RoHS Compliant

PCI Express Flash Drive

AS2280Q4 Product Specifications

Jul, 2019

Version 1.0

Specifications Overview:

- **PCIe Interface**
  - Compliant with NVMe 1.3
  - Compatible with PCIe Gen4 x4 interface

- **Capacity**
  - 500GB, 1000GB, 2000GB

  Performance*
  - Sequential read: up to 5,000 MB/sec
  - Sequential write: up to 4,400 MB/sec

- **Flash Management**
  - Bad block management
  - S.M.A.R.T.
  - Power Failure Management
  - TRIM
  - Over-Provision

- **TBW**
  - 500 GB: > 850
  - 1000 GB: > 1800
  - 2000 GB: > 3600

- **Temperature Range**
  - Operating: 0°C to 70°C
  - Storage: -40°C to 85°C

- **Supply Voltage**
  - 3.3 V ± 5%

- **Power Consumption***
  - Active mode: 6.7 W (max.)
  - Power State : <21.12mW (max.)

- **Connector Type**
  - 75-pin M.2 module pinout

- **NAND Flash Type:** 3D TLC

- **MTBF:** >1,500,000 hours

- **Form Factor**
  - M.2 2280-D2-M
  - Dimensions:
    Double side: 80.00 x 22.00 x 3.88, unit: mm
  - Net Weight: 8.3 g

- **Shock & Vibration****
  - Shock: 1,500 G
  - Vibration:

    Frequency/Displacement: 20Hz~80Hz/1.52mm

    Frequency/Acceleration: 80Hz~2000Hz/20G

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

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1. General Descriptions

Apacer AS2280Q4 (M.2 2280) is the next generation modularized Solid State Drive (SSD) with the shape of all new M.2 form factor, aimed to be the more suitable for mobile and compact computers with standard width at only 22.00 mm. AS2280Q4 appears in M.2 2280 mechanical dimensions and is believed to be the leading add-in storage solution for future host computing systems.
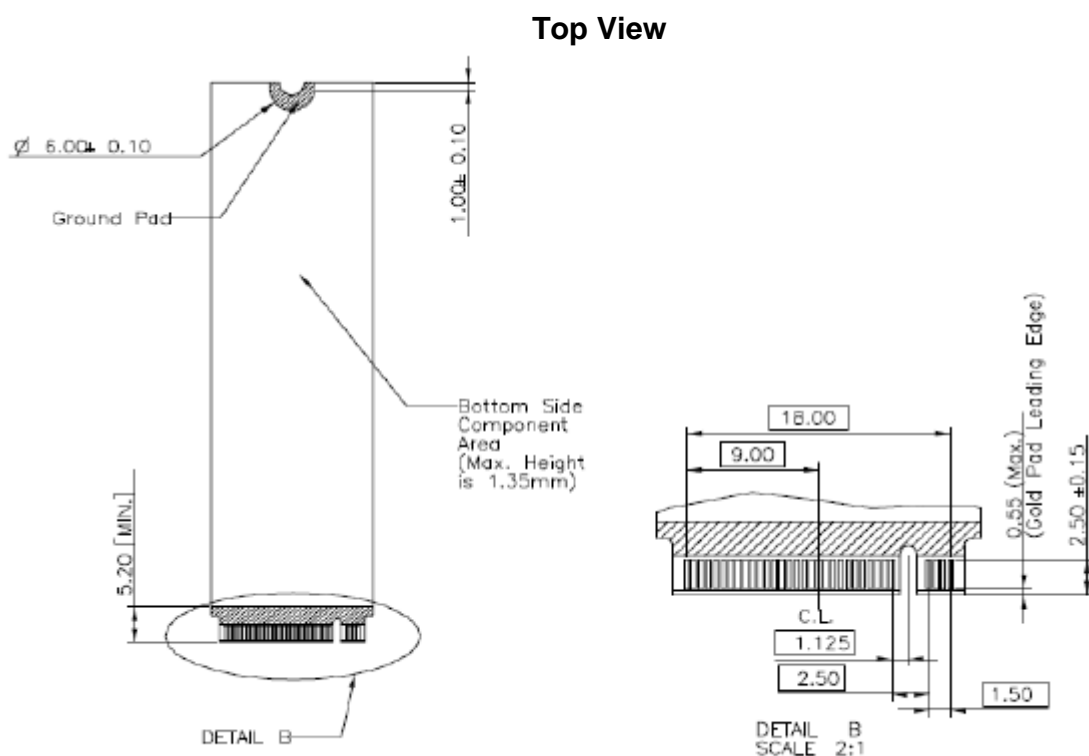
The M.2 SSD is designed with PCIE connector pinouts, providing full compliance with the latest PCIe Gen4 x 4 interface specifications. Aside from PCIe compliance, AS2280Q4 delivers exceptional performance and power efficiency. On the other hand, the extreme thin and light form factor makes AS2280Q4 the ideal choice for mobile computing systems, which appears to be the trend in near future.

