GA4*	GND	3.3V_Aux	GND	SM0	SM1	GND
6	GND	GA3*	GA2*	GND	+12V_Aux	GND	GA1*	GA0*	GND
7	TCK	GND	GND	TDO	TDI	GND	GND	TMS	TRST*
8	GND	REF_CLK-	REF_CLK+	GND	GND	AUX_CLK-	AUX_CLK+	GND	GND

VS1=12V , VS2=12V , VS3=5V

Payload Slot Profile SLT6-PAY-4F2T-10.2.2 — P1 & J1

Plug-In Module P1	Row G	Row F	Row E		Row D	Row C	Row B		Row A
Bplane J1	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	GDiscrete1	GND	GND-J1	DP01-T0-	DP01-T0+	GND	GND-J1	DP01-R0-	DP01-R0+
2	GND	DP01-T1-	DP01-T1+	GND-J1	GND	DP01-R1-	DP01-R1+	GND-J1	GND
3	P1-VBAT	GND	GND-J1	DP01-T2-	DP01-T2+	GND	GND-J1	DP01-R2-	DP01-R2+
4	GND	DP01-T3-	DP01-T3+	GND-J1	GND	DP01-R3-	DP01-R3+	GND-J1	GND
5	SYS_CON*	GND	GND-J1	DP02-T0-	DP02-T0+	GND	GND-J1	DP02-R0-	DP02-R0+
6	GND	DP02-T1-	DP02-T1+	GND-J1	GND	DP02-R1-	DP02-R1+	GND-J1	GND
7	Reserved	GND	GND-J1	DP02-T2-	DP02-T2+	GND	GND-J1	DP02-R2-	DP02-R2+
8	GND	DP02-T3-	DP02-T3+	GND-J1	GND	DP02-R3-	DP02-R3+	GND-J1	GND
9	UD	GND	GND-J1	DP03-T0-	DP03-T0+	GND	GND-J1	DP03-R0-	DP03-R0+
10	GND	DP03-T1-	DP03-T1+	GND-J1	GND	DP03-R1-	DP03-R1+	GND-J1	GND
11	UD	GND	GND-J1	DP03-T2-	DP03-T2+	GND	GND-J1	DP03-R2-	DP03-R2+
12	GND	DP03-T3-	DP03-T3+	GND-J1	GND	DP03-R3-	DP03-R3+	GND-J1	GND
13	UD	GND	GND-J1	DP04-T0-	DP04-T0+	GND	GND-J1	DP04-R0-	DP04-R0+
14	GND	DP04-T1-	DP04-T1+	GND-J1	GND	DP04-R1-	DP04-R1+	GND-J1	GND
15	Maskable Reset*	GND	GND-J1	DP04-T2-	DP04-T2+	GND	GND-J1	DP04-R2-	DP04-R2+
16	GND	DP04-T3-	DP04-T3+	GND-J1	GND	DP04-R3-	DP04-R3+	GND-J1	GND

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Payload Slot Profile SLT6-PAY-4F2T-10.2.2 — P2&J2, P3&J3, P5&J5, P6&J6

This connectors are all User Defined pins. See Section VITA65 6.3.3 for requirements and pin assignments concerning connectors that are all User Defined.

Backplane Jn	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	UD	UD	UD	UD	UD	GND	UD	UD	UD
2	GND	UD	UD	GND	UD	UD	UD	UD	GND
3	UD	UD	UD	UD	UD	GND	UD	UD	UD
4	GND	UD	UD	GND	UD	UD	UD	UD	GND
5	UD	UD	UD	UD	UD	GND	UD	UD	UD
6	GND	UD	UD	GND	UD	UD	UD	UD	GND
7	UD	UD	UD	UD	UD	GND	UD	UD	UD
8	GND	UD	UD	GND	UD	UD	UD	UD	GND
9	UD	UD	UD	UD	UD	GND	UD	UD	UD
10	GND	UD	UD	GND	UD	UD	UD	UD	GND
11	UD	UD	UD	UD	UD	GND	UD	UD	UD
12	GND	UD	UD	GND	UD	UD	UD	UD	GND
13	UD	UD	UD	UD	UD	GND	UD	UD	UD
14	GND	UD	UD	GND	UD	UD	UD	UD	GND
15	UD	UD	UD	UD	UD	GND	UD	UD	UD
16	GND	UD	UD	GND	UD	UD	UD	UD	GND

