

# Western Digital®



Mobile

Automotive

IoT & Edge



## Western Digital

会社概要：1970年に設立

2010年にHGST(Hitachi Global storage technology)を買収

2016年にSandiskを買収

取扱製品：NAND Flash Memory、Hard Disk Drive

対象市場：産業機器向け、車載向け、PC/SmartPhone向け、DataCenter向け、一般消費者向け

## SD/MicroSDCard採用事例



セキュリティ



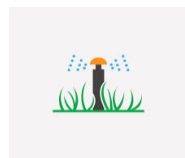
プロジェクタ



POS



OA機器



IoT関連



FA機器制御



車載機器

## 生産拠点 (NAND Flash製品)

### Japan (三重県)



NAND Wafer Factory

### China (上海)



Die Packaging & Test

### Malaysia



Integrated SSD /  
China backup facility

- ・コンポーネントの設計、開発、製造を一貫して行う垂直統合メーカー
- ・NAND Flash工場は三重県四日市工場に加えて、岩手県北上工場を建設して生産設備を増設
- ・保有している特許は14000以上あり、ストレージ製品のリーディングカンパニー



- Designed for OEM applications
- Enables applications with wide range of performance needs



- Extended roadmap support
- High Endurance
- Both -40°C to +85°C and -25°C to 85°C support



- Extended temp range: -40°C to +105°C
- Special production flow for auto quality
- AEC-Q100/IATF 16949v



- Optimized for write endurance – up to 7K/50K (SLC/MLC) P/E cycles
- High temp support: -25°C to 95°C Ta
- Smart Partitioning for embedded flash



- High Endurance
- Health Monitor
- Wide temperature range for indoor / outdoor installations

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## SD/MicroSDCard Lineup

### Commercial製品

Commercial microSD™ Cards			
Product	Edge CL QD501	Edge CL QD301	Edge CL QD101
Specification	Speed Class V30, U3, C10, A2	Speed Class C10, U1, A1	Speed Class C4
Capacity <sup>1</sup>	32GB to 512GB	16GB to 600GB	8GB to 64GB
Interface	SD 5.0 UHS-I 104	SD 3.0 & SD 5.1 UHS-I 104	SD 3.0 UHS-I 50
Operating Voltage		2.7V to 3.6V	
Operating Temperatures		-25°C to 85°C	
Sequential R/W (MB/s) <sup>2</sup>	Up to 95/90 MB/s	Up to 95/10 MB/s	Up to 20/5 MB/s
Ordering Information	SDSDQAE-###G	SDSDQAD-###G	SDSDQAB-###G

Commercial Full-size SD™ Cards			
Product	Edge CL LD501	Edge CL LD301	Edge CL LD101
Specification	Speed Class V30, U3, C10, A2	Speed Class C10, U1, A1	Speed Class C4
Capacity <sup>1</sup>	32GB to 128GB	16GB to 128GB	8GB to 32GB
Interface	SD 4.0 UHS-I 104	SD 3.0 UHS-I 104	SD 3.0 UHS-I 50
Operating Voltage		2.7V to 3.6V	
Operating Temperatures		-25°C to 85°C	
Sequential R/W (MB/s) <sup>2</sup>	Up to 80/50 MB/s	Up to 60/10 MB/s	Up to 20/5 MB/s
Ordering Information	SDSDAE-###G	SDSDAD-###G	SDSDAA-###G



### Connected home製品

Connected Home Edge + Removables				
Specification	Edge + SD™ Cards		Edge + microSD™ Cards	
Product	CH LD313	CH LD513 <sup>1</sup>	CH QD313	CH QD513
Capacity <sup>1</sup>	8GB to 128GB	4GB and 32GB	8GB to 64GB	4GB to 64GB
Operating Temperatures	-25°C to 85°C		-25°C to 85°C	
Sequential R/W (MB/s) <sup>2</sup>	Up to 50/30	Up to 50/50	Up to 50/30	Up to 50/50
Endurance <sup>4</sup>	Up to 896TBW	Up to 450TBW	Up to 640TBW	Up to 3200TBW
Smart Features	Health Status Register, Host Lock, Programmable String, Secured FFU, Auto and Manual Read Refresh			
Ordering Information	SDSDEB-###G	SDSDEC-###G	SDSDQEB-###G	SDSDQEC-###G



### Industrial製品

SD and microSD Cards for Industrial, IoT & Surveillance										
Product	WD Purple SC QD102 microSD Card Surveillance High Endurance	WD Purple SC QD312 microSD Card Surveillance Extreme Endurance	Industrial IX LD332 SD Card Extended Temp	Industrial IX LD332 SD Card Wide Temp	Industrial IX LD342 SD Card 3D Technology	Industrial IX QD332 microSD Card Extended Temp	Industrial IX QD332 microSD Card Wide Temp	Industrial IX QD334 microSD Card Extended Temp	Industrial IX QD342 microSD Card 3D Technology	
Capacity <sup>1</sup>	32GB to 256GB	64GB to 256GB	8GB to 64GB	16GB to 512GB	16GB to 512GB	8GB to 128GB	8GB to 64GB	8GB to 64GB	16GB to 256GB	
Interface	SD 6.0 UHS-I 104	SD 6.0 UHS-I 104	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 5.1 UHS-I 104	SD 5.1 UHS-I 104	SD 6.0 UHS-I 104	
Operating Temp	-25°C to 85°C	-25°C to 85°C	-40°C to 85°C	-25°C to 85°C	-25°C to 85°C	-40°C to 85°C	-25°C to 85°C	-40°C to 85°C	-25°C to 85°C	
Sequential R/W (MB/s) <sup>2</sup>	Up to 100/60	Up to 100/65	Up to 80/50		Up to 100/50 MB/s	Up to 80/50		Up to 90/50	Up to 100/50 MB/s	
Endurance <sup>4</sup>	Up to 256 TBW	Up to 768 TBW	Up to 192 TBW		Up to 1536 TBW	Up to 384 TBW		Up to 1920 TBW	Up to 768 TBW	
Enhanced Features	Health Status Register		Health Status Register, Host Lock, Programmable String, Secured FFU, Auto and Manual Read Refresh							
Ordering Information	WDD###GIP0A WDD###GIPCA (China)	WDD###GIP1B	SDSDAF3-###G-XI	SDSDAF3-###G-I	SDSDAF4-###G-I	SDSDQAF3-###G-XI	SDSDQAF3-###G-I	SDSDQED-###G-XI	SDSDQAF4-###I	



### Automotive製品

Automotive Full-size SD Cards <sup>1</sup>	
Product	Automotive Grade 3
Capacity <sup>1</sup>	8GB to 64GB
Interface	SD 5.0 UHS-I 104
Operating Temperatures	-40°C to 85°C
Sequential R/W (MB/s) <sup>2</sup>	Up to 80/50
Smart Features	Health Status Meter, Enhanced Power Immunity, Read Refresh, Host Lock, Programmable ID, Secure FFU
Ordering Information	SDSDAG3-###G-XA

