

# SD-3UVPXRS

## 3U VPX Storage Module

### Data sheet



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## Table of Contents

1. Overview.....	3
1.1 Key Features.....	3
2. Product Specification.....	4
2.1 Technical information.....	4
2.2 Physical Specification.....	4
2.3 Environmental Specification.....	4
2.4 Performance.....	5
2.5 Temperature Sensor.....	5
2.6 Product Ecological Compliance.....	5
2.7 Certifications.....	5
3. Mechanical Measurement.....	6
3.1 Block Diagram.....	6
3.2 Dimensions.....	7
3.3 Pin Locations.....	8
3.4 Signal Description.....	8-9
4. Order Information.....	10

## 1. Overview

SD-3UVPXRSP/S 3U VPX Storage board is designed with outstanding performance and high level of reliability for wide range of military and industrial applications. It use advanced VPX connector to fulfill 2.5" SATA storage module to 3U VPX connection. It will carry the 2.5" SSD on the VPX suitable case.

### 1.3 Key Features

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Compliant with VITA 46, 47, 48, 65

Support One-Key Intelligent Destruction (For SATA port)

High performance and Low Power Consumption

Shock and Vibration compliant to MIL-STD-810G

Operating Temperature -40+85C

Storage Temperature -55+105C ambient

Up to 2TB Capacity MLC NAND

Up to 512GB Capacity SLC NAND

Support both SLC and MLC NAND

AES 256-bit encryption

Conduction Cooled design

Operating Shock: 40Gs half-sine wave (11ms)

Operating Vibration: 2Gs from 10 to 2000Hz

Humidity: 5 to 95%, non-condensing

## 2. Product Specifications

### 2.1 Technical information

<b>Product numbers</b>	SD-3UVPXRSP-x* (PCIe 2.0 x8) SD-3UVPXRSS-x* (SATA-3 6Gb/s) *x – Capacity
<b>Interface</b>	PCIe 2.0*8 or SATA 6Gbs
<b>Input Voltage</b>	5V 8A
<b>Interface</b>	VPX

### 2.2 Physical Specification

<b>Size</b>	3U
<b>Dimensions (mm)</b>	160mm×100mm×25.4mm
<b>Weight</b>	<250g

### 2.3 Environmental Specification

<b>Operating Temperature</b>	Wide Temp ( -40°C ~ +85°C)	
<b>Humidity</b>	<b>Operating</b>	95% (Non-condensing)
	<b>Non-Operating</b>	95% (Non-condensing)
<b>Vibration</b>	2Gs from 10 to 2000Hz	
<b>Shock</b>	40Gs half-sine wave (11ms)	

## 2.4 Performance<sup>①</sup>

Capacity	Flash type	Sequential Read <sup>②</sup>	Sequential Write <sup>②</sup>	IOPS Random Read (4KB QD32) <sup>③</sup>	IOPS Random Write (4KB QD32) <sup>③</sup>
1TB	MLC	560	470	75000	70578
2TB	MLC	540	430	61900	50000
256GB	SLC	550	490	77000	72500
512GB	SLC	561	490	77900	73000

Note:

① Test platform: ASUS P8H67-M, CPU i3-2100, DDR III 2GB, Windows® 7 32bit with AHCI mode.

Flash mode: Asynchronous.

② Tested base on CrystalDiskMark (Version 3.0.1), default test data (Random), copied file 1000MB, unit MB/s.

③ Tested base on Iometer 2008, unit IOPs.

④ "—" in the table means it is nonexistent.