Payload Slot Profile SLT6-PAY-4F2T-10.2.2 — P4 & J4

Plug-In Mod P4	Row G	Row F	Row E		Row D	Row C	Row B		Row A
Bplane J4	Row i	Row h	Even Row g	Odd Row f	Row e	Row d	Even Row c	Odd Row b	Row a
1	UD	GND	GND-J4	UD	UD	GND	GND-J4	UD	UD
2	GND	UD	UD	GND-J4	GND	UD	UD	GND-J4	GND
3	UD	GND	GND-J4	UD	UD	GND	GND-J4	UD	UD
4	GND	UD	UD	GND-J4	GND	UD	UD	GND-J4	GND
5	UD	GND	GND-J4	UD	UD	GND	GND-J4	UD	UD
6	GND	UD	UD	GND-J4	GND	UD	UD	GND-J4	GND
7	UD	GND	GND-J4	UD	UD	GND	GND-J4	UD	UD
8	GND	UD	UD	GND-J4	GND	UD	UD	GND-J4	GND
9	UD	GND	GND-J4	UD	UD	GND	GND-J4	UD	UD
10	GND	UD	UD	GND-J4	GND	UD	UD	GND-J4	GND
11	UD	GND	GND-J4	UD	UD	GND	GND-J4	UD	UD
12	GND	UD	UD	GND-J4	GND	UD	UD	GND-J4	GND
13	UD	GND	GND-J4	CPtp02-DB-	CPtp02-DB+	GND	GND-J4	CPtp02-DA-	CPtp02-DA+
14	GND	CPtp02-DD-	CPtp02-DD+	GND-J4	GND	CPtp02-DC-	CPtp02-DC+	GND-J4	GND
15	UD	GND	GND-J4	CPtp01-DB-	CPtp01-DB+	GND	GND-J4	CPtp01-DA-	CPtp01-DA+
16	GND	CPtp01-DD-	CPtp01-DD+	GND-J4	GND	CPtp01-DC-	CPtp01-DC+	GND-J4	GND

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Switch Slot Profile SLT6-SWH-4F24T-10.4.4 — P1 & J1

Plug-In Module P1	Row G	Row F	Row E		Row D	Row C	Row B		Row A
			Even	Odd			Even	Odd	
Bplane J1	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	GDIscrete1	GND	GND-J1	CP01-T0-	CP01-T0+	GND	GND-J1	CP01-R0-	CP01-R0+
2	GND	CP01-T1-	CP01-T1+	GND-J1	GND	CP01-R1-	CP01-R1+	GND-J1	GND
3	P1-VBAT	GND	GND-J1	CP01-T2-	CP01-T2+	GND	GND-J1	CP01-R2-	CP01-R2+
4	GND	CP01-T3-	CP01-T3+	GND-J1	GND	CP01-R3-	CP01-R3+	GND-J1	GND
5	SYS_CON*	GND	GND-J1	CP02-T0-	CP02-T0+	GND	GND-J1	CP02-R0-	CP02-R0+
6	GND	CP02-T1-	CP02-T1+	GND-J1	GND	CP02-R1-	CP02-R1+	GND-J1	GND
7	Reserved	GND	GND-J1	CP02-T2-	CP02-T2+	GND	GND-J1	CP02-R2-	CP02-R2+
8	GND	CP02-T3-	CP02-T3+	GND-J1	GND	CP02-R3-	CP02-R3+	GND-J1	GND
9	UD	GND	GND-J1	CP03-T0-	CP03-T0+	GND	GND-J1	CP03-R0-	CP03-R0+
10	GND	CP03-T1-	CP03-T1+	GND-J1	GND	CP03-R1-	CP03-R1+	GND-J1	GND
11	UD	GND	GND-J1	CP03-T2-	CP03-T2+	GND	GND-J1	CP03-R2-	CP03-R2+
12	GND	CP03-T3-	CP03-T3+	GND-J1	GND	CP03-R3-	CP03-R3+	GND-J1	GND
13	UD	GND	GND-J1	CP04-T0-	CP04-T0+	GND	GND-J1	CP04-R0-	CP04-R0+
14	GND	CP04-T1-	CP04-T1+	GND-J1	GND	CP04-R1-	CP04-R1+	GND-J1	GND
15	Maskable Reset*	GND	GND-J1	CP04-T2-	CP04-T2+	GND	GND-J1	CP04-R2-	CP04-R2+
16	GND	CP04-T3-	CP04-T3+	GND-J1	GND	CP04-R3-	CP04-R3+	GND-J1	GND

