

UD info Corp.

3U VPX Solid State Drive VA3-U2 Series Product DataSheet



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Revision History

| Revision | Draft Date | History | Author |
|----------|------------|---------------------|------------|
| | 2026/4/8 | Preliminary version | Golden Lee |
| | | | |

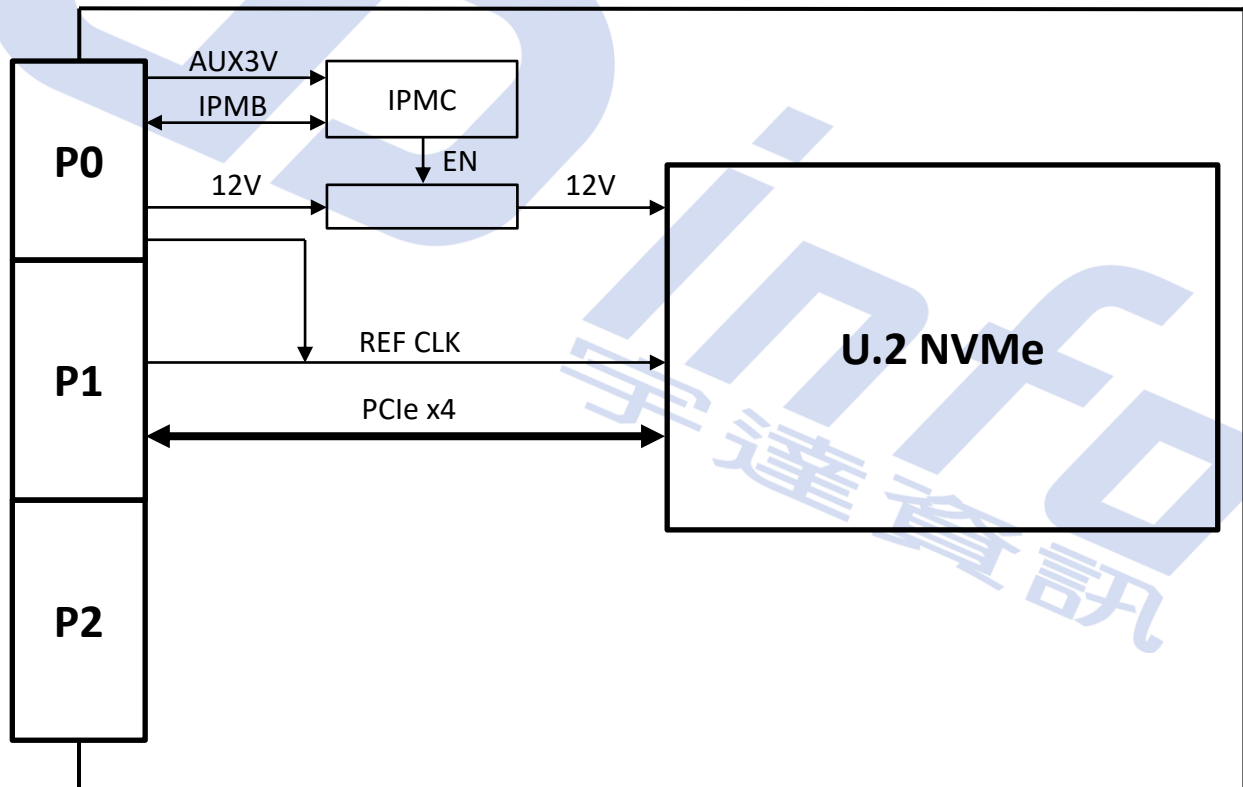


1. INTRODUCTION

1.1. General Description

UD info's **3U VPX Storage Module** is a high-performance storage solution designed for demanding rugged applications. It is fully **SOSA-aligned**, making it compatible with the latest standards in modular systems. Our module features advanced capabilities such as **Write Protect** and **Secure Erase** to safeguard sensitive data. It operates across a wide temperature range of **-40°C to +85°C**, making it ideal for harsh environments. Additionally, customers can opt for UD info's certified SSDs that meet **FIPS 140-3**, **Common Criteria**, and **CSfC** standards. The module also offers flexible cooling options, allowing for either conduction or air cooling based on system requirements.

