Industrial Grade

microSD™ and SD™ Card Portfolio

Utilizing advanced features for your industrial and IoT applications

Western Digital

Industrial-Grade microSD and SD cards

deliver superior endurance, reliability, extended temperature range, and longevity across a wide range of applications, including drones, action cameras, home surveillance, gateways, servers, and network equipment. Designed and tested to withstand some of the harshest environmental conditions, our industrial-grade microSD and SD cards take full advantage of a powerful suite of features available in the industrial series of flash storage solutions.

Advanced Features

Health Status for Preventive Maintenance

- Reports a percentage indicating how much of the NAND specified endurance was used

- This is valuable for determining if the card needs to be replaced to ensure continuity and prevent data loss
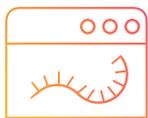
Host Lock for Security and Protection

- Enables locking the card to a specific host to help protect the card and its content

- Adds a second layer of protection on top of the legacy card lock command (CMD42) by using a Card Ownership Password to disable the Force Erase option

- The Card will remain locked upon powerup in case a password was set

Power Immunity for Reliability

- Advanced algorithms ensure data integrity in case of power loss, even if they occur during write operations

- Voltage Droop detection

  - The Card will stop its operation upon detecting unstable voltage

  - Subsequent commands to the card will time out

  - A soft reset should be issued by the host following voltage stabilization to resume normal operation
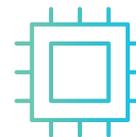
One Time Programmable String for Specific Identification

- Provides access to a 32-byte string that can be programmed for specific application needs

Automatic and Manual Read Refresh for Enhanced Data Retention

- Identifies and addresses potential read disturb, read endurance (hot spot) & data retention (cold spot) areas across the media

Secure Field Firmware Update (FFU) for Synchronized Implementation

- Enables updating the device firmware without disruption to user data and without sending it back to the vendor

- Firmware update is particularly useful for feature enhancement

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Product					
Grade	Industrial	Industrial	Industrial 3D	Industrial	Industrial 3D
Product Name	Industrial IX QD332 microSD Card	Industrial IX QD334 microSD Card	Industrial IX QD342 3D tech microSD Card	Industrial IX LD332 SD Card	Industrial IX LD342 3D Tech SD Card
Specification	Speed Class C10, U1	Speed Class C10, U3, A1	Speed Class U1, U3[4], A1	Speed Class C10, U1	Speed Class U1, U3[5]
Capacity[1]	8GB to 128GB	8GB to 64GB	16GB to 256GB	8GB to 64GB	16GB to 512GB
Interface	SD 5.1 UHS-I 104	SD 6.0 UHS-I 104	SD 6.0 UHS-I 104	SD 5.1 UHS-I 104	SD 6.0 UHS-I 104
Operating Temperature	XI: − 40° to 85° C I: − 25° to 85° C	XI: − 40° to 85° C	- 25° to 85° C	XI: − 40° to 85° C I: − 25° to 85° C	- 25° to 85° C
Performance Sequential R/W[2]	Up to 80/50 MB/s	Up to 90/50 MB/s	Up to 100/50 MB/s	Up to 80/50 MB/s	Up to 80/50 MB/s
Endurance[3]	Up to 384 TBW	Up to 1920 TBW	Up to 768 TBW	Up to 192 TBW	Up to 1536 TBW
Health Status Register	Y	Y	Y	Y	Y
Host Lock	Y	Y	Y	Y	Y
Programmable String/ID	Y	Y	Y	Y	Y
Secure FFU	Y	Y	Y	Y	Y
Auto/Manual Read Refresh	Y	Y	Y	Y	Y
Limited Warranty	2 years	2 years	2 years	2 years	2 years
OPN/SKU	SDSDQAF3-###G-XI SDSDQAF3-###G-I	SDSDQED-###G-XI	SDSDQAF4-###G-I	SDSDAF3-###G-XI SDSDAF3-###G-I	SDSDAF4-###G-I

[1] Gigabyte (GB) = 1 billion bytes. Actual user capacity may vary.

[2] Based on Western Digital internal testing, read and write speed may vary depending on read/write conditions. 1 megabyte (MB) = 1 million bytes.

[3] Endurance values depend on capacity.

[4] A1 = Application Performance Class. A1 is indicated by A1 logo marking.

[5] U3 is available on 128GB, 256GB and 512GB configurations.

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