Switch Slot Profile SLT6-SWH-4F24T-10.4.4 — P2 & J2

Plug-In Module P2	Row G	Row F	Row E		Row D	Row C	Row B		Row A
			Even	Odd			Even	Odd	
Bplane J2	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	UD	GND	GND-J2	CPTp01-DB-	CPTp01-DB+	GND	GND-J2	CPTp01-DA-	CPTp01-DA+
2	GND	CPTp01-DD-	CPTp01-DD+	GND-J2	GND	CPTp01-DC-	CPTp01-DC+	GND-J2	GND
3	UD	GND	GND-J2	CPTp02-DB-	CPTp02-DB+	GND	GND-J2	CPTp02-DA-	CPTp02-DA+
4	GND	CPTp02-DD-	CPTp02-DD+	GND-J2	GND	CPTp02-DC-	CPTp02-DC+	GND-J2	GND
5	UD	GND	GND-J2	CPTp03-DB-	CPTp03-DB+	GND	GND-J2	CPTp03-DA-	CPTp03-DA+
6	GND	CPTp03-DD-	CPTp03-DD+	GND-J2	GND	CPTp03-DC-	CPTp03-DC+	GND-J2	GND
7	UD	GND	GND-J2	CPTp04-DB-	CPTp04-DB+	GND	GND-J2	CPTp04-DA-	CPTp04-DA+
8	GND	CPTp04-DD-	CPTp04-DD+	GND-J2	GND	CPTp04-DC-	CPTp04-DC+	GND-J2	GND
9	UD	GND	GND-J2	CPTp05-DB-	CPTp05-DB+	GND	GND-J2	CPTp05-DA-	CPTp05-DA+
10	GND	CPTp05-DD-	CPTp05-DD+	GND-J2	GND	CPTp05-DC-	CPTp05-DC+	GND-J2	GND
11	UD	GND	GND-J2	CPTp06-DB-	CPTp06-DB+	GND	GND-J2	CPTp06-DA-	CPTp06-DA+
12	GND	CPTp06-DD-	CPTp06-DD+	GND-J2	GND	CPTp06-DC-	CPTp06-DC+	GND-J2	GND
13	UD	GND	GND-J2	CPTp07-DB-	CPTp07-DB+	GND	GND-J2	CPTp07-DA-	CPTp07-DA+
14	GND	CPTp07-DD-	CPTp07-DD+	GND-J2	GND	CPTp07-DC-	CPTp07-DC+	GND-J2	GND
15	UD	GND	GND-J2	CPTp08-DB-	CPTp08-DB+	GND	GND-J2	CPTp08-DA-	CPTp08-DA+
16	GND	CPTp08-DD-	CPTp08-DD+	GND-J2	GND	CPTp08-DC-	CPTp08-DC+	GND-J2	GND

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Switch Slot Profile SLT6-SWH-4F24T-10.4.4 — P3 & J3

Plug-In Module P3	Row G	Row F	Row E		Row D	Row C	Row B		Row A
	Even	Odd	Even	Odd	Even	Odd	Even	Odd	
Bplane J3	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	UD	GND	GND-J3	CPTp09-DB-	CPTp09-DB+	GND	GND-J3	CPTp09-DA-	CPTp09-DA+
2	GND	CPTp09-DD-	CPTp09-DD+	GND-J3	GND	CPTp09-DC-	CPTp09-DC+	GND-J3	GND
3	UD	GND	GND-J3	CPTp10-DB-	CPTp10-DB+	GND	GND-J3	CPTp10-DA-	CPTp10-DA+
4	GND	CPTp10-DD-	CPTp10-DD+	GND-J3	GND	CPTp10-DC-	CPTp10-DC+	GND-J3	GND
5	UD	GND	GND-J3	CPTp11-DB-	CPTp11-DB+	GND	GND-J3	CPTp11-DA-	CPTp11-DA+
6	GND	CPTp11-DD-	CPTp11-DD+	GND-J3	GND	CPTp11-DC-	CPTp11-DC+	GND-J3	GND
7	UD	GND	GND-J3	CPTp12-DB-	CPTp12-DB+	GND	GND-J3	CPTp12-DA-	CPTp12-DA+
8	GND	CPTp12-DD-	CPTp12-DD+	GND-J3	GND	CPTp12-DC-	CPTp12-DC+	GND-J3	GND
9	UD	GND	GND-J3	CPTp13-DB-	CPTp13-DB+	GND	GND-J3	CPTp13-DA-	CPTp13-DA+
10	GND	CPTp13-DD-	CPTp13-DD+	GND-J3	GND	CPTp13-DC-	CPTp13-DC+	GND-J3	GND
11	UD	GND	GND-J3	CPTp14-DB-	CPTp14-DB+	GND	GND-J3	CPTp14-DA-	CPTp14-DA+
12	GND	CPTp14-DD-	CPTp14-DD+	GND-J3	GND	CPTp14-DC-	CPTp14-DC+	GND-J3	GND
13	UD	GND	GND-J3	CPTp15-DB-	CPTp15-DB+	GND	GND-J3	CPTp15-DA-	CPTp15-DA+
14	GND	CPTp15-DD-	CPTp15-DD+	GND-J3	GND	CPTp15-DC-	CPTp15-DC+	GND-J3	GND
15	UD	GND	GND-J3	CPTp16-DB-	CPTp16-DB+	GND	GND-J3	CPTp16-DA-	CPTp16-DA+
16	GND	CPTp16-DD-	CPTp16-DD+	GND-J3	GND	CPTp16-DC-	CPTp16-DC+	GND-J3	GND

