

RoHS Compliant PCI Express Flash Drive

Consumer AS2280Q4U Product Specifications



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Version 1.2

Apacer Technology Inc.

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Specifications Overview:

- **PCIe Interface**
 - Compliant with NVMe 1.4
 - Compatible with PCIe Gen4 x4 interface
- **Capacity**
 - 512 GB
 - 1, 2, 4, 8 TB
- **Performance¹**
 - Sequential Read/Write:
 - 512 GB: Up to 7000 / 3000 MB/s
 - 1 TB: Up to 7300 / 6000 MB/s
 - 2 TB: Up to 7400 / 7000 MB/s
 - 4 TB: Up to 7400 / 6800 MB/s
 - 8 TB: Up to 7300 / 6600 MB/s
 - 4K Random Read/Write
 - 512 GB : Up to 450K / 300K IOPS
 - 1 TB : Up to 750K / 1000K IOPS
 - 2 TB : Up to 1000K / 1000K IOPS
 - 4 TB : Up to 1000K / 1000K IOPS
 - 8 TB : Up to 900K / 1000K IOPS
- **Flash Management**
 - Global Wear Leveling
 - Bad block management
 - S.M.A.R.T
 - TRIM
 - Over-provisioning
- **NAND Flash Type:** 3D NAND
- **MTBF:** >1,600,000 hours
- **Endurance (in Terabytes Written: TBW)**
 - 512 GB: 350 TBW
 - 1 TB: 750 TBW
 - 2 TB: 1500 TBW
 - 4 TB: 3000 TBW
 - 8 TB: 6000TBW
- **Temperature Range**
 - Operating: 0°C to 70°C
 - Storage: -40°C to 85°C
- **Supply Voltage**
 - 3.3V ± 5%
- **Power Consumption¹**
 - Active mode (Max.): 9.7 W
 - Power state (Max.): 70 mW
- **Connector Type**
 - 75-pin M.2 module pinout
- **Physical Characteristics**
 - Form factor: M.2 2280
 - Dimensions (unit: mm):
 - Single-sided: (L)80.00 x (W)22.00 x (H)2.25_(max.)
 - Double-sided: (L)80.00 x (W)22.00 x (H)3.5_(max.)
 - With heat sink: (L)80.00 x (W)22.90 x (H)10.80_(max.)
 - Net weight (unit: g ± 5%):
 - Single-sided: 7.6
 - Double-sided: 10.2
- **Shock & Vibration²**
 - Shock: 1,500 G
 - Vibration:
 - Frequency/Displacement: 20Hz~80Hz/1.52mm
 - Frequency/Acceleration: 80Hz~2000Hz/20G
- **RoHS Compliant**

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	Retail P/N
512 GB	AP512GAS2280Q4U-1
1 TB	AP1TBAS2280Q4U-1
2 TB	AP2TBAS2280Q4U-1
4 TB	AP4TBAS2280Q4U-1
8 TB	AP8TBAS2280Q4U-1

Revision History

Revision	Description	Date
1.0	Initial release	7/15/2022
1.1	Added 4TB and 8TB support	12/20/2023
1.2	Updated sequential and random read/write performance for 4TB and 8TB	7/16/2024

Global Presence

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