Transcend TS512GSSD230S

Transcend SSD230 512GB 2.5-inch SATA III Internal SSD User Manual

Model: TS512GSSD230S | Brand: Transcend

1. INTRODUCTION

The Transcend SSD230 is a high-performance 2.5-inch SATA III 6Gb/s internal solid state drive designed for upgrading PCs, laptops, and compatible gaming consoles. It features 3D TLC NAND flash memory, SLC Cache, a RAID engine, and LDPC coding for enhanced speed, endurance, and reliability. This manual provides essential information for the installation, operation, and maintenance of your SSD.

Your browser does not support the video tag.

Official product video showcasing the Transcend SSD230S features and performance.

2. PRODUCT FEATURES

- Standard 2.5-inch form factor with 7mm thickness.
- SATA III 6Gb/s interface for high-speed data transfer.
- 512GB storage capacity.
- Up to 560 MB/s read and 520 MB/s write speeds.
- 3D NAND flash memory for improved performance and endurance.
- Integrated DRAM cache for faster access times.
- RAID engine and LDPC coding for data integrity and error correction.
- DevSleep mode for enhanced power efficiency.

SSD230S

2.5" Solid State Drive
SATA 6Gb/s
With DRAM cache

512GB

SSD230S
Solid State Drive

Transcend®

Front view of the Transcend SSD230S 512GB Solid State Drive.

Guaranteed endurance and reliability

Transcend's SSD230S offers great Terabytes Written (TBW) values (up to 1120 TB) indicating the total amount of data you can write into the drive over its lifetime.

RAID engine and LDPC coding

Detects and corrects transfer errors to prevent data corruption in TLC-based SSD products

Garbage Collection

Relocates existing data to release memory blocks

Wear-leveling

Distributes data evenly across memory cells to prolong SSD's lifespan

DevSleep

Intelligently shuts down SATA interface when not in use to prolong device's battery life

DDR3 DRAM cache

Stores a temporary copy of the most active data to shorten access times

Key features of the SSD230S including 3D NAND, SLC caching, DRAM cache, and error correction technologies.

A better choice than HDD

Solid-state drives dominate the market for PC upgrades because they are faster and lighter than hard disk drives. SSDs also feature less power, create less noise when in operation, and are more shock-resistant than traditional hard drives.
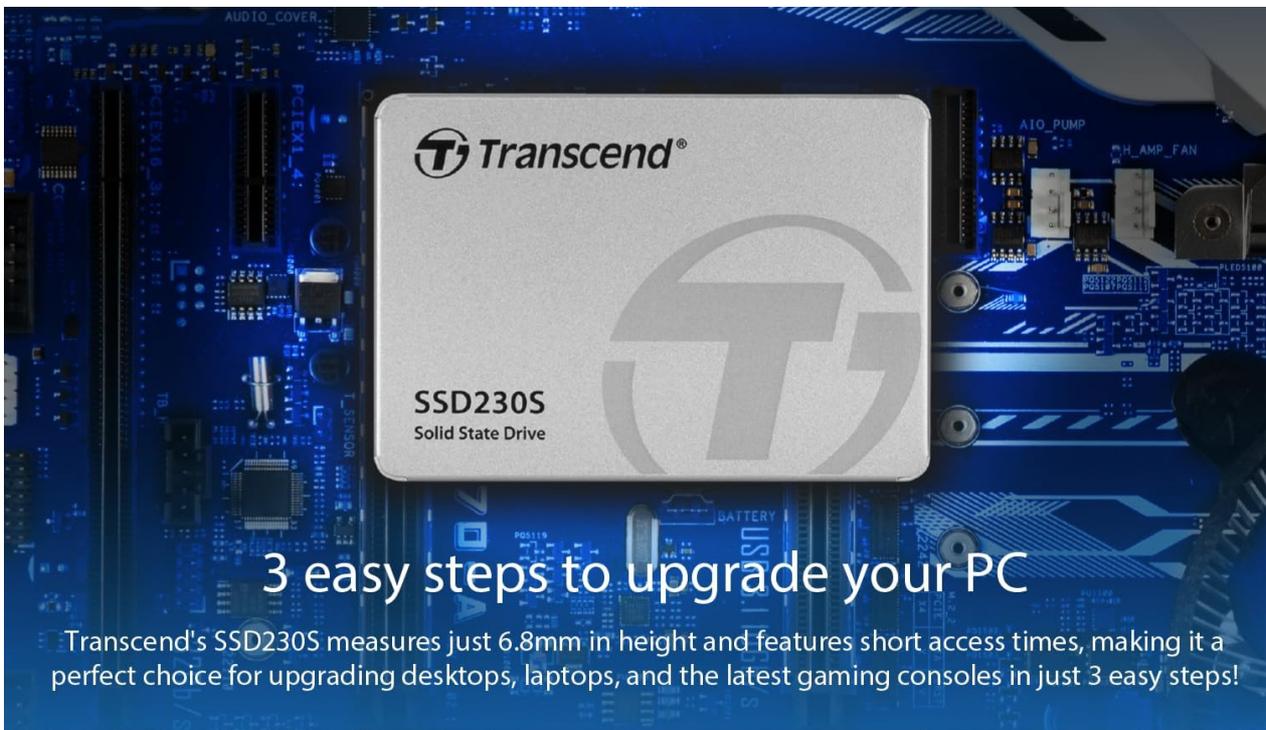
Super fast   Energy efficient   **Shock resistant**

Illustration explaining 3D NAND flash memory technology for improved performance and endurance.