Switch Slot Profile SLT6-SWH-4F24T-10.4.4 — P4 & J4

Plug-In Module P4	Row G	Row F	Row E		Row D	Row C	Row B		Row A
	Even	Odd	Even	Odd	Even	Odd	Even	Odd	
Bplane J4	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	UD	GND	GND-J4	CPTp17-DB-	CPTp17-DB+	GND	GND-J4	CPTp17-DA-	CPTp17-DA+
2	GND	CPTp17-DD-	CPTp17-DD+	GND-J3	GND	CPTp17-DC-	CPTp17-DC+	GND-J4	GND
3	UD	GND	GND-J4	CPTp18-DB-	CPTp18-DB+	GND	GND-J4	CPTp18-DA-	CPTp18-DA+
4	GND	CPTp18-DD-	CPTp18-DD+	GND-J4	GND	CPTp18-DC-	CPTp18-DC+	GND-J4	GND
5	UD	GND	GND-J4	CPTp19-DB-	CPTp19-DB+	GND	GND-J3	CPTp19-DA-	CPTp19-DA+
6	GND	CPTp19-DD-	CPTp19-DD+	GND-J4	GND	CPTp19-DC-	CPTp19-DC+	GND-J4	GND
7	UD	GND	GND-J4	CPTp20-DB-	CPTp20-DB+	GND	GND-J4	CPTp20-DA-	CPTp20-DA+
8	GND	CPTp20-DD-	CPTp20-DD+	GND-J4	GND	CPTp20-DC-	CPTp20-DC+	GND-J4	GND
9	UD	GND	GND-J4	CPTp21-DB-	CPTp21-DB+	GND	GND-J4	CPTp21-DA-	CPTp21-DA+
10	GND	CPTp21-DD-	CPTp21-DD+	GND-J4	GND	CPTp21-DC-	CPTp21-DC+	GND-J4	GND
11	UD	GND	GND-J4	CPTp22-DB-	CPTp22-DB+	GND	GND-J4	CPTp22-DA-	CPTp22-DA+
12	GND	CPTp22-DD-	CPTp22-DD+	GND-J4	GND	CPTp22-DC-	CPTp22-DC+	GND-J4	GND
13	UD	GND	GND-J4	CPTp23-DB-	CPTp23-DB+	GND	GND-J4	CPTp23-DA-	CPTp23-DA+
14	GND	CPTp23-DD-	CPTp23-DD+	GND-J4	GND	CPTp23-DC-	CPTp23-DC+	GND-J4	GND
15	UD	GND	GND-J4	CPTp24-DB-	CPTp24-DB+	GND	GND-J4	CPTp24-DA-	CPTp24-DA+
16	GND	CPTp24-DD-	CPTp24-DD+	GND-J4	GND	CPTp24-DC-	CPTp24-DC+	GND-J4	GND

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VITA 46
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Switch Slot Profile SLT6-SWH-4F24T-10.4.4 — P5&J5, P6&J6

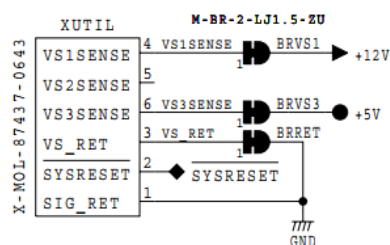
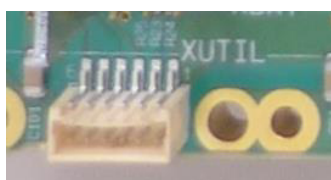
This connectors are all User Defined pins. See Section VITA 65 6.3.3 for requirements and pin assignments concerning connectors that are all User Defined.

