

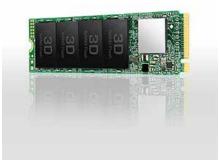
# PCIe M.2 SSDs PCIe SSD 110S

Transcend's PCle SSD 110S utilizes the PCI Express® Gen3 x4 interface supported by the latest NVMe<sup>™</sup> standard, to unleash next-generation performance. The PCle SSD 110S aims at high-end applications, such as digital audio/video production, gaming, and enterprise use, which require constant processing heavy workloads with no system lags or slowdowns of any kind. Powered by 3D NAND flash memory, the PCle SSD 110S gives you not only fast transfer speeds but unmatched reliability.



# Compelling performance for high-end applications

Transcend's PCIe SSD 110S follows NVMe 1.3 and utilizes the PCIe<sup>™</sup> Gen3 x4 interface, meaning four lanes are used for transmitting and receiving data simultaneously, resulting in compelling performance of up to 1,700MB/s read and 1,500MB/s write. Note: Performance is based on CrystalDiskMark v5.0.2.



Understanding the PCIe interface

PCIe (or PCI Express®) is a much faster interface than SATA (or Serial ATA) for connecting a host computer to solid-state storage devices over one or more lanes consisting of one transmit and one receive serial interface in each lane, meaning it can better fulfill new performance requirements.



# Understanding the NVMe standard

NVMe (or NVM Express®) is a host controller interface standard designed to address the needs of enterprise and client applications that utilize PCI Express-based solid-state storage. NVMe calls for better performance vectors than AHCI (Advanced Host Controller Interface), including scalable bandwidth, increased IOPS, and low latency.





### PCIe M.2 SSDs PCIe SSD 110S

#### Features

- Adopts PCIe Gen3 x4 interface and NVMe 1.3 standard
- · Up to 1,700 MB/s read; 1,500 MB/s write
- · 3D NAND flash memory
- Engineered with LDPC (Low-Density Parity Check) coding to ensure data integrity; built-in SLC caching technology for exceptional transfer speeds
- Engineered dynamic thermal throttling mechanism



SSD Scope Software

Transcend SSD Scope is advanced, user-friendly software that makes it easy to ensure your Transcend SSD remains healthy, and continues to run fast and error-free by determining the condition and optimizing the performance of your drive.

### Specification

Specification				
Appearance				
Dimensions (Max.)	80 mm x 22 mm x 3.58 mm (3.15" x 0.87" x 0.14")			
Weight (Max.)	8 g (0.28 oz)			
Interface				
Bus Interface	NVMe PCIe Gen3 x4			
Storage				
Flash Type	3D NAND flash			
Capacity	128 GB / 256 GB / 512 GB / 1 TB			

#### **Operating Environment**

1 0	
Operating Temperature	0°C (32°F) ~ 70°C (158°F)
Operating Voltage	3.3V±5%

#### Performance

l'errormance	
Sequential Read/Write (ATTO, max.)	Read: 1,700 MB/s Write: 1,500 MB/s
Sequential Read/Write (CrystalDiskMark, max.)	Read: 1,700 MB/s Write: 1,500 MB/s
4K Random Read/Write (IOmeter, max.)	Read: 160,000 IOPS Write: 140,000 IOPS
Mean Time Between Failures (MTBF)	1,000,000 hour(s)
Terabytes Written (Max.)	400 TB
Drive Writes Per Day (DWPD)	0.2 (5 yrs)

#### Warranty

variancy		
Certificate	CE/FCC/BSMI	
Warranty	Five-year Limited Warranty	

#### Note

1. Speed may vary due to host hardware, software, usage, and storage capacity.

2. Some motherboards only provide PCIe x2 connections for the M.2 slot, creating a bottleneck on even the fastest drives.