Regarding reliability, AS2280Q4 is built with a powerful PCIe controller that supports on-the-module ECC as well as efficient wear leveling scheme. In terms of power efficiency, AS2280Q4 is compliant with PCIe Gen4 x 4 interface standard so that it can operate on power management modes, which greatly save on power consumption.
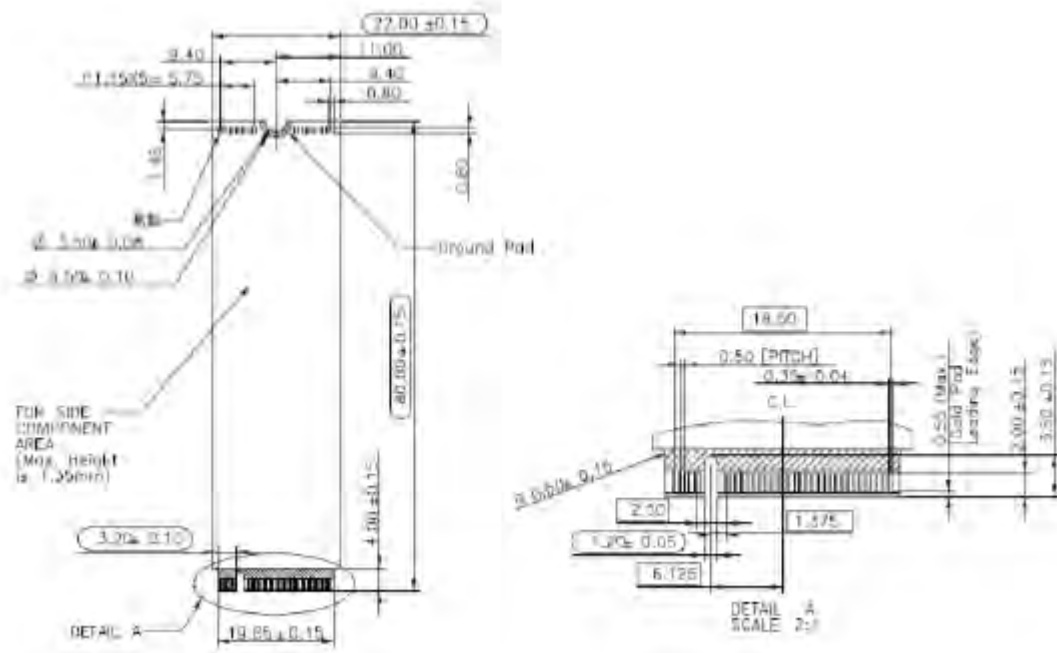
2. Physical Characteristics
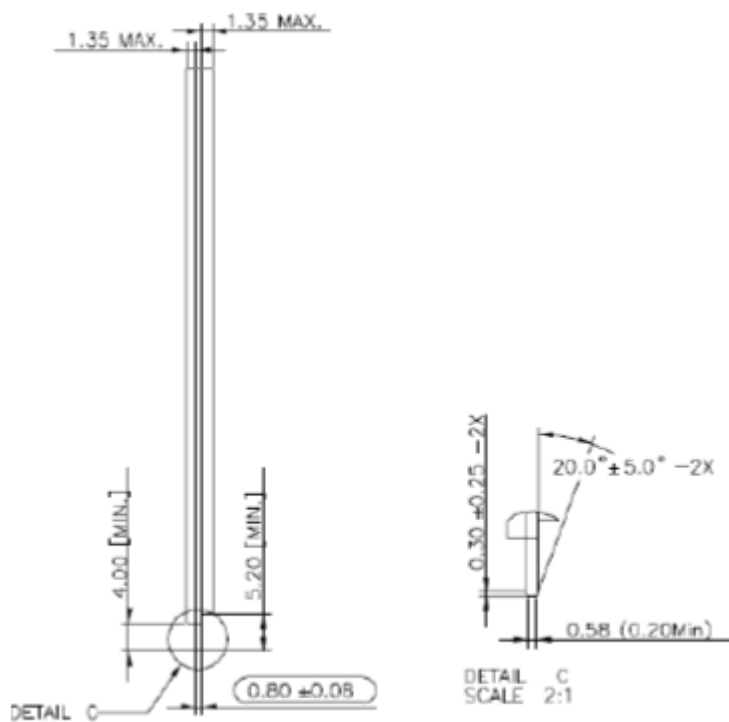
2.1 Physical Dimensions

❖ Dimension of M.2 2280-D2-M : 80.00mm (L) x 22mm (W) x 1.35mm (H)
   Physical Product Dimension : 80.00mm (L) x 22mm (W) x 1.20mm (H)

Top View

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Bottom View

Side View

2.2 Part Number Listing

Capacity	Bulk P/N
500GB	AP500GAS2280Q4-1
1000GB	AP1TBAS2280Q4-1
2000GB	AP2TBAS2280Q4-1

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Revision History

Revision	Description	Date
1.0	Preliminary release	07/17/2019

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