















Storage Media Solutions

Panasonic provides Storage Media Solutions with extended endurance, exceptional performance and reasonable cost for an all-encompassing range of Industrial devices. The modern and changing demands of physical Media Storage requires Panasonic Memory Devices to provide a variety of form factors (Standard SD, microSD, and eMMC) as well as a selection of operating temperatures ranges (-40°C to +85°C or -25°C to +85°C). With available capacities spanning from a mere 512MB up to 256GB, nearly all Industrial-type applications can be met with a suitable solution. By adopting a proprietary controller design plus high endurance 2D and 3D-type NAND Flash, Panasonic ensures a reliable product and very low risk of BOM changes. Not all SD Cards or eMMC products are created equally and the proven longevity of Panasonic's Memory Cards speaks for itself.



Consumer Plus SD Cards

Panasonic has adopted the new 3D-Based NAND flash technology into four new Consumer Plus SD Card Series. By utilizing both TLC (Triple Level Cell) and pSLC (pseudo-Single Level Cell) technologies, card endurance from 3,000 to 20,000 total program/erase cycles are available. A standard operating temperature of -25°C to +85°C is available with all Panasonic Consumer Plus SD Cards which is an improvement over some consumer-type products on the market. Along with Panasonic's current 2D-NAND-based product line, the New Consumer Plus Grade 3D-Based SD Cards can also offer up to UH1-1 U3 speed grades and read performance of up to 95 MB/s. Panasonic's proprietary controller firmware design supports additional firmware features such as Power Fail Robustness (available on some Series) and Static Wear Leveling to ensure long life in nearly any customer application. While many memory suppliers are moving away from low capacities like 4GB and 8GB, Panasonic strives to support both the older, "legacy" products and the more modern, high capacity applications being developed. Currently, Panasonic provides capacities from 4GB up to 256GB.

	NEW! Consumer Plus 3D NAND				Consumer Plus 2D NAND									
														
	UC Series	TC Series	UA Series	TA Series	QE Series	ME Series	UE Series	XE Series	PE Series	LE Series	TE Series	HT Series	TT Series	PT Series
Type	SD	microSD	SD	microSD	SD	SD	SD	SD	microSD	microSD	microSD	SD	microSD	microSD
Cell Structure	3D TLC	3D TLC	3D pSLC	3D pSLC	2D pSLC	2D MLC	2D MLC	2D MLC	2D pSLC	2D MLC	2D MLC	2D MLC	2D MLC	2D pSLC
Operating Temperature	-25C~+85C				-25C~+85C							-40C~+85C		
P/E Cycles*	3,000		20,000		20,000	2,000	2,000	2,000	20,000	2,000	2,000	2,000	2,000	20,000
Capacity														
512MB														
1GB														
2GB														
4GB			RP-TDUA04DA1	RP-TMTA04DA1	RP-SDQE04DA1	RP-SDME04DA1			RP-SMPE04DA1	RP-SMLE04DA1				RP-SMPT04DA1
8GB			RP-TDUA08DA1	RP-TMTA08DA1	RP-SDQE08DA1	RP-SDME08DA1			RP-SMPE08DA1	RP-SMLE08DA1				RP-SMPT08DA1
16GB	RP-TDUC16DA1	RP-TMTC16DA1			RP-SDQE16DA1	RP-SDME16DA1			RP-SMPE16DA1	RP-SMLE16DA1				RP-SMPT16DA1
32GB	RP-TDUC32DA1	RP-TMTC32DA1				RP-SDME32DA1			RP-SMPE32DA1	RP-SMLE32DA1			RP-SMTT32DA1	RP-SMPT32DA1
64GB	RP-TDUC64DA1	RP-TMTC64DA1					RP-SDUE64DA1				RP-SMTE64DA1	RP-SDHT64DA1	RP-SMTT64DA1	
128GB	RP-TDUC128DA1	RP-TMTC128DA1					RP-SDUE128DA1							
256GB	RP-TDUC256DA1	RP-TMTC256DA1					CUSTOM	RP-SDXE256DA1						

*Dependent on use case

Industrial SD Cards and Industrial/Automotive eMMC

Industrial SD Cards from Panasonic provide robust Storage Media Solutions for applications where data is mission critical. Utilizing both Industrial-type SLC (Single Level Cell) and MLC (Multi Level Cell) 2D NAND flash, Panasonic Industrial SD Cards can be used in a multitude of devices that are both write-intensive and read-intensive. By utilizing a proprietary controller and firmware, Panasonic offers such features as Power Fail Robustness, Global Wear Leveling, and compatibility with all types of File Systems. Panasonic Industrial SD Cards are unique in that every single Industrial SD Card and eMMC is rated for temperatures of -40°C to +85°C to handle extreme weather conditions. The Embedded-Type eMMCs are rated for both Industrial and Automotive applications due to their inherent AEC-Q100 compliance and performance in high-vibration environments. Capacities for Panasonic Industrial SD Cards range from 512MB up to 32GB.

	Industrial Grade					Industrial/Automotive eMMC
						
	FX Series	P Series	G Series	SC Series	KC Series	MC Series
Type	SD	SD	SD	microSD	microSD	eMMC
Cell Structure	2D SLC	2D MLC	2D MLC	2D SLC	2D MLC	2D MLC
Operating Temperature	-40C~+85C					-40C~+85C
P/E Cycles*	60,000	2,000	2,000	60,000	2,000	2,000
Capacity						
512MB	RP-SDFC51DA1					
1GB				RP-SMSC01DA1		
2GB	RP-SDF02GDA1			RP-SMSC02DA1		
4GB	RP-SDFC04DA1	RP-SDPC04DA1		RP-SMSC04DA1	RP-SMKC04DA1	
8GB	RP-SDFC08DA1	RP-SDPC08DA1		RP-SMSC08DA1	RP-SMKC08DA1	RP-SEMC08DA1
16GB	RP-SDFC16DA1	RP-SDPC16DA1	RP-SDGD16DA2		RP-SMKC16DA1	RP-SEMC16DA1
32GB			RP-SDGD32DA2			RP-SEMC32DA1
64GB						
128GB						
256GB						



Use Case Analysis Service From Panasonic

Panasonic can recommend a specific, tailor-made Storage Media Solution to users interested in qualifying a Panasonic SD Card or eMMC into their board design! As a complimentary service, Panasonic will provide a sample for testing and log the SD Card/eMMC access pattern (about two weeks of testing is recommended). Simply ship the card back to Panasonic for a full analysis of the access pattern. A final report outlining the results will be provided, including the estimated life endurance of the Memory Device tested and a recommendation of the card most suitable for the application in question.

To take advantage of Panasonic's Use Case Analysis Service, learn more:

<http://pages.na.industrial.panasonic.com/SD-Card-App-Testing.html>

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