### Ordering Information

128GB	TS128GMTE110S
256GB	TS256GMTE110S
512GB	TS512GMTE110S
1TB	TS1TMTE110S



Appearance           Dimensions (Max.)         80 mm x 2.5 mm x 3.55 mm (3.15' x 0.67' x 0.14')           Weight (Max.)         8 g (0.28 oz)           Interface         NVMe PCIe Gen3 x4           Storage	PCle M.2 SSDs Comparison	PCIe SSD 220S	PCIe SSD 110S
Dimensions (Max.)     80 mm x 22 mm x 3.58 mm (3.15" x 0.87" x 0.14")       Weight (Max.)     8 g (0.28 o.2)       Interface     NVMe PCle Gen3 x4       Storage	Annearance		
Weight (Max.)     8 g (0.28 oz)       Interface     NVMe PCIe Gen3 x4       Storage		80 mm x 22 mm	x 3 58 mm (3.15" x 0.87" x 0.14")
Interface       NVMe PCIe Gen3 x4         Bus Interface       NVMe PCIe Gen3 x4         Storage       3D NAND flash         Capacity       3D NAND flash         Capacity       256 GB/512 GB/1 TB         Operating Environment       0°C (32°F) – 70°C (158°F)         Operating Temperature       0°C (32°F) – 70°C (158°F)         Operating Voltage       3.3V±5%         Performance       Sequential Read/Write (ATTO, max.)         Sequential Read/Write (Crystal/DiskMark, max.)       Read: 3.300 MB/s       Read: 1,700 MB/s         KARHOM Read/Write (Crystal/DiskMark, max.)       Read: 3.300 MB/s       Read: 1,700 MB/s         Kandom Read/Write (Crystal/DiskMark, max.)       Read: 3.300 MB/s       Read: 1,700 MB/s         Kandom Read/Write (Write: 2800 MB/s       Write: 1,500 MB/s       Read: 1,700 MB/s         KWrite: Max.)       Read: 3.300 MB/s       Read: 1,700 MB/s         KWrite: Max.)       Read: 3.300 MB/s       Read: 1,700 MB/s         KWrite: SetWerl Failures (MTBF)       Non0,000 Host(s)       1,000,000 hour(s)         Terabytes Written (Max.)       800 TB       400 TB         Drive Writes Per Day (DWPD)       0.4(5 yrs)       0.2(5 yrs)         Warranty       Five-year Limited Warranty         Technology       -       -			
Bus Interface       NVMe PCIe Gen3 x4         Storage       3D NAND flash         CapaCity       3D NAND flash         CapaCity       256 GB/512 GB/1 TB         Operating Environment       0°C (32°F) - 70°C (158°F)         Operating Voltage       3.3V±5%         Performance       Sequential Read/Write         KTTO, max.)       Write: 1,500 MB/s         Read: 3,300 MB/s       Read: 1,700 MB/s         Sequential Read/Write       Read: 3,300 MB/s         (CrystalDiskMark, max.)       Write: 2,800 MB/s         Write: 1,500 MB/s       Read: 1,700 MB/s         Sequential Read/Write       Read: 3,300 MB/s         (CrystalDiskMark, max.)       Write: 2,800 MB/s         Write: 1,500 MB/s       Read: 1,700 MB/s         Sequential Read/Write       Read: 3,500 MB/s         (CrystalDiskMark, max.)       Write: 2,800 MB/s         Write: 1,500 MB/s       Read: 1,700 MB/s         Write: 1,500 MB/s       Read: 1,700 MB/s         Warranty       Write: 4,800 OPS         Warranty       Y         Warranty       Five-year Limited Warranty         Technology       -         SM AR.T.       V       -         DPM3 DRAMCache       -       -			
