Samsung SD UHS-I Card : PRO Ultimate Lineup

2024 Datasheet

Revision 1.1

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1. TECHNICAL SPECIFICATIONS

Samsung SD Card PRO Ultimate					
Hardware Information	Form Factor	SDXC™			
	User Capacity	64GB	128GB	256GB	512GB
		63,988,301,824 Bytes[1]	128,010,158,080 Bytes[1]	256,020,316,160 Bytes[1]	512,007,077,888 Bytes[1]
	Bus Speed Mode	UHS-I SDR104[2] / UHS-I DDR200[3] with Samsung SD Reader			
	Dimensions	32 x 24 x 2.1 (mm) (L x W x H)			
	Weights	Approx. 1.75g (Card only)			
Performance	Speed Class	Class 10, V30[4]			
	Speed Grade	Grade 3 (U3)			
	Sequential Read Speed[5]	Up to 200MB/s			
	Sequential Write Speed[5]	Up to 130MB/s			
Reliability	Temperature	Operating : -25°C to 85°C			
		Non-Operating : -40°C to 85°C			
EMC Certifications		FCC (IC), CE (UKCA), VCCI, RCM			
Warranty		10 year limited[7]			

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 IF products. Transfer speeds may vary by host device.

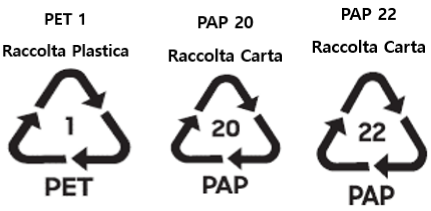
5) Performance results are based on internal testing conditions. Stated performance was achieved by using PRO Ultimate SD card with Samsung SD Card reader (ver 3.0) in a controlled environment. Actual read/write speeds may vary depending on user environment. For more information, please see "4. Card Reader Compatibility."

6) 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
SD	PRO Ultimate	64GB	MB-SY64S
		128GB	MB-SY128S
		256GB	MB-SY256S
		512GB	MB-SY512S

3. Regulatory Compliance



4. Card Reader Compatibility

Maximum read/write speeds are possible only when PRO Ultimate SD card is used with specific Samsung SD Card reader (ver 3.0). Actual speeds may vary depending on user environment including host device and use conditions.

PRO Ultimate Reader (ver 2.0)	PRO Ultimate Reader (ver 3.0)
Up to 180MB/s	Up to 200MB/s

5. Multi-Proof Features

Items	Conditions
Shock-proof	Shock up to 1,500G*, 0.5ms, 10times, 3axis (G*: gravitational acceleration)
Water-proof	1~2M depth, salt water (3% NaCl), 72hrs
Temperature-proof	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).
X-Ray-proof	Withstands standard airport x-ray machines (Up to 100mGy, 210secs)
Magnetic-proof	Magnetic field equivalent of a high-field MRI scanner (Up to 15,000 gauss, 30secs)
Drop-proof	Withstand 10 cycles drops up to 5 meters (16.4feet)
Wearout-proof	Up to 10,000 swipes.

The multi-proof testing results reported herein were obtained under strictly controlled lab environment, as more fully described in the respective footnote for each test. Any attempt to replicate such results are not covered under Samsung's warranty program and Samsung disclaims any and all liability with respect to damages resulting from such attempts, including without limitation, damage to product, loss of property, or loss of data. For more information on Samsung's warranty policy, please visit: www.samsung.com/support.

6. REVISION HISTORY

Revision Number	Description	Revision Date
1.0	Initial Release	June 2023
1.1	Modifying Multi-Proof conditions	August 2024