✚TDK

Flash Storage

TDK presents highly reliable M.2 type SSD with PCI Express® support for industrial applications

- Supports PCI Express® and NVM Express™
- DRAM-less design, featuring internal power backup circuit
- GBDriver GX1 controller developed by TDK
- Low power consumption
- Optimized for industrial applications

April 3, 2024

TDK Corporation (TSE:6762) announced the launch of its new M.2 2280 type SSD [SNP1A series], supporting PCI Express® (PCIe®)* and NVM Express™ (NVMe™)**. The SSD integrates NAND flash memory, TDK's GBDriver GX1 controller IC, and an internal backup power circuit, making it highly resistant to power interruptions.

In recent years, the number of SATA ports on the host CPU side has been decreasing, while demand for PCIe®/NVMe™-connected SSDs has been increasing. Most SSDs compatible with PCIe®/NVMe™ interfaces focus on transfer speed, catering to the needs of applications that include servers, high-performance computing, and entertainment equipment. Pure speed can come at the cost of reliability, however, which is a problem for applications such as industrial equipment and edge computing that require stable operation.

TDK has applied its knowhow from past products to the NAND memory controller (GBDriver GX1), and developed an SSD with PCIe®/NVMe™ interface support that boasts high data reliability for use in OS boot-up mainly in industrial equipment. TDK has developed new blackout countermeasure circuits for PCIe®, which is useful also in past products with industrial applications, resulting in the M.2 2280 form factor SSD that is resistant to sudden power interruptions.

TDK designed the GBDriver GX1 NAND memory controller IC to consume about half the power of a common SSD with PCIe®/NVMe™ interface support***, which makes it attractive for use in edge computing equipment.

In addition, TDK's SNP1A series has enhanced security measures, including not only the FW tampering prevention functions, but also a proprietary security function that can prevent impersonation and protect against viruses such as ransomware, providing strong security against tampering and leakage of data in the NAND flash memory.

The SNP1A series will be exhibited at TDK's booth (#223 in hall 1) at embedded world 2024, to be held in Nuremberg on April 9-11, 2024.

*   PCIe is a registered trademark of PCI-SIG
**   NVMe is a registered trademark of NVM Express, Inc. in the United States and other countries.
*** As of Month 201x, based on TDK research

Main applications

- Edge computing equipment
- Industrial computers
- Embedded CPU boards

- FA equipment
- Semiconductor manufacturing equipment
- Station service equipment
- Financial payment terminals
- Office automation equipment
- Games and other amusement equipment
- Advertising display equipment
- Medical equipment
- Data analysis equipment
- Communication broadcasting equipment
- Information system equipment
- Security equipment such as automatic control systems for power equipment
- Smart grid equipment
- Security terminals
- Disaster prevention equipment

About TDK Corporation

TDK Corporation is a world leader in electronic solutions for the smart society based in Tokyo, Japan. Built on a foundation of material sciences mastery, TDK welcomes societal transformation by resolutely remaining at the forefront of technological evolution and deliberately "Attracting Tomorrow." It was established in 1935 to commercialize ferrite, a key material in electronic and magnetic products. TDK's comprehensive, innovation-driven portfolio features passive components such as ceramic, aluminum electrolytic and film capacitors, as well as magnetics, high-frequency, and piezo and protection devices. The product spectrum also includes sensors and sensor systems such as temperature and pressure, magnetic, and MEMS sensors. In addition, TDK provides power supplies and energy devices, magnetic heads and more. These products are marketed under the product brands TDK, EPCOS, InvenSense, Micronas, Tronics and TDK-Lambda. TDK focuses on demanding markets in automotive, industrial and consumer electronics, and information and communication technology. The company has a network of design and manufacturing locations and sales offices in Asia, Europe, and in North and South America. In fiscal 2023, TDK posted total sales of USD 16.1 billion and employed about 103,000 people worldwide.

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https://www.tdk.com/en/news_center/press/20240403_01.html

Further information on the products can be found under
https://product.tdk.com/system/files/dam/doc/product/flash-storage/flashstorage_snp1a_en.pdf

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