Flash Type       3D NAND flash         Capacity       256 GB/512 GB/1 TB       128 GB/256 GB/512 GB/1 TB         Operating Environment       0°C (32°F) - 70°C (158°F)         Operating Voltage       3.3V±5%         Performance       2         Sequential Read/Write (ATTO, max.)       Read: 3.300 MB/s       Read: 1.700 MB/s         Sequential Read/Write (Crystal)Ektark, max.)       Read: 3.500 MB/s       Write: 1.500 MB/s         (Crystal)Ektark, max.)       Write: 2.800 MB/s       Write: 1.500 MB/s         K Random Read/Write (Crystal)Ektark, max.)       Read: 3.500 MB/s       Write: 1.500 MB/s         K Random Read/Write (Max.)       Read: 3.500 MB/s       Write: 1.500 MB/s         (Crystal)Ektark, max.)       Write: 4.2800 MB/s       Write: 1.500 MB/s         (Write: 4.2900 MB/s       Write: 1.500 MB/s       Write: 1.500 MB/s         (Crystal)Ektark, max.)       Write: 4.2800 MB/s       Write: 1.500 MB/s         Write: 4.3900 MB/s       Write: 1.500 MB/s       Write: 1.500 MB/s         Write: 4.2800 MB/s       Write: 1.500 MB/s       Write: 1.500 MB/s         Warranty       Read: 3.500 MB/s       Write: 1.500 MB/s         Warranty       SooTB       400 TB         Warranty       Five-year Limited Warranty         DDrive Writes Per Day (DWPD)		N	VMe PCle Gen3 x4
Flash Type       3D NAND flash         Capacity       256 GB/512 GB/1 TB       128 GB/256 GB/512 GB/1 TB         Operating Environment       0°C (32°F) - 70°C (158°F)         Operating Voltage       3.3V±5%         Performance       2         Sequential Read/Write (ATTO, max.)       Read: 3.300 MB/s       Read: 1.700 MB/s         Sequential Read/Write (Crystal)Ektark, max.)       Read: 3.500 MB/s       Write: 1.500 MB/s         (Crystal)Ektark, max.)       Write: 2.800 MB/s       Write: 1.500 MB/s         K Random Read/Write (Crystal)Ektark, max.)       Read: 3.500 MB/s       Write: 1.500 MB/s         K Random Read/Write (Max.)       Read: 3.500 MB/s       Write: 1.500 MB/s         (Crystal)Ektark, max.)       Write: 4.2800 MB/s       Write: 1.500 MB/s         (Write: 4.2900 MB/s       Write: 1.500 MB/s       Write: 1.500 MB/s         (Crystal)Ektark, max.)       Write: 4.2800 MB/s       Write: 1.500 MB/s         Write: 4.3900 MB/s       Write: 1.500 MB/s       Write: 1.500 MB/s         Write: 4.2800 MB/s       Write: 1.500 MB/s       Write: 1.500 MB/s         Warranty       Read: 3.500 MB/s       Write: 1.500 MB/s         Warranty       SooTB       400 TB         Warranty       Five-year Limited Warranty         DDrive Writes Per Day (DWPD)			
Capacity         256 GB/512 GB/1 TB         128 GB/256 GB/512 GB/1 TB           Operating Environment         0°C (32°F) ~ 70°C (158°F)         0           Operating Voltage         3.3V±5%         0           Performance         8         3.3V±5%         0           Sequential Read/Write         Read: 3.300 MB/s         Read: 1,700 MB/s         0           KATTO, max.)         Write: 2,800 MB/s         Read: 1,700 MB/s         0           Vorte: 2,800 MB/s         Read: 1,700 MB/s         0         0           (CrystalDiskMark, max.)         Write: 2,800 MB/s         Read: 1,700 MB/s         0           (CrystalDiskMark, max.)         Write: 2,800 MB/s         Read: 1,700 MB/s         0           (CrystalDiskMark, max.)         Write: 4,2500 MB/s         Read: 1,700 MB/s         0           (CrystalDiskMark, max.)         Write: 4,2500 MB/s         Read: 1,700 MB/s         0           (CrystalDiskMark, max.)         Write: 4,2500 MB/s         Read: 1,700 MB/s         0	Storage		
