

Centon OEM SSD Extended Commercial , TLC, PCIe 4.0 x4, NVMe 1.4, M.2-2280, 256GB



*Image may not represent actual product

General Specifications

Pin Count	67 pin (M Key)		
Form Factor	M.2 (80mm)		
Unformatted Capacity	256GB		
Cache	N/A		

Default Format	Unformatted		
Voltage	3.3V		
Interface	PCIe 4.0 x4, NVMe 1.4		
Warranty	1 Year		

Endurance/Power/Performance

Max Read Speed*	3800 MB/s
Max Write Speed*	1700 MB/s
Seq. Read Speed**	3800 MB/s
Seq. Write Speed**	1700 MB/s
4k Random Read***	110000 IOPs
4k Random Write***	245000 IOPs
Endurance (TBW)	248

Active Power	3400 mW
Idle Power	1500 mW
Sleep Power	5 mW
Shock Tolerance	1500G(0.5ms duration, half sine wave)
Vibration Tolerance	20G(Peak,80-2000Hz)
MTBF	1,500,000 Hrs
DWPD	0.85

NAND Specifications

NAND Manufacturer	Kioxia		
NAND Part Number	TA5AG95AYV		
NAND Type	TLC		
NAND Geometry	3D BICS5		

NAND Config.	1Tbit
NAND Quantity	2
NAND Package	BGA-132
NAND Technology	Dual Plane

*Maximum speeds are determined using ATTO Disk Benchmark
**Maximum Sequential speeds measured using HD Tune Pro 5.75
***Maximum I/O performance is measured using IOMeter 2010, 4K bytes Random

C4-ET-X44E-256.1

For more information visit centon.com, email RFQ@centon.com or call toll-free: 800-234-9292

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Environment

Operating Temp	Extended (0 to 85 C)	Storage Temp	Storage (-40 to +85 C)
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Controller Specifications

Controller Mfg.	Phison
Controller PN	PS5021-E21T
Wear Level Static	Enabled
Wear Level Dynamic	Enabled
Power Loss Protection	No

RAID Support	Yes
SMART Support	Yes
TRIM Support	Yes
ECC	LDPC Gen4 + RAID
Data Encryption	TCG Pyrite 2.0 (AES 256-bit)

Certifications

Scope of Work

Industrial temperature controller with Commercial temperature NAND.



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Pin Out Diagram

Pin Assignment and Description

	Pin Ass	ignment and Description			
Pin No.	PCle Pin	Description	Pin No.	PCle Pin	Description
2	GND 3.3V	CONFIG_3 = GND 3.3V source	44	ALERT#(O) (0/1.8V)	Alert notification to master; Open Drain with pullup on platform; Active low.
3	GND	Ground	45	GND	Ground
4	3.3V	3.3V source	46	N/C	No connect
5	PETn3	PCIe TX Differential signal defined by the PCI Express M.2 spec	47	PERn0	PCIe RX Differential signaldefined by the PCI Express M.2 spec
6			48	N/C	No connect
	N/C	No connect	49	PERp0	PCIe RX Differential signaldefined by the PCI Express M.2 spec
7	PETp3	PCIe TX Differential signal defined by the PCI Express M.2 spec	49	PERPU	
8	N/C	No connect	50	PERST#(I)(0/3.3V)	PE-Reset is a functional reset to the cardas defined by the PCIe Mini CEM specification.
9	GND	Ground	51	GND	Ground
	1504#	Open drain, active low signal. These signals are used to allow the addn	31	GND	
10	LED1#	card to provide status indicators via LED devices that will be provided by	52	CLKREQ#(I/O)(0/3.3V)	Clock Request is a reference clock request signal as defined by the PCle
		the system.			Mini CEM specification; Also used by L1 PM Substates.
11	PERn3	PCIe RX Differential signal defined by the PCI Express M.2 spec	53	REFCLKn	PCIe Reference Clock signals (100 MHz)
12	3.3V	3.3V source			defined by the PCI Express M.2 spec
13	PERp3	PCIe RX Differential signal defined by the PCI Express M.2 spec	54	PEWAKE#(I/O)(0/3.3V)	PCIe PME Wake.
14	3.3V	3.3V source			Open Drain with pull up on platform;Active Low.
15	GND	Ground	55	REFCLKp	PCIe Reference Clock signals (100 MHz)
16	3.3V	3.3V source			defined by the PCI Express M.2 spec.
17	PETn2	PCIe TX Differential signal defined by the PCI Express M.2 spec		Reserved for	Manufacturing Data line. Used for SSD manufacturing only
18	3.3V	3.3V source	56	MFG DATA	Not used in normal operation.
19	PETp2	PCIe TX Differential signal defined by the PCI Express M.2 spec	no no	30.00 (0.000 0.00	Pins should be left N/C in platform Socket.
20	N/C	No connect	57	GND	Ground
21	GND	Ground	2000	Reserved for MFG CLOCK	Manufacturing Clock line. Used for SSD manufacturing only.
22	N/C	No connect	58		Not used in normal operation.
23	PERn2	PCIe RX Differential signal defined by the PCI Express M.2 spec		20 2 2 20 20	Pins should be left N/C in platform Socket.
24	N/C	No connect	59	Module Key M	
25	PERp2	PCIe RX Differential signal defined by the PCExpress M.2 spec	60	Module Key M	
26	N/C	No connect	61	Module Key M	
27	GND	Ground	62	Module Key M	Module Key
28	N/C	No connect	63	Module Key M	
29	PETn1	PCIe TX Differential signal defined by the PCI Express M.2 spec	64	Module Key M	
30	N/C	No connect	65	Module Key M	
31	PETp1	PCIe TX Differential signal defined by the PCI Express M.2 spec	66	Module Key M	
32	N/C	No connect	67	N/C	No connect
33	GND	Ground	68	SUSCLK(32KHz)	32.768 kHz clock supply input that is provided by the platform
34	N/C	No connect		(I)(0/3.3V)	chipset to reduce power and cost for the module.
35	PERn1	PCIe RX Differential signaldefined by the PCI Express M.2 spec	69	N/C	PEDET (NC-PCIe)
36	N/C	No connect	70	3.3V	3.3V source
37	PERp1	PCIe RX Differential signaldefined by the PCI Express M.2 spec	71	GND	Ground
38	N/C	No connect	72	3.3V	3.3V source
39	GND	Ground	73	GND	Ground
40	SMB_CLK (I/O)(0/1.8V)	SMBus Clock; Open Drain with pullup on platform	74	3.3V	3.3V source
41	PETn0	PCIe TX Differential signaldefined by the PCI Express M.2 spec	75	GND	Ground
42	SMB_DATA (I/O)(0/1.8V)	SMBus Data; Open Drain with pullup on platform.			
43	PETp0	PCIe TX Differential signal defined by the PCI Express M.2 spec			

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Physical Dimensions

Physical Product Dimension: 80.00mm (L) x 22.00mm (W) x 2.15mm (H)