1.2. Block Diagram



3U VPX SSD Block Diagram

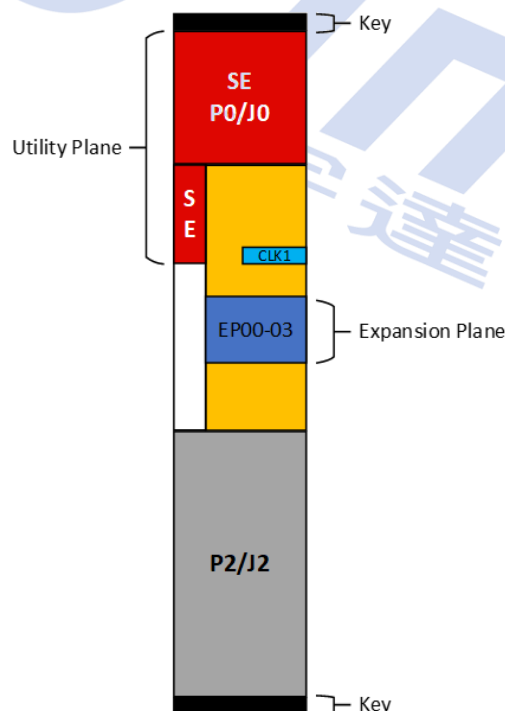
2. PRODUCT SPECIFICATIONS



2.1. Product Feature

- ANSI/VITA 46.0 VPX Baseline Standard
- ANSI/VITA 48.2 Conduction cooled
- ANSI/VITA 65 OpenVPX System Specification
- VITA 65 Slot Profiles:
 - SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11
 - VPX P1 EP00-EP03 (SOSA Aligned Product)
- Compliant to IPMI 2.0 and VITA46.11-2022, Tier 3
- SOSA V2.0 Aligned
- PCI Express Gen5 & backward compatible to PCIe Gen4, Gen3, Gen2 and Gen1
- Boot or Storage Disk

2.2. Slot Profiles



2.3. Specifications

- **Capacity**
 - 480GB up to 30TB
- **Electrical/Physical Interface**
 - PCI Express Gen5 & backward compatible to PCIe Gen4, Gen3, Gen2 and Gen1
- **Performance**
 - **Gen5:**
 - Seq. Read up to 14,000 MB/s
 - Seq. Write up to 8,500 MB/s
 - **Gen4:**
 - Seq. Read up to 7,200 MB/s
 - Seq. Write up to 6,700 MB/s
- **Power Consumption**
 - Voltage: 12V , 3.3V_Aux
 - Active mode (Max.): < 25W
 - Idle mode (Max.): < 5W
- **Reliability**
 - MTBF: 2 million hours
 - TBW: up to 56,064TB
- **Environment Specification (VITA 47)**
 - **Operation Temperature:**
 - Standard: 0°C ~ 70°C
 - Wide: -40°C ~ 85°C
 - **Storage Temperature: -40°C ~ 85°C**
 - **Relative Humidity: 5% to 95%**
 - **Shock:**
 - **Vibration:**
- **Features Support List**
 - S.M.A.R.T
 - Support TCG OPAL (option)
 - Write Protect (option)
 - Secure Erase (option)
- **RoHS Compliant**

3. INTERFACE



3.1. Pin Assignment and Descriptions

3.1.1. P0 Pin Assignment & Description

| P0 | G | F | E | D | C | B | A |
|----|------------|------------|----------|----------|-----|------------|------------|
| 1 | 12V | 12V | 12V | NC | NC | NC | NC |
| 2 | 12V | 12V | 12V | NC | NC | NC | NC |
| 3 | NC | NC | NC | NC | NC | NC | NC |
| 4 | IPMB_B_CLK | IPMB_B_DAT | GND | NC | GND | SYRSSET* | NVMRO |
| 5 | GAP* | GA4* | GND | 3.3V_Aux | GND | IPMB_A_CLK | IPMB_A_DAT |
| 6 | GA3* | GA2* | GND | NC | GND | GA1* | GA0* |
| 7 | NC | GND | NC | NC | GND | NC | NC |
| 8 | GND | REF_CLK- | REF_CLK+ | GND | NC | NC | GND |