Backplane Jn	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	UD	UD	UD	UD	UD	GND	UD	UD	UD
2	GND	UD	UD	GND	UD	UD	UD	UD	GND
3	UD	UD	UD	UD	UD	GND	UD	UD	UD
4	GND	UD	UD	GND	UD	UD	UD	UD	GND
5	UD	UD	UD	UD	UD	GND	UD	UD	UD
6	GND	UD	UD	GND	UD	UD	UD	UD	GND
7	UD	UD	UD	UD	UD	GND	UD	UD	UD
8	GND	UD	UD	GND	UD	UD	UD	UD	GND
9	UD	UD	UD	UD	UD	GND	UD	UD	UD
10	GND	UD	UD	GND	UD	UD	UD	UD	GND
11	UD	UD	UD	UD	UD	GND	UD	UD	UD
12	GND	UD	UD	GND	UD	UD	UD	UD	GND
13	UD	UD	UD	UD	UD	GND	UD	UD	UD
14	GND	UD	UD	GND	UD	UD	UD	UD	GND
15	UD	UD	UD	UD	UD	GND	UD	UD	UD
16	GND	UD	UD	GND	UD	UD	UD	UD	GND

5) Current Capability:

■ +12V	168 A
■ +12V	168 A
■ +5V	132 A
■ -12V AUX	6 A
■ +12V AUX	6 A
■ +3.3V AUX	6 A

6) UTILITY (Connector XUTIL)



Connector Molex Art. Nr. 87437-0643

6U Open VPX BACKPLANE
BKP6-DIS06-11.2.15-4

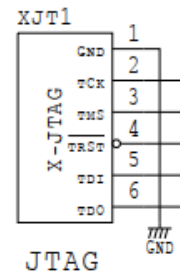
VITA 46
VITA 65



7) JTAG (Connector XJT1)



Consider: JTAG only at Slot 1, Payload slot



Connector J.S.T. BM06B-SRSS-TB(LF)(SN)

8) SYSCON

By setting the signal Syscon to GND the system slot is defined. In general the system slot is slot 1.

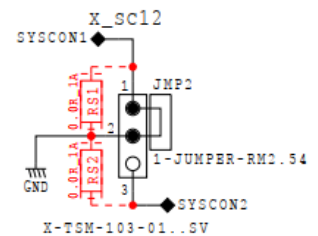
There are additional connectors X_SC34, X_SC56 so as you can select any slot as system slot

We offer 2 options for setting:

- Jumper (standard)
- 0 Ohm Resistor for rugged applications

X_SC12

1	SYSCON1
2	GND
3	SYSCON2



9) I2C Connector

There are 2 connectors for system-management I2CA and I2CB.

For customer specific board assembly Zero-Ohm resistors available.

Usable voltages for I2C are 3.3V-AUX

I2CA

1	I2CA_SCL
2	GND
3	I2CA_SDA
4	I2CA_PWR
5	NC

I2CB

1	I2CB_SCL
2	GND
3	I2CB_SDA
4	I2CB_PWR
5	NC

6U Open VPX BACKPLANE BKP6-DIS06-11.2.15-4	VITA 46 VITA 65	

10) Power Studs M3

The main operating voltages (+12V, +5V) and GND are supplied with M3 screw terminals. The auxiliary operating voltages are supplied via M3 screw terminals. Optimal daughter board supply and trouble-free operation are ensured by the arrangement of the feed modules on the backplane.

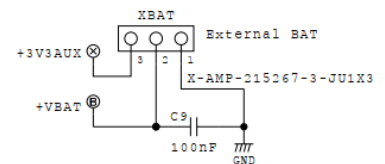


11) XBAT

Normally a battery voltage with approximately 3V is available at Pin VBAT of connector VPX-J1. The voltage is externally accessible with connector XBAT, Pin2 or internally using 3.3V_AUX by setting a Jumper between Pin2 and Pin3.

XBAT

1	GND
2	+VBAT
3	+3.3V_AUX

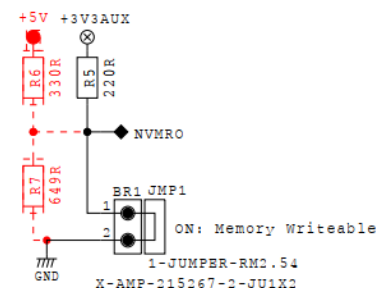


12) NVMRO

If Jumper BR1 is closed NVRMO is set to memory writeable.

BR1

1	NVMRO
2	GND



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