Overview of the SSD230S's endurance and reliability features, including RAID engine, Garbage Collection, Wear-leveling, DevSleep, and DDR3 DRAM cache.

Comparison highlighting the advantages of SSDs over traditional HDDs, such as speed, energy efficiency, and shock resistance.

3. PACKAGE CONTENTS

The Transcend SSD230S package typically includes the following items:

- Transcend SSD230S Solid State Drive
- Quick Installation Guide
- Warranty Card

4. SETUP AND INSTALLATION

Installing the Transcend SSD230S involves replacing an existing hard drive or adding it as a secondary storage device in a compatible system. Ensure your system is powered off and disconnected from the power source before beginning installation.

1. **Back up your data:** Before removing your old drive, ensure all important data is backed up to an external storage device or cloud service.
2. **Remove the old hard drive:** Open your computer case (desktop) or access the drive bay (laptop) and

carefully remove the existing hard drive. Refer to your computer's service manual for specific instructions.

3. **Insert your Transcend SSD:** Slide the SSD230S into the drive bay and secure it with screws. Connect the SATA data and power cables to the SSD. For desktop installations, a 2.5-inch to 3.5-inch mounting bracket may be required (not included).

4. **Close and power on:** Reassemble your computer and connect the power. Power on your system.

For detailed visual instructions, please refer to the image below or the included Quick Installation Guide.

Visual guide for upgrading your PC with a Transcend SSD, showing data backup, old drive removal, and new SSD insertion.

5. OPERATING INSTRUCTIONS

After physical installation, you will need to install an operating system or migrate your existing data to the new SSD. Transcend provides the **SSD Scope software**, a user-friendly tool designed to help maintain the health and optimize the performance of your Transcend SSD.

Transcend SSD Scope Software Features:

- **Status:** Displays drive information, S.M.A.R.T. status, capacity used, and wear-out indicator.
- **Tool:** Includes speed test, secure erase, and diagnostic scan functionalities.

- **System Clone:** Migrates all data from the original drive to your new Transcend SSD.
- **Firmware Update:** Updates your Transcend SSD to the latest firmware version.
- **Settings:** Allows you to enable/disable TRIM, minimize startup software, or manage software at Windows startup.

Download the latest version of Transcend SSD Scope from the official Transcend website.

Overview of the Transcend SSD Scope software and its various functions for SSD management.

6. MAINTENANCE

To ensure optimal performance and longevity of your Transcend SSD230S, regular maintenance is recommended:

- **Enable TRIM:** Ensure TRIM is enabled in your operating system. This command helps the SSD manage its storage space efficiently, preventing performance degradation over time. SSD Scope can assist with this.
- **Firmware Updates:** Periodically check for and install the latest firmware updates using the Transcend SSD Scope software. Firmware updates can improve performance, stability, and compatibility.
- **Monitor Drive Health:** Use the SSD Scope software to monitor the S.M.A.R.T. status and wear-out

indicator of your SSD. This provides insights into the drive's health and remaining lifespan.

- **Regular Backups:** While SSDs are reliable, no storage device is infallible. Always maintain regular backups of your critical data.

7. TROUBLESHOOTING

If you encounter issues with your Transcend SSD230S, consider the following troubleshooting steps:

SSD Not Detected:

- Ensure all SATA data and power cables are securely connected to both the SSD and the motherboard/power supply.
- Check your computer's BIOS/UEFI settings to confirm that the SATA port to which the SSD is connected is enabled.
- Try connecting the SSD to a different SATA port or using different cables to rule out faulty connections.
- If installing a new SSD, ensure it is initialized and formatted through Disk Management (Windows) or Disk Utility (macOS).

Slow Performance:

- Verify that TRIM is enabled in your operating system and through the Transcend SSD Scope software.
- Ensure your SATA controller is operating in AHCI mode in your BIOS/UEFI settings.
- Check for and install any available firmware updates for your SSD using Transcend SSD Scope.
- Ensure your operating system is up to date.
- Avoid filling the SSD to its maximum capacity; leaving some free space (typically 10-15%) can help maintain performance.

If issues persist after attempting these steps, please visit the Transcend support website for further assistance.

8. SPECIFICATIONS

Feature	Specification
Model Number	TS512GSSD230S
Digital Storage Capacity	512 GB
Hard Disk Interface	SATA III 6 Gb/s
Form Factor	2.5-inch (7mm thickness)
Read Speed	Up to 560 MB/s
Write Speed	Up to 520 MB/s
NAND Flash Type	3D TLC
Cache Memory	DRAM Cache
Special Features	SLC Cache, RAID Engine, LDPC Coding, DevSleep
Compatible Devices	PCs, Laptops, Desktops, Notebooks, PS4
Item Weight	0.14 Pounds

9. WARRANTY AND SUPPORT

The Transcend SSD230S is backed by a **three-year limited warranty**. This warranty covers defects in materials and workmanship under normal use.

For warranty claims, technical support, driver downloads, firmware updates, or further assistance, please visit the official Transcend website:

Transcend Support Website

Please have your product model number (TS512GSSD230S) and purchase information ready when contacting support.