microSD V30 with Adapter

microSD V30 Catalyst Series (with SD Adapter)

Specifications

Capacity
- 64GB/128GB/256GB/512GB/1TB

Flash Type
- 3D TLC/QLC

Video Speed Class
- Up to V30

Bus Speed Mode
- Class 10
- A1, A2
- UHS-I, U1/U3

Power Consumption Note
- UHS-I Mode
- Power Up Current < 250uA
- Standby Current < 1000uA
- Read Current < 400mA
- Write Current < 400mA

CPRM Optional (Content Protection for Recordable Media)

Advanced Flash Management
- ECC Correction
- Static and Dynamic Wear Leveling
- Bad Block Management

Write Protect with mechanical switch
- Supply Voltage
  - ✓ 2.7V ~ 3.6V

Temperature Range
- Operating temperature: -25℃ ~ 85℃
- Storage temperature: -40℃ ~ 85℃

RoHS compliant
- FCC / CE / RoHS

EMI compliant

Warranty
- Limited-lifetime warranty [3]

Table of Contents

Product datasheet

1. Order information

PART NUMBER	CAPACITY*	FLASH TYPE	FORM FACTOR
EX64GUSDU1-AD	64GB *	3D TLC/QLC	microSD UHS-I V30
EX128GUSDU1-AD	128GB *	3D TLC/QLC	microSD UHS-I V30
EX256GUSDU1-AD	256GB *	3D TLC/QLC	microSD UHS-I V30
EX512GUSDU1-AD	512GB *	3D TLC/QLC	microSD UHS-I V30
EX1TUSDU1-AD	1TB *	3D TLC/QLC	microSD UHS-I V30

2. Performance

	microSD UHS-I V30 (Catalyst w Adapter)				
Capacity	64GB	128GB	256GB	512GB	1TB
Burst Read (MB/s)	170	175	175	175	175
Burst Write (MB/s)	140	150	150	150	150
Form factor	microSD UHS-I V30				

3. Power Consumption

3-1 Power Consumption of microSD card (UHS-I Mode)

Bus Speed Mode		Max. Power Up Current (uA)	Max. Standby Current (uA)	Max. Read Current (mA)	Max. Write Current (mA)
Default Speed Mode		250	1000	150 @ 3.6V	150 @ 3.6V
High Speed Mode		250	1000	200 @ 3.6V	200 @ 3.6V
UHS-I Mode	UHS50 / DDR50	250	1000	400 @ 3.6V	400 @ 3.6V
	UHS104 / DDR50	250	1000	400 @ 3.6V	400 @ 3.6V

*Power consumptions are measured at room temperature.

*For SDXC, up to 100mA from VDD1 when XPC=0; up to 150mA from VDD1 when XPC=1.

4. SD Adapter Overview

4-1 Property

■ Materials

Item	Standard
Housing	Thermoplastic, Black
Contact	Phosphor Bronze, Gold plating

■ Ratings

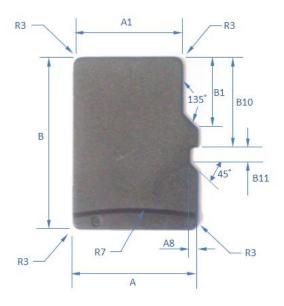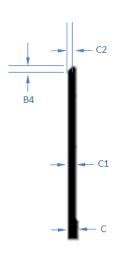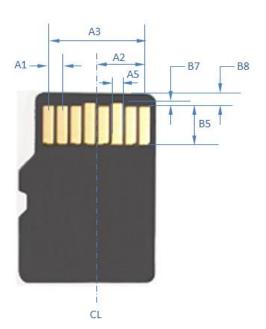| Item	Standard
Current Rating	0.5A AC/DC Max
Operating Temperature Range	-25℃~85℃
Storage Temperature Range	-25℃~85℃
Ambient Humidity Range	95% R.H. Max

4-2 Performance

■ Electrical Performance

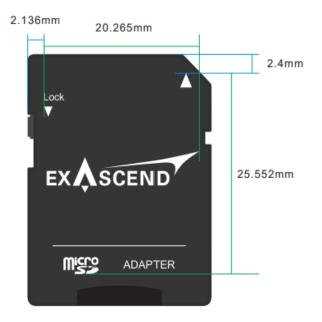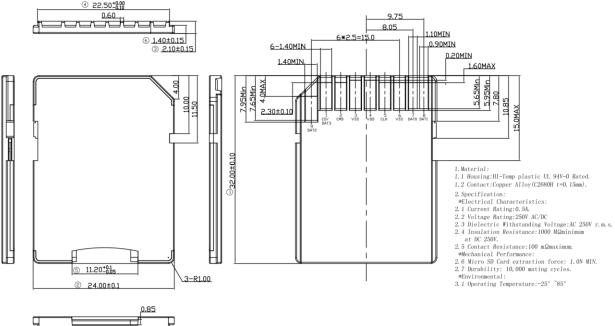| Test Description	Requirement	Procedure
Contact Resistance	a. Initially 100 milli-ohm maximum b. After test 40 milli-ohm maximum Change	IEC 60512-2-1 Open voltage 20 mV Test current 1 mA
Insulation Resistance	a. Initially 1000MΩ MIN b. After test 100MΩ MIN	IEC 60512-3-1. Measure within 1 minute after applying 500V DC.
Voltage Proof	a. No shorting or other damages when 500 Vrms AC is applied for 1 minute b. Current leakage 1 mA maximum	IEC 60512-4-1