| Name | Description |
|------------------|-------------------------------|
| 12V | SSD Power supply (1A) |
| 3.3V_Aux | IPMI Power supply (1A) |
| SYRSSET* | System Reset |
| NVMRO | Non-Volatile Memory Read Only |
| IPMB_A/B_CLK/DAT | System Management Buses |
| GAP*GA0-4* | Geographic Address Field |
| REF_CLK+/- | PCIe_REF_CLK (Default) |
| GND | Ground |
| NC | No Connect |

3.1.2. P1 Pin Assignment & Description

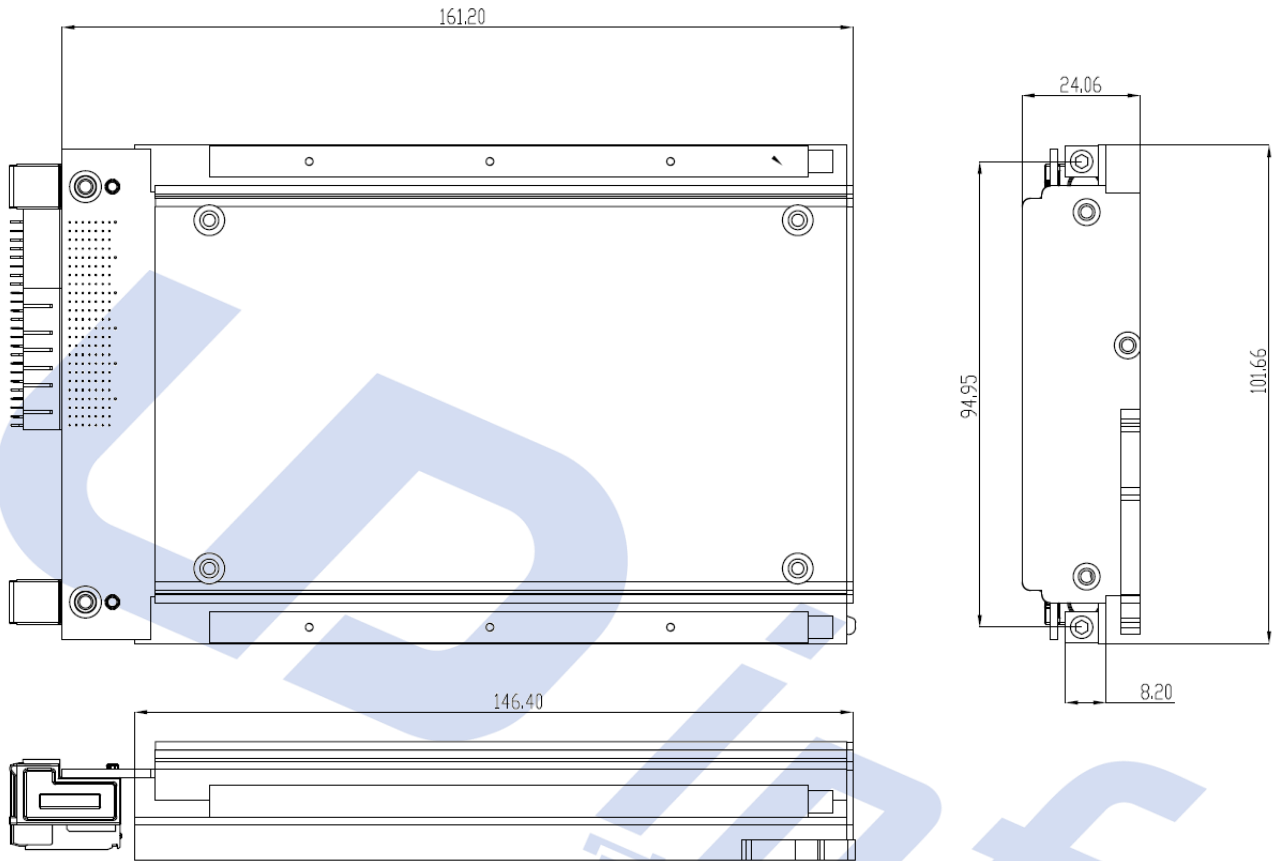
| P1 | G | F | E | D | C | B | A |
|----|--------------------|----------|----------|----------|----------|----------|----------|
| 1 | NC | GND | NC | NC | GND | NC | NC |
| 2 | GND | NC | NC | GND | NC | NC | GND |
| 3 | NC | GND | NC | NC | GND | NC | NC |
| 4 | GND | NC | NC | GND | NC | NC | GND |
| 5 | NC | GND | NC | NC | GND | NC | NC |
| 6 | GND | U.2_CLK- | U.2_CLK+ | GND | NC | NC | GND |
| 7 | NC | GND | NC | NC | GND | NC | NC |
| 8 | GND | NC | NC | GND | NC | NC | GND |
| 9 | MP-TD | GND | U.2_TX0- | U.2_TX0+ | GND | U.2_RX0- | U.2_RX0+ |
| 10 | GND | U.2_TX1- | U.2_TX1+ | GND | U.2_RX1- | U.2_RX1+ | GND |
| 11 | MP-RD | GND | U.2_TX2- | U.2_TX2+ | GND | U.2_RX2- | U.2_RX2+ |
| 12 | GND | U.2_TX3- | U.2_TX3+ | GND | U.2_RX3- | U.2_RX3+ | GND |
| 13 | GPIO1 | GND | NC | NC | GND | NC | NC |
| 14 | GND | NC | NC | GND | NC | NC | GND |
| 15 | Maskable Reset* | GND | NC | NC | GND | NC | NC |
| 16 | GND | NC | NC | GND | NC | NC | GND |

