

microSD500 series

Automotive-grade microSD card

Specifications

Capacity

- pSLC: 8 GB ~ 16 GB
- TLC: 32 GB~256 GB

Form Factor

- microSD flash card

Compliance

- SD specification V2.0 / V3.0 / V6.0

Speed class

- UHS-I / Class 10 / V30 / A2

Performance (up to)¹

- Read Speed (Max.) up to 90 MB/s
- Write Speed (Max.) up to 80 MB/s

TBW

- 8GB : 155TB (pSLC mode)
- 16GB : 320TB (pSLC mode)
- 32GB : 73TB
- 64GB : 145TB
- 128GB : 300TB
- 256GB : 610TB

Power Consumption Note

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

Supports SMART Tool

Operating Voltage

- 2.7V ~ 3.6V

Flash Type

- 3D TLC NAND flash

Dimensions

- 11 mm x 15 mm x 1 mm

Certificate

- CE/FCC

Operating Temperature

- -40°C (-13°F) ~ 105°C (221°F)

Storage Temperature

- -50°C (-58°F) ~ 115°C (239°F)

Warranty

- 3-year limited warranty

Revision history

REVISION	DESCRIPTION	DATE
001	First released	Aug., 2023
002	Modify Dimensions	Sep., 2023
003	Add SD specification V6.0	Nov, 2023

1 Ordering information

The following table lists the standard part numbers for Exascend microSD500 series memory cards. For customization and design service inquiries, including – but not limited to – custom operating temperature, capacity, over-provisioning, endurance, performance, and power, please contact your Exascend account manager or send us an email at sales@exascend.com.

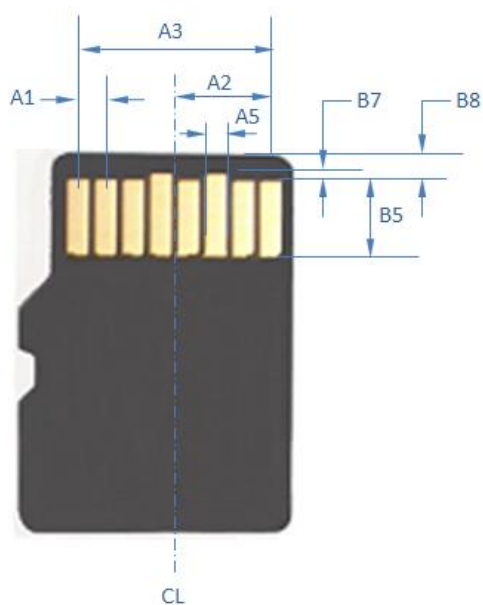
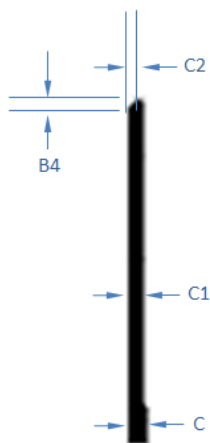
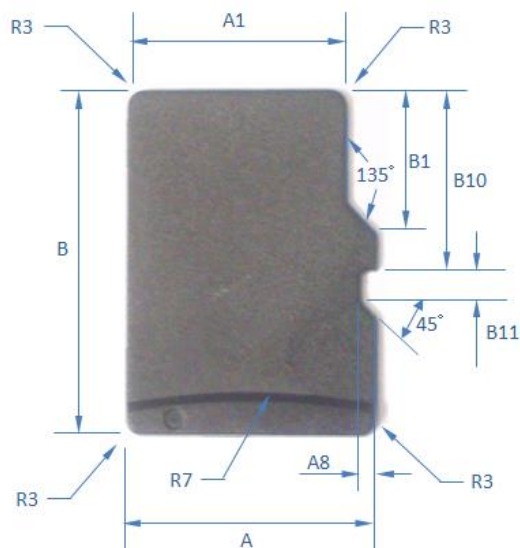
PART NUMBER	CAPACITY*	Package including
EX8GUSDV30-PTDE	8GB	microSD Card x 1
EX16GUSDV30-PTDE	16GB	microSD Card x 1
EX32GUSDV30-TDE	32GB	microSD Card x 1
EX64GUSDV30-TDE	64GB	microSD Card x 1
EX128GUSDV30-TDE	128GB	microSD Card x 1
EX256GUSDV30-TDE	256GB	microSD Card x 1

PART NUMBER	FLASH TYPE	Burst Read (MB/s)	Burst Write (MB/s)
EX8GUSDV30-PTDE	3D TLC (pSLC)	90	80
EX16GUSDV30-PTDE	3D TLC (pSLC)	90	80
EX32GUSDV30-TDE	3D TLC	90	80
EX64GUSDV30-TDE	3D TLC	90	80
EX128GUSDV30-TDE	3D TLC	90	80
EX256GUSDV30-TDE	3D TLC	90	80

2. Power Consumption

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

3. Mechanical dimensions



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	

Legal information

Limited Warranty Policy

Exascend, Inc. ("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. The original sales receipt or invoice, or a copy thereof, is required to establish the 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 three (3) years limited warranty for our automotive products.

The warranty period is the SHORTER OF:

- a period of three (3) years beginning from the date of purchase; or
- the period ending when the drive reached advertised DWPD or TBW rating; or
- the period ending when the device's Lifespan indicator has reached 0% or below.

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.

Disclaimer of liability

Exascend, Inc. reserves the right to make changes to specifications and product descriptions such as but not limited to numbers, parameters and other technical information contained herein without notice. Please contact Exascend, Inc. to obtain the latest specifications. Exascend, Inc. grants no warranty with respect to this datasheet, explicit or implied, and is not liable for direct or indirect damages. Some states do not grant the exclusion of incidental damages and as such this statement may not be valid in such states. The provisions of the

datasheet do not convey to the purchaser of the device any license under any patent right or other intellectual property right of Exascend, Inc.

Customers must not use Exascend products in applications where a device failure or malfunction may cause personal injury or death, e.g., in life support systems or devices.

Exascend shall not be liable for any loss, injury or damage caused by use of the products in any of the following applications:

- 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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