Samsung micro SD UHS-I Card : PRO Plus Lineup

2024 Data Sheet



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1. TECHNICAL SPECIFICATIONS

Samsung microSD Card PRO Plus					
Hardware Information	Form Factor	microSDXC™			
	User Capacity	128GB	256GB	512GB	1TB
		128,144,375,808 Bytes[1)]	256,288,751,616 Bytes[1)]	512,644,612,096 Bytes[1)]	1,025,356,333,056 Bytes[1)]
	Bus Speed Mode	UHS-I SDR104[2)] / UHS-I DDR200[3)] with Samsung microSD Reader			
	Dimensions	15 x 11 x 1 (mm) (L x W x H)			
	Weights	Approx. 0.25g (Card only)			
Performance	Speed Class	Class 10, V30[4)]			
	App Perf. Class	A2[5)]			
	Speed Grade	Grade 3 (U3)			
	Sequential Read Speed[6)]	Up to 180MB/s			
	Sequential Write Speed[6)]	Up to 130MB/s			
Reliability	Temperature	Operating : -25°C to 85°C			
		Non-Operating : -40°C to 85°C			
	Durability	10,000 mating cycles			
	6-Proof Features[7)]	Water-proof, Temperature-proof, X-ray-proof, Magnetic-proof, Drop-proof, Wearout-proof			
EMC Certifications		FCC (IC), CE (UKCA), VCCI, RCM			
Warranty		10 year limited[8)]			

1) 1GB=1,000,000,000 bytes. Actual usable storage capacity may vary. User capacity measured with SD Formatter 3.1 tool with FAT file system.

2) SDR104: 1.8V Signaling, Frequency up to 208 MHz, up to 104MB/sec, Max. Current Consumption 800mA (varies by test conditions)

3) DDR200 : 1.8V Signaling, Frequency up to 208 MHz, up to 200MB/sec, Max. Current Consumption 800mA (varies by test conditions)

4) V30 : Video Speed Class means sustained video capture rates of 30MB/s(V30) which enable to support real-time video recording to UHS Bus interface products. Transfer speeds may vary by host device.

5) A2 : Application Performance Class means Min. Random Read 4000 IOPS(A2), Random Write 2000 IOPS(A2), and Sustained Seq. Write 10MB/s(A1, A2), which makes app performance faster. Performances may vary by host device.

6) Performance results are based on internal testing conditions. Stated performance was achieved by using PRO Plus SD card with Samsung SD Card reader (ver2.0) in a controlled environment. Actual read/write speeds may vary depending on user environment. For more information, please see "4. Card Reader Compatibility."

7) 1M depth, salt water, 72hrs. Operating temperatures of -25°C to 85°C (-13°F to 185°F), non-operating temperatures of -40°C to 85°C(-40°F to 185°F). Withstands standard airport x-ray machines (Up to 100mGy). Magnetic field equivalent of a high-field MRI scanner (Up to 15,000 gauss). Withstand drops up to 5meters. Up to 10,000 swipes. *Samsung is not liable for any i) damages and/or loss of data or ii) expenses incurred from memory card data recovery.

8) Warranties provided herein do not extend to any use of the product for or with continuous recording instruments or any other write-intensive devices, including without limitation security cameras, surveillance systems, dashboard cameras, blackbox cameras, internet protocol/network cameras, continuous recording set top box devices and continuous data logging devices like servers, dedicated devices for benchmarking test, the primary drive for certain devices and any other excessive uses.

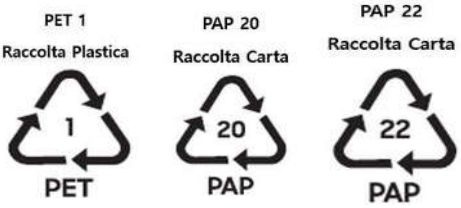
2. PRODUCT LINEUP

Form Factor	Lineup	Capacity	Model Name
microSD	PRO Plus	128GB	MB-MD128S
		256GB	MB-MD256S
		512GB	MB-MD512S, MB-MY512K
		1TB	MB-MD1T0S

3. Regulatory Compliance







4. Card Reader Compatibility

Maximum read/write speeds are possible only when PRO Plus SD card is used with specific Samsung SD Card reader (ver2.0 and ver3.0). Actual speeds may vary depending on user environment including host device and use conditions.

PRO Plus Reader (ver 1.0)	PRO Plus Reader (ver 2.0 and 3.0)
	
Up to 160MB/s	Up to 180MB/s

5. REVISION HISTORY

Revision Number	Description	Revision Date
1.0	Initial Release	Feburary.2023
1.1	Changes in Reader	March.2023
1.2	Adding Model Code	May.2023
2.0	Adding 1TB model	Feburary.2024