**Embedded Solutions**

Half-Slim SSDs

# HSD452T & HSD452T-I

Equipped with the SATA III 6Gb/s interface, a powerful controller, and state-of-the-art 96-layer 3D NAND flash, Transcend's HSD452T Half-Slim SSDs feature the latest Corner Bond technology for enhanced durability, built-in DRAM cache for fast access, an extended operating temperature range from -20°C to 75°C, and an endurance rating of 3K Program/Erase cycles for reliable operation. Following the MO-297 standard set by JEDEC, HSD452T SSDs undergo extensive reliability testing to ensure the utmost quality and performance, best suited to read-heavy applications and space-limited mobile devices such as industrial control systems, medical equipment, mobile devices, and POS terminals.

Transcend also offers the HSD452T-I with wide temperature (-40℃ ~ 85℃) capabilities to ensure sustained functionality, enhanced endurance and optimal reliability in mission-critical applications.

## Hardware Features

- Compliant with RoHS 2.0 standards
- DDR3 DRAM Cache embedded
- Compliant with JEDEC MO-297
- Key components fortified by default with Corner Bond technology
- Power Shield (PS) to ensure data transfer integrity and minimize data corruption in the drive during an abnormal power outage

## Firmware Features

- Advanced Global Wear-Leveling and Block management for reliability
- Supports S.M.A.R.T. function to conduct health monitoring, analysis, and reporting for storage devices
- Built-in LDPC ECC (Error Correction Code) functionality
- Power-saving DevSleep (Device Sleep) mode (HSD452T)
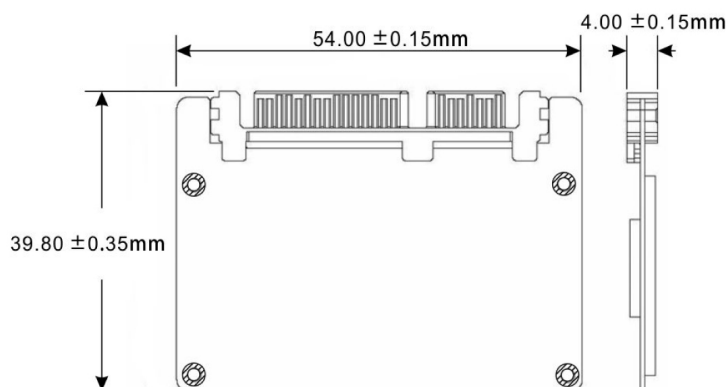- Dynamic thermal throttling

## Ordering Information

| | |
|---|---|
| 64GB | TS64GHSD452T |
| | TS64GHSD452T-I |
| 128GB | TS128GHSD452T |
| | TS128GHSD452T-I |
| 256GB | TS256GHSD452T |
| 512GB | TS512GHSD452T |
| | TS512GHSD452T-I |

# Specifications

| | | |
|---|---|---|
| **Appearance** | Dimensions | 54.0 mm x 39.8 mm x 4 mm (2.13" x 1.57" x 0.15") |
| | Weight | 9 g (0.32 oz) |
| | Pin Count | 7+15 pin |
| | Form Factor | Half-slim (MO-297) |
| **Interface** | Bus Interface | SATA III 6Gb/s |
| **Storage** | Flash Type | 3D NAND flash |
| | Capacity | 64 GB / 128 GB / 256 GB / 512 GB |
| **Operating Environment** | Operating Voltage | 5V±5% |
| | Operating Temperature | Extended Temp.<br>-20°C (-4°F) ~ 75°C (167°F)<br>Wide Temp.<br>-40°C (-40°F) ~ 85°C (185°F) |
| | Storage Temperature | -55°C (-67°F) ~ 85°C (185°F) |
| | Humidity | 5% ~ 95% |
| | Shock | 1500 G, 0.5 ms, 3 axis |
| | Vibration (Operating) | 20 G (peak-to-peak), 7 Hz ~ 2000 Hz (frequency) |
| **Power** | Power Consumption (Operation) | 2.7 watt(s) |
| | Power Consumption (Sleep) | 0.6 watt(s) |
| **Performance** | Sequential Read/Write (CrystalDiskMark) | Read: up to 560 MB/s<br>Write: up to 520 MB/s |
| | 4K Random Read/Write (IOmeter) | Read: up to 90,000 IOPS<br>Write: up to 85,000 IOPS |
| | Mean Time Between Failures (MTBF) | 3,000,000 hour(s) |
| | Terabytes Written (TBW) | up to 880 TBW |
| | Drive Writes Per Day (DWPD) | 1.61 (3 yrs) |
| **Warranty** | Certificate | CE / FCC / BSMI / UKCA |
| | Warranty | Three-year Limited Warranty |

# Mechanical Dimensions



Product specifications are subject to change without notice. Pictures shown may differ from actual products. Total accessible capacity varies depending on operating environment. Due to the complexity and variety of industrial applications, Transcend cannot guarantee 100% compatibility with all platforms and under all scenarios. For special applications and environments, it is strongly suggested that you contact Transcend beforehand for clarification.