Operating Environment         Operating Temperature       0°C (32°F) - 70°C (158°F)         Operating Voltage       3.3V±5%         Performance       Sequential Read/Write         Read: 3.300 MB/s       Read: 1,700 MB/s         Sequential Read/Write       Read: 3.300 MB/s         Virte: 2,800 MB/s       Write: 1,500 MB/s         Sequential Read/Write       Read: 3.500 MB/s         KATTO, max.)       Write: 2,800 MB/s         Write: 1,500 MB/s       Read: 1,700 MB/s         Sequential Read/Write       Read: 3.500 MB/s         (CrystalDiskMark, max.)       Write: 2,800 MB/s         Write: 1,500 MB/s       Write: 1,500 MB/s         Kandom Read/Write       Read: 360,000 IOPS         Mean Time Between Failures       1,500,000 hour(s)         Mortine Drive Writes Per Day (DWPD)       0.4(5 yrs)       0.2(5 yrs)         Warranty       Five-year Limited Warranty         Warranty       Five-year Limited Warranty         SMART.       ✓       ✓         DDR3 DRAM Cache       ✓       –         Advanced Garbage Collection       ✓       ✓         RAID Engine       ✓       –	Flash Type	3D NAND flash	
Operating Temperature       0°C (32°F) - 70°C (158°F)         Operating Voltage       3.3V±5%         Performance       Sequential Read/Write       Read: 3,300 MB/s       Read: 1,700 MB/s         Sequential Read/Write       Read: 3,300 MB/s       Read: 1,700 MB/s       Read: 1,700 MB/s         CorpstalDiskMark, max.)       Write: 2,800 MB/s       Read: 1,700 MB/s       Read: 1,700 MB/s         Sequential Read/Write       Read: 3,500 MB/s       Read: 1,700 MB/s       Read: 3,500 MB/s       Read: 1,700 MB/s         CyrstalDiskMark, max.)       Write: 2,800 MB/s       Read: 1,700 MB/s       Read: 1,700 MB/s       Read: 3,500 MB/s       Read: 1,700 MB/s         Kandom Read/Write       Read: 360,000 IOPS       Read: 1,700 MB/s       Read: 1,700 MB/s       Read: 1,700 MB/s         (CrystalDiskMark, max.)       Write: 1,200 MB/s       Read: 1,700 MB/s       Read: 1,700 MB/s       Read: 1,700 MB/s         Mean Time Between Failures       1,500,000 hour(s)       1,000,000 hour(s)       1,000,000 hour(s)       Read: 1,700 MB/s       <	Capacity	256 GB/512 GB/1 TB	128 GB/256 GB/512 GB/1 TB
Operating Temperature       0°C (32°F) - 70°C (158°F)         Operating Voltage       3.3V±5%         Performance       Sequential Read/Write       Read: 3,300 MB/s       Read: 1,700 MB/s         Sequential Read/Write       Read: 3,300 MB/s       Read: 1,700 MB/s       Read: 1,700 MB/s         CorpstalDiskMark, max.)       Write: 2,800 MB/s       Read: 1,700 MB/s       Read: 1,700 MB/s         Sequential Read/Write       Read: 3,500 MB/s       Read: 1,700 MB/s       Read: 3,500 MB/s       Read: 1,700 MB/s         CyrstalDiskMark, max.)       Write: 2,800 MB/s       Read: 1,700 MB/s       Read: 1,700 MB/s       Read: 3,500 MB/s       Read: 1,700 MB/s         Kandom Read/Write       Read: 360,000 IOPS       Read: 1,700 MB/s       Read: 1,700 MB/s       Read: 1,700 MB/s         (CrystalDiskMark, max.)       Write: 1,200 MB/s       Read: 1,700 MB/s       Read: 1,700 MB/s       Read: 1,700 MB/s         Mean Time Between Failures       1,500,000 hour(s)       1,000,000 hour(s)       1,000,000 hour(s)       Read: 1,700 MB/s       <			
Operating Voltage       3.3V±5%         Performance       Read: 3,300 MB/s       Read: 1,700 MB/s         Sequential Read/Write (ATTO, max.)       Read: 3,500 MB/s       Write: 1,500 MB/s         Sequential Read/Write (Crystal DiskMark, max.)       Read: 3,500 MB/s       Read: 1,700 MB/s         Vite: 2,800 MB/s       Write: 1,500 MB/s       Write: 1,500 MB/s         Mandom Read/Write (Crystal DiskMark, max.)       