

RoHS Compliant

Serial ATA Flash Drive

Consumer AST280X Product Specifications



July 7, 2025

Version 1.0

Apacer Technology Inc.

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Specifications Overview:

- **Compliance with SATA Revision 3.1**
 - SATA 6 Gbps interface
 - Backward compatible with SATA 1.5/3 Gbps interfaces
- **Capacity**
 - 128, 256, 512 GB
 - 1, 2 TB
- **Performance¹**
 - Sequential Read/Write
 - 128 GB: 520/500 MB/sec
 - 256 GB: 520/500 MB/sec
 - 512 GB: 520/500 MB/sec
 - 1 TB: 520/500 MB/sec
 - 2 TB: 520/500 MB/sec
 - 4K Random Read/Write IOPS
 - 128 GB: 25K/72K
 - 256 GB: 44K/74K
 - 512 GB: 44K/73K
 - 1 TB: 49K/73K
 - 2 TB: 49K/73K
- **Flash Management**
 - Low-Density Parity-Check (LDPC) Code
 - Global Wear Leveling
 - Bad Block Management
 - Flash Translation Layer: Page Mapping
 - Power Failure Management
 - S.M.A.R.T.
 - TRIM
- **Terabytes Written**
 - 128 GB: 70 TBW
 - 256 GB: 140 TBW
 - 512 GB: 280 TBW
 - 1 TB: 420 TBW
 - 2 TB: 840 TBW
- **Temperature Range**
 - Operating: 0°C to 70°C
 - Storage: -40°C to 85°C
- **Supply Voltage**
 - 3.3V ± 5%
- **Power Consumption¹**
 - Active mode: 1.2 W (max.)
 - Idle mode: 380 mW (max.)
- **Connector Type**
 - Internal NGFF connector (M.2) for SSD usage
- **NAND Flash Type: 3D NAND**
- **MTBF: >1,500,000 hours**
- **Physical Characteristics**
 - Form factor: M.2 2280
 - Dimensions: 80.00 x 22.00 x 2.25_(max.), unit: mm
- **Shock & Vibration²**
 - Shock: 1,500 G
 - Vibration:
 - Frequency/Displacement: 20Hz~80Hz/1.52mm
 - Frequency/Acceleration: 80Hz~2000Hz/20G
- **RoHS Compliant**
- **Warranty: 3 years or TBW (whichever occurs first)**

Notes:

1. Varies from capacities. The values for performances and power consumptions presented are typical and may vary depending on flash configurations or platform settings.
2. Non-operating

Product Ordering Information

Capacity	Bulk PN	Retail PN
128GB	AP128GAST280X	AP128GAST280X-1
256GB	AP256GAST280X	AP256GAST280X-1
512GB	AP512GAST280X	AP512GAST280X-1
1TB	AP1TBAST280X	AP1TBAST280X-1
2TB	AP2TBAST280X	AP2TBAST280X-1

Revision History

Revision	Description	Date
1.0	Initial release	7/7/2025

Global Presence

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