



World's First Native USB 3.2 Controllers

Phison's native USB 3.2 controller solutions duo eliminates bridge boards to enable compact single-chip portable SSDs. PS2251-17 and PS2251-18 are native controller ICs that prevail in low cost and heat dissipation with mainstream manufacturing process and design while offering excellent performance and power efficiency. The powerful duo is the answer to modern day world storage needs in gaming consoles, laptops, and mobile devices.



U32C / U32C Pro

Powered by Phison PS2251-17 and PS2251-18 controllers, the U32C and U32C Pro external SSDs offer excellent data transfer speeds with low power consumption in compact single-board designs. U32C provides entry-level storage performance with up to 2TB storage capacity while U32C Pro excels with extreme data transfer speeds with capacity of up to 4TB. Make your pick for your perfect design to empower applications from laptops to gaming and beyond.



PS2251-17

Features	Specifications
Interface	<ul style="list-style-type: none">• USB 3.2 Gen 2 x1 (10Gbps)• Compliant with USB 3.2 Gen1 (5Gbps)• Compliant with USB 2.0 (480Mbps)• Compliant with USB 1.1 (12Mbps)
NAND Characteristic	<ul style="list-style-type: none">• 2 Channels with 16 Chip Enable (CE) counts within single-chip design• Up to 800 MT/s transfer rate• 250GB to 2TB capacity support• TLC and QLC NAND flash technology support• Compliant with Toggle 1.0/2.0/3.0/4.0 NAND flash interfaces• Compliant with ONFI 2.0/3.0/4.1 NAND flash interfaces• 1.2V/1.8V NAND IO operating voltage supply
Power Consumption ¹ (Average)	<ul style="list-style-type: none">• Read: 500 mA• Write: 550 mA• Idle: 100 mA• Suspend: 2.5 mA
Data Reliability	<ul style="list-style-type: none">• LDPC ECC protection
OS compatibility	<ul style="list-style-type: none">• Windows XP and later versions• MAC OS 10.8 and later versions• Linux kernel 2.4.10 and later versions
Temperature Range	<ul style="list-style-type: none">• Operating range: 0~70 °C• Storage range: -40~85 °C
Environmental	<ul style="list-style-type: none">• Humidity: 20%~90%
Certification	<ul style="list-style-type: none">• USB IF Compliance

1. The above values are for reference only, it may change according to the flash memory used.

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PS2251-18

Features	Specifications
Interface	<ul style="list-style-type: none">• USB 3.2 Gen 2 x2 (20Gbps)• Compliant with USB 3.2 Gen 2 x1 (10Gbps)• Compliant with USB 3.2 Gen1 (5Gbps)• Compliant with USB 2.0 (480Mbps)• Compliant with USB 1.1 (12Mbps)
NAND Characteristic	<ul style="list-style-type: none">• 2 Channels with 16 Chip Enable (CE) counts within single-chip design• Up to 1200 MT/s transfer rate• 500GB to 4TB capacity support• TLC and QLC NAND flash technology support• Compliant with Toggle 1.0/2.0/3.0/4.0 NAND flash interfaces• Compliant with ONFI 2.0/3.0/4.1 NAND flash interfaces• 1.2V/1.8V NAND IO operating voltage supply
Power Consumption ¹ (Average)	<ul style="list-style-type: none">• Read: 550 mA• Write: 650 mA• Idle: 160 mA• Suspend: 2.5 mA
Data Reliability	<ul style="list-style-type: none">• LDPC ECC protection
OS compatibility	<ul style="list-style-type: none">• Windows XP and later versions• MAC OS 10.8 and later versions• Linux kernel 2.4.10 and later versions
Temperature Range	<ul style="list-style-type: none">• Operating range: 0~70 °C• Storage range: -40~85 °C
Environmental	<ul style="list-style-type: none">• Humidity: 20%~90%
Certification	<ul style="list-style-type: none">• USB IF Compliance

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SOLUTIONS

U32C (PS2251-17) Performance with 3D TLC

	250GB	500GB	1000GB
Sequential Read (MB/s)	1000	1000	1000
Sequential Write (MB/s)	800	800	800
Random Read (MB/s)	200	200	200
Random Write (MB/s)	280	280	280

U32C (PS2251-17) Performance with 3D QLC

	250GB	500GB	1000GB
Sequential Read (MB/s)	1000	1000	1000
Sequential Write (MB/s)	700	800	800
Random Read (MB/s)	150	200	200
Random Write (MB/s)	260	280	280

U32C Pro (PS2251-18) Performance with 3D TLC

	500GB	1000GB	2000GB	4000GB
Sequential Read (MB/s)	1500	1600	1600	1600
Sequential Write (MB/s)	900	1500	1500	1500
Random Read (MB/s)	400	400	400	400
Random Write (MB/s)	250	350	400	400

1. The performance is obtained from CrystalDiskMark (Window 10). Performance may vary from flash configuration and platform.

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