Read: 360,000 IOPS       Read: 160,000 IOPS         Mean Time Between Failures (MTBF)       1,500,000 hour(s)       1,000,000 hour(s)         Mean Time Between Failures (MTBF)       1,500,000 hour(s)       1,000,000 hour(s)         Virte: 40,000 IOPS       Write: 140,000 IOPS       Write: 140,000 IOPS         Warranty       800 TB       400 TB         Drive Writes Per Day (DWPD)       0.4(5 yrs)       0.2 (5 yrs)         Warranty       Five-year Limited Warranty         Technology       SMA.R.T.       ✓         SMA.R.T.       ✓       ✓         DDR3 DRAM Cache       ✓       –         Advanced Garbage Collection       ✓       ✓         RAID Engine       ✓       –	Operating Environment		
Performance         Sequential Read/Write (ATTO, max.)       Read: 3,300 MB/s       Read: 1,700 MB/s         Write: 2,800 MB/s       Write: 1,500 MB/s         Sequential Read/Write (CrystalDiskMark, max.)       Read: 3,500 MB/s       Read: 1,700 MB/s         Kandom Read/Write (CrystalDiskMark, max.)       Read: 3,500 MB/s       Write: 1,500 MB/s         4K Random Read/Write (CorystalDiskMark, max.)       Read: 36,000 IOPS       Read: 16,0000 IOPS         Mean Time Between Failures (MTBF)       1,500,000 hour(s)       1,000,000 hour(s)         Mean Time Between Failures (MTBF)       1,500,000 hour(s)       1,000,000 hour(s)         Terabytes Written (Max.)       800 TB       400 TB         Drive Writes Per Day (DWPD)       0.4(5 yrs)       0.2 (5 yrs)         Warranty       Five-year Limited Warranty         Technology       SMA.R.T.       ✓         SMA.R.T.       ✓       ✓         DDR3 DRAM Cache       ✓       –         Advanced Garbage Collection       ✓       –         RAID Engine       ✓       –	Operating Temperature	0°C (32°F) ~ 70°C (158°F)	
Sequential Read/Write (ATTO, max.)Read: 3,300 MB/sRead: 1,700 MB/sSequential Read/Write (CrystalDiskMark, max.)Read: 3,500 MB/sWrite: 1,500 MB/sKandom Read/Write (CrystalDiskMark, max.)Read: 3,500 MB/sWrite: 1,500 MB/s4K Random Read/Write (IOmeter, max.)Read: 360,000 IOPSRead: 160,000 IOPS(IOmeter, max.)Write: 425,000 IOPSWrite: 140,000 IOPSMean Time Between Failures (MTBF)1,000,000 hour(s)1,000,000 hour(s)Terabytes Written (Max.)800 TB400 TBDrive Writes Per Day (DWPD)0.4 (5 yrs)0.2 (5 yrs)WarrantyFive-year Limited WarrantyTechnology\$MA.R.T.✓SM.A.R.T.✓✓DDR3 DRAM Cache✓-Advanced Garbage Collection✓✓RAID Engine✓-	Operating Voltage	3.3V±5%	
Sequential Read/Write (ATTO, max.)Read: 3,300 MB/sRead: 1,700 MB/sSequential Read/Write (CrystalDiskMark, max.)Read: 3,500 MB/sWrite: 1,500 MB/sKandom Read/Write (CrystalDiskMark, max.)Read: 3,500 MB/sWrite: 1,500 MB/s4K Random Read/Write (IOmeter, max.)Read: 360,000 IOPSRead: 160,000 IOPS(IOmeter, max.)Write: 425,000 IOPSWrite: 140,000 IOPSMean Time Between Failures (MTBF)1,000,000 hour(s)1,000,000 hour(s)Terabytes Written (Max.)800 TB400 TBDrive Writes Per Day (DWPD)0.4 (5 yrs)0.2 (5 yrs)WarrantyFive-year Limited WarrantyTechnology\$MA.R.T.✓SM.A.R.T.✓✓DDR3 DRAM Cache✓-Advanced Garbage Collection✓✓RAID Engine✓-	- •		
(ATTO, max.)Write: 2,800 MB/sWrite: 1,500 MB/sSequential Read/Write (CrystalDiskMark, max.)Read: 3,500 MB/sRead: 1,700 MB/s4K Random Read/Write (CrystalDiskMark, max.)Read: 360,000 IOPSWrite: 1,500 MB/s4K Random Read/Write (IOmeter, max.)Read: 360,000 IOPSWrite: 140,000 IOPSMean Time Between Failures (MTBF)1,500,000 hour(s)1,000,000 hour(s)Terabytes Written (Max.)800 TB400 TBDrive Writes Per Day (DWPD)0.4 (5 yrs)0.2 (5 yrs)WarrantyFive-year Limited WarrantyWarranty-S.M.A.R.T.DDR3 DRAM CacheAdvanced Garbage CollectionRAID Engine			