## 2.5 Temperature Sensor

Temperature Sensor	Yes	No
		●

## 2.6 Product Ecological Compliance

RoHS	Reach	EuP
●		

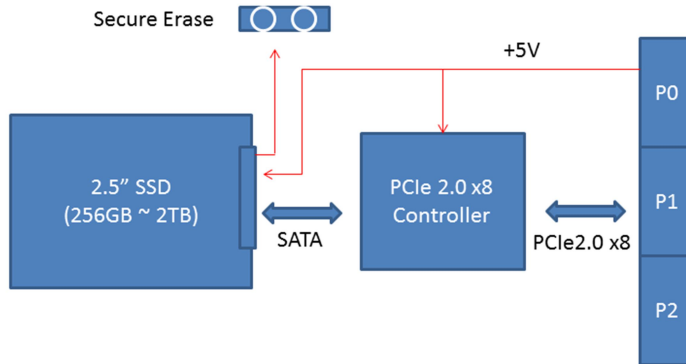
## 2.7 Certifications

CE	FCC	UL
●	●	●

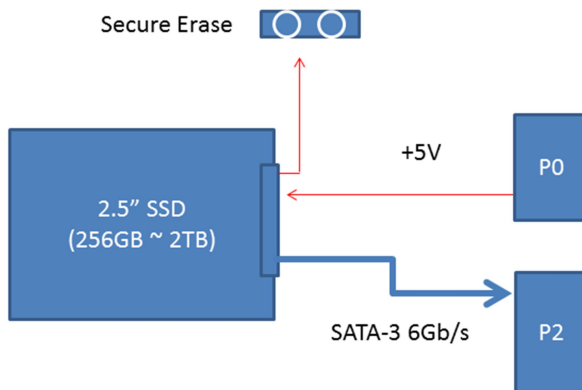
### 3. Mechanical Measurement

#### 3.1 Block Diagram

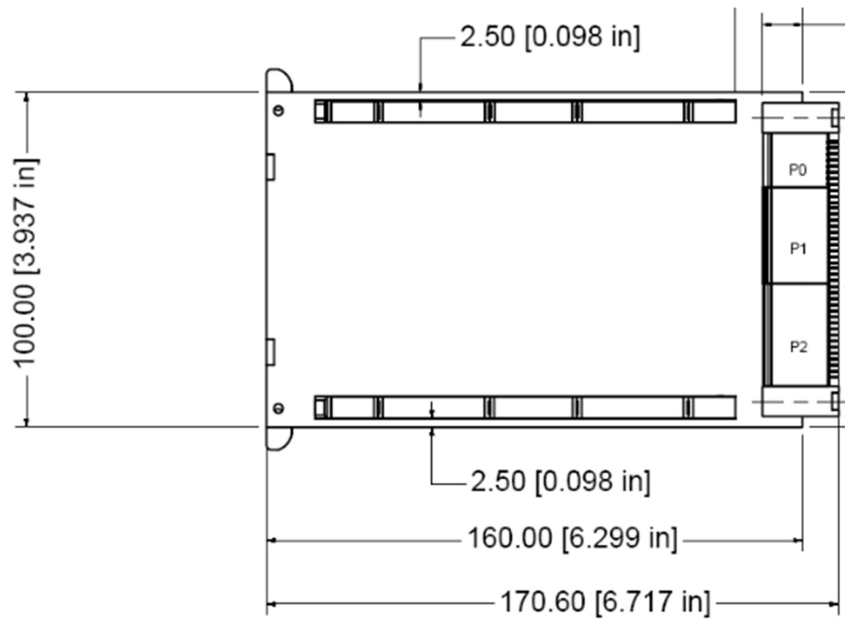
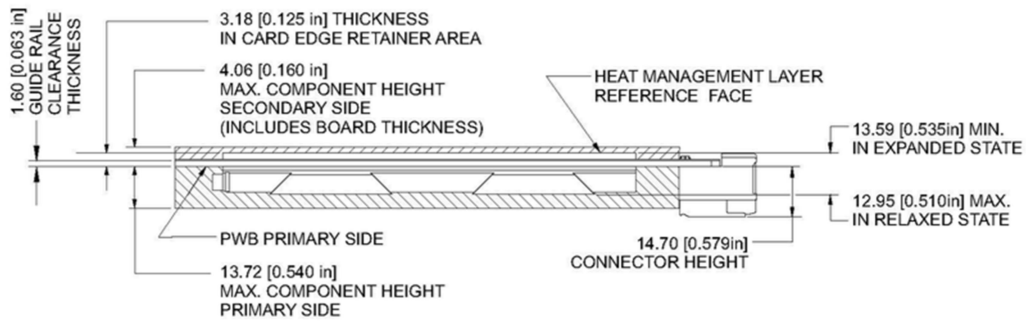
SD-3UVPXRSP-x (PCIe Gen 2.0 x 8)



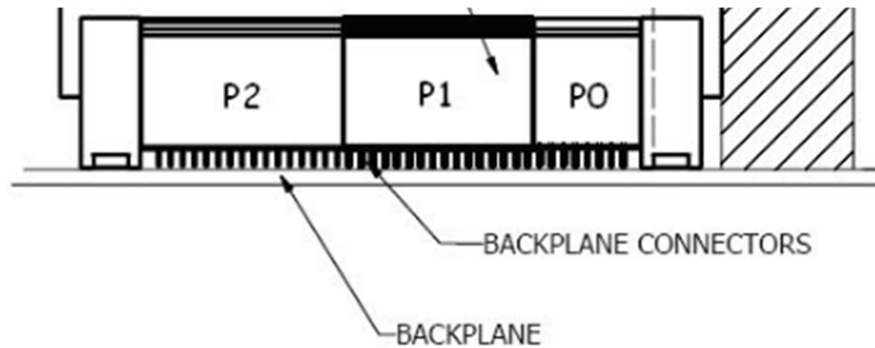
SD-3UVPXRSS-x (SATA-3 6Gb/s)