| Name | Description |
|------------------|------------------------------------|
| PCIE_TX[0:3] +/- | PCIe Transmitter differential pair |
| PCIE_RX[0:3] +/- | PCIe Receiver differential pair |
| U.2_CLK+/- | PCIe_REF_CLK (Option) |
| Maskable Reset* | INPUT As PRSNT# |
| GPIO1 | INPUT As Quick Erase |
| MP-T/RD | Maintenance Port [TIA-232] |
| GND | Ground |
| NC | No Connect |

4. PHYSICAL DIMENSION



- VITA 48.2 Mechanical Specifications for Microcomputers Using REDI **Conduction Cooling**



5. PART NUMBER DECODER



| | | | | | | | | | | | | | | | | | | | |
|----------------|----------------|----------------|---|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|---|-----------------|-----------------|-----------------|---|-----------------|-----------------|
| X ¹ | X ² | X ³ | - | X ⁴ | X ⁵ | X ⁶ | X ⁷ | X ⁸ | X ⁹ | X ¹⁰ | X ¹¹ | X ¹² | - | X ¹³ | X ¹⁴ | X ¹⁵ | - | X ¹⁶ | X ¹⁷ |
| V | A | 3 | - | U | 2 | D | H | 1 | 5 | T | 3 | B | - | A | F | S | | | |

| | | |
|--|---------------|----------------|
| X¹X² VA: VPX PCIe SSD | | |
| X³ 3: 3U | | |
| X⁴X⁵ U2: U.2 | | |
| X⁶X⁷ DH: Controller type | | |
| X⁸X⁹X¹⁰X¹¹X¹² | | |
| 480GB: 480GB | 3200G: 3200GB | 12T8B: 12800GB |
| 960GB: 960GB | 3840G: 3840GB | 15T3B: 15360GB |
| 1600G: 1600GB | 6400G: 6400GB | 25T6B: 25600GB |
| 1920G: 1920GB | 7680G: 7680GB | 30T7B: 30720GB |
| X¹³ A: 3D TLC Standard (0°C ~ +70°C) B: 3D TLC Industrial (-40°C ~ +85°C) E: 3D eTLC Standard (0°C ~ +70°C) | | |
| X¹⁴ F: Gen4 x4 L: Gen5 x4 | | |
| X¹⁵ S: Standard PCB version | | |
| X¹⁶X¹⁷ Blank: Standard feature | | |