Sequential Read/Write (CrystalDiskMark, max.)       Read: 3,500 MB/s       Read: 1,700 MB/s         4K Random Read/Write (ICrystalDiskMark, max.)       Write: 2,800 MB/s       Write: 1,500 MB/s         4K Random Read/Write (ICometer, max.)       Read: 360,000 IOPS       Read: 160,000 IOPS         Mean Time Between Failures (MTBF)       1,500,000 hour(s)       1,000,000 hour(s)         Terabytes Written (Max.)       800 TB       400 TB         Drive Writes Per Day (DWPD)       0.4 (5 yrs)       0.2 (5 yrs)         Warranty       Five-year Limited Warranty         Warranty       Five-year Limited Warranty         S.M.A.R.T.       ✓       ✓         DDR3 DRAM Cache       ✓       ✓         Advanced Garbage Collection       ✓       ✓         RAID Engine       ✓       –			
4K Random Read/Write (IOmeter, max.)       Read: 360,000 IOPS Write: 425,000 IOPS       Read: 160,000 IOPS Write: 140,000 IOPS         Mean Time Between Failures (MTBF)       1,500,000 hour(s)       1,000,000 hour(s)         Terabytes Written (Max.)       800 TB       400 TB         Drive Writes Per Day (DWPD)       0.4 (5 yrs)       0.2 (5 yrs)         Warranty       Five-year Limited Warranty         Warranty       Five-year Limited Warranty         S.M.A.R.T.       ✓       ✓         DDR3 DRAM Cache       ✓       –         Advanced Garbage Collection       ✓       ✓         RAID Engine       ✓       –			
(IOmeter, max.)Write: 425,000 IOPSWrite: 140,000 IOPSMean Time Between Failures (MTBF)1,500,000 hour(s)1,000,000 hour(s)Terabytes Written (Max.)800 TB400 TBDrive Writes Per Day (DWPD)0.4 (5 yrs)0.2 (5 yrs)WarrantyFive-year Limited WarrantyTechnologyS.M.A.R.T.✓S.M.A.R.T.✓✓DR3 DRAM Cache✓✓Advanced Garbage Collection✓✓RAID Engine✓✓			
Mean Time Between Failures (MTBF)1,000,000 hour(s)Terabytes Written (Max.)800 TB400 TBDrive Writes Per Day (DWPD)0.4 (5 yrs)0.2 (5 yrs)WarrantyWarrantyFive-year Limited WarrantyTechnologyS.M.A.R.T.DR3 DRAM CacheAdvanced Garbage CollectionRAID Engine			
Terabytes Written (Max.)     800 TB     400 TB       Drive Writes Per Day (DWPD)     0.4 (5 yrs)     0.2 (5 yrs)       Warranty         Warranty     Five-year Limited Warranty       Technology        S.M.A.R.T.     ✓       DR3 DRAM Cache     ✓       Advanced Garbage Collection     ✓       RAID Engine     ✓	Mean Time Between Failures		
Drive Writes Per Day (DWPD) 0.4 (5 yrs) 0.2 (5 yrs)           Warranty           Warranty           Five-year Limited Warranty           Technology           S.M.A.R.T.           S.M.A.R.T.           DDR3 DRAM Cache           Advanced Garbage Collection           RAID Engine			
Warranty Warranty Technology S.M.A.R.T. DDR3 DRAM Cache Advanced Garbage Collection RAID Engine			
Warranty       Five-year Limited Warranty         Technology	Drive Writes Per Day (DWPD)	0.4 (5 yrs)	0.2 (5 yrs)
Warranty       Five-year Limited Warranty         Technology	M/arranty		
Technology       S.M.A.R.T.       DDR3 DRAM Cache       Advanced Garbage Collection       RAID Engine		Five-\	vear Limited Warranty
S.M.A.R.T.✓DDR3 DRAM Cache✓Advanced Garbage Collection✓RAID Engine✓			
S.M.A.R.T.✓DDR3 DRAM Cache✓Advanced Garbage Collection✓RAID Engine✓	Technology		
DDR3 DRAM Cache-Advanced Garbage Collection✓RAID Engine✓		✓	$\checkmark$
Advanced Garbage Collection     ✓       RAID Engine     ✓			
	Advanced Garbage Collection		$\checkmark$
LDPC Coding	RAID Engine	$\checkmark$	-
	LDPC Coding	$\checkmark$	$\checkmark$

 $\ensuremath{\mathsf{*Speed}}$  may vary due to host hardware, software, usage, and storage capacity.