### 3.2 Dimensions



### 3.3 Pin Locations



### 3.4 Signal Descriptions

Locating	Key1							
		G	F	E	D	C	B	A
	1	12V	12V	12V	NC	3V3	3V3	3V3
	2	12V	12V	12V	NC	3V3	3V3	3V3
	3	5VA	5VA	5VA	NC	5VA	5VA	5VA
	4	SM2	SM3	GND	-12V_AUX	GND	SYSRESE	NVMR
	5	GAP*	GA4*	GND	3.3V_AUX	GND	SM0	SM1
	6	GA3*	GA2*	GND	+12V_AUX	GND	GA1*	GA0*
	7	TCK	GND	TDO	TDI	GND	TMS	TRST*
	8	GND	REF_CLK-	REF_CLK+	GND	AUX_CL	AUX_CLK+	GND
Remark	P0-1410189 at left							
		G	F	E	D	C	B	A
	1		GND	PA-TD0-	PA-TD0+	GND	PA-RD0-	PA-RD
	2	GND	PA-TD1-	PA-TD1+	GND	PA-RD1-	PA-RD1+	GND
	3		GND	PA-TD2-	PA-TD2+	GND	PA-RD2-	PA-RD
	4	GND	PA-TD3-	PA-TD3+	GND	PA-RD3-	PA-RD3+	GND
	5		GND	PA-TD4-	PA-TD4+	GND	PA-RD4-	PA-RD
	6	GND	PA-TD5-	PA-TD5+	GND	PA-RD5-	PA-RD5+	GND
	7		GND	PA-TD6-	PA-TD6+	GND	PA-RD6-	PA-RD
	8	GND	PA-TD7-	PA-TD7+	GND	PA-RD7-	PA-RD7+	GND
	9		GND			GND		
	10	GND			GND			GND
	11		GND			GND		
	12	GND			GND			GND



	13		GND			GND		
	14	GND			GND			GND
	15		GND			GND		
	16	GND			GND			GND
P1-1410187 in the middle								
		G	F	E	D	C	B	A
	1	ERASE1	GND	TXN_0	TXP_0	GND	RXN_0	RXP_0
	2	GND	TXN_1	TXP_1	GND	RXN_1	RXP_1	GND
	3	ERASE_L	GND	TXN_2	TXP_2	GND	RXN_2	RXP_2
	4	GND	TXN_3	TXP_3	GND	RXN_3	RXP_3	GND
	5	ERASE2	GND	TXN_4	TXP_4	GND	RXN_4	RXP_4
	6	GND	TXN_5	TXP_5	GND	RXN_5	RXP_5	GND
	7	ERASE_L	GND	TXN_6	TXP_6	GND	RXN_6	RXP_6
	8	GND	TXN_7	TXP_7	GND	RXN_7	RXP_7	GND
	9		GND			GND		
	10	GND			GND			GND
	11		GND			GND		
	12	GND			GND			GND
	13		GND			GND		
	14	GND			GND			GND
	15		GND			GND		
	16	GND			GND			GND
P2-1410188 at right								
Locating	key2							

## 4.0 Order information

Product Number	Capacity	Form Factor	Standard	Type
SD-3UVPXRP-1T	1TB MLC	3U VPX Storage	PCIe 2.0*8	Conduction-Cooled
SD-3UVPXRSS-1T	1TB MLC	3U VPX Storage	SATA	Conduction-Cooled
SD-3UVPXRSP-2T	2TB MLC	3U VPX Storage	PCIe 2.0*8	Conduction-Cooled
SD-3UVPXRSS-2T	2TB MLC	3U VPX Storage	SATA	Conduction-Cooled
SD-3UVPXRSP-256G	256GB SLC	3U VPX Storage	PCIe 2.0*8	Conduction-Cooled
SD-3UVPXRSS-256G	256GB SLC	3U VPX Storage	SATA	Conduction-Cooled
SD-3UVPXRSP-512G	512GB SLC	3U VPX Storage	PCIe 2.0*8	Conduction-Cooled
SD-3UVPXRSS-512G	512GB SLC	3U VPX Storage	SATA	Conduction-Cooled