5. Physical Dimension Diagram

Criteria of microSD				Unit: mm
Dimensions	Min	TYP	Max	Note
A	10.90	11.00	11.10	
A1	9.60	9.70	9.80	
A2		3.85		BASIC
A3	7.60	7.70	7.80	
A4		1.10		BASIC
A5	0.75	0.80	0.85	
A8	0.60	0.70	0.80	
B	14.90	15.00	15.10	
B1	6.13	6.23	6.33	
B4	0.42	0.52	0.62	
B5	2.80	2.90	3.00	
B7	0.20	0.30	0.40	
B8	1.00	1.10	1.20	
B10	7.80	7.90	8.00	
B11	1.10	1.20	1.30	
R3	0.70	0.80	0.90	
R7	29.50	30.00	30.50	
C	0.90	1.00	1.10	
C1	0.60	0.70	0.80	
C2	0.20	0.30	0.40	

6. Compliance

Exascend microSD V30 memory card complies with the following specifications:

- FCC
- CE
- RoHS

Legal information

Limited Warranty Policy

Exascend Corporation ("Exascend") warrants that Exascend's product, in its original sealed packaging, will be free from defects in materials and workmanship. Subject to the conditions and limitations set forth below, Exascend will either repair or replace any part of its products that prove defective by reason of improper workmanship or materials. This warranty is non-transferable and valid only for the original purchaser of the Exascend products, except where prohibited by law. An original or copy sales receipt or invoice is required to establish purchase date and original purchaser.

1. This warranty supersedes all other warranties and representations, whether oral or written, between you and Exascend. Exascend makes no other warranties, including any warranty of merchantability or fitness for a particular purpose, whether expressly or implied.

2. All warranties, whether express or implied, are limited to the periods of time set forth below. Some states and jurisdictions do not allow such exclusion of implied warranties, limitations or warranty period, so above restrictions may not apply to you.

3. Exascend may acknowledge or read and save the data and information (collectively, "Information") stored in the product during after services. Exascend hereby agrees that Exascend will not disclose any Information to any third parties, except Exascend's employees, who may need to access the Information, with or without your prior written consent.

Warranty Terms

We offer limited-lifetime warranty for our microSD cards.

The warranty period is the SHORTER OF:

- a period of lifetime beginning from the date of purchase; or

This Limited Warranty will not apply to, and Exascend will have no liability or obligation with respect to, problems or damage resulting from any of the following: (i) accident, modification, neglect, abuse, careless or incorrect handling, misuse or improper operation, disassembly, misapplication or use in unusual physical environments or under operating conditions not approved by Exascend (including, but not limited to, use of the Product with an improper voltage supply); (ii) normal wear and tear; (iii) removal of label(s) or sticker(s) provided on or with the Product (including all warranty or quality-control stickers, product serial or electronic numbers); (iv) problems relating to or residing in non-Exascend hardware, software or other items with which the Product is used; (v) use in an environment, in a manner or for a purpose for which the Product was not designed or not in accordance with Exascend's published documentation; (vi) installation, modification, alteration or repair by anyone other than Exascend or its authorized representatives; (vii) problems that do not relate to materials or workmanship or that have an insignificant impairment on the use or operation of the Product; or (viii) problems related to consumables; (ix) Product purchased "AS-IS" or "with known faults, defects or problems." Additionally, Exascend will have no liability or obligation to recover any data in the Product.

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- Medical-related devices, life support, medical measurement devices, etc.
- Control devices for trains, ships, mass transportation systems or automotive vehicles, etc.
- Specific applications including military/defense-related equipment, aerospace, nuclear facility control systems, etc.
- Safety systems for disaster prevention/crime prevention, etc.

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Revision history

Table 1: Catalyst microSD V30 with Adapter datasheet revision history

REVISION	DESCRIPTION	DATE
001	First released	Jun, 2023
002	Add 64GB/256GB	Jan, 2024
003	Add 512GB/1TB	Jan, 2024
004	Modify temperature	Feb, 2024
005	Email updated	Jun, 2024
006	Format updated	Jun, 2024
009	Update storage temperature	Aug., 2024