

The Breakthrough of Mobile Memory



Apacer microSD 3.0 UHS-I card series presents new generation of mobile memory. By complying with SD System Specification version 3.0 and the latest UHS-I (Ultra High Speed – I) standard, the mobile storage cards are becoming even faster in data transfer and larger in capacities. The microSD cards are highly suitable for smart phone and other mobile usages where speed and capacities are critical for high-definition multimedia files or Apps.

The UHS standard is a recently announced standard by the SD specification association aimed at handling powerful Apps, high resolution images and UltraHD videos. Besides a speed boost, Apacer microSD 3.0 UHS-I series comes in various capacities, offering the right memory space for precious pictures and videos, as well as useful Apps.



Applications

- Smart phone
- Tablet PC
- Other devices with microSD slot

Features:

- Supports SD System Specification Version 3.0
- Supports SDHC up to 32 GB;
SDXC up to 2 TB;
- UHS-I: Ultra High Speed-I 
(minimum transfer speed over 30MB/s), ideal for useful Apps and high resolution images and Ultra HD videos
- UHS-I: Ultra High Speed-I 
(minimum transfer speed over 10MB/s), ideal for 3D and Full HD videos
- Applicable for smart phones other devices with microSD card slot.
- ECC

General Product Specifications

Specifications	
Interface	microSD Specification Version 3.0
Interface speed	UHS-I  (Indicate Speed Class 3 on UHS-I Interface)
	UHS-I  (Indicate Speed Class 1 on UHS-I Interface)
	Class 10 (Indicate SD Speed Class when used with a device that does not support UHS Interface)
Capacity*	8GB-128GB
Form Factor	SDHC or SDXC
Operating Voltage	2.7V to 3.6V
Dimensions	(L)15 x (W)11 x (H) 1 mm
Temperature	Operating -25°C to 85°C
	Storage -40°C to 85°C
Humidity	Operating: RH=93% under 25°C non-condensing
	Storage: RH=93% under 40°C non-condensing
Drop test**	1.5m free fall
Torque test**	0.15N-m or ±2.5 deg.
Warranty	Limited product lifetime warranty
Certifications	RoHS, CE, FCC, VCCI, RCM

*Unformatted. Theoretically, 1GB=1,000,000,000 Bytes. Under operating systems, the capacity might appear to be less than the theoretical capacity because the calculation in OS is based on 1 GB = 1024 MB / 1MB =1024KB and a minority of the capacity is reserved for maintenance purposes.

**Drop test and Torque test results are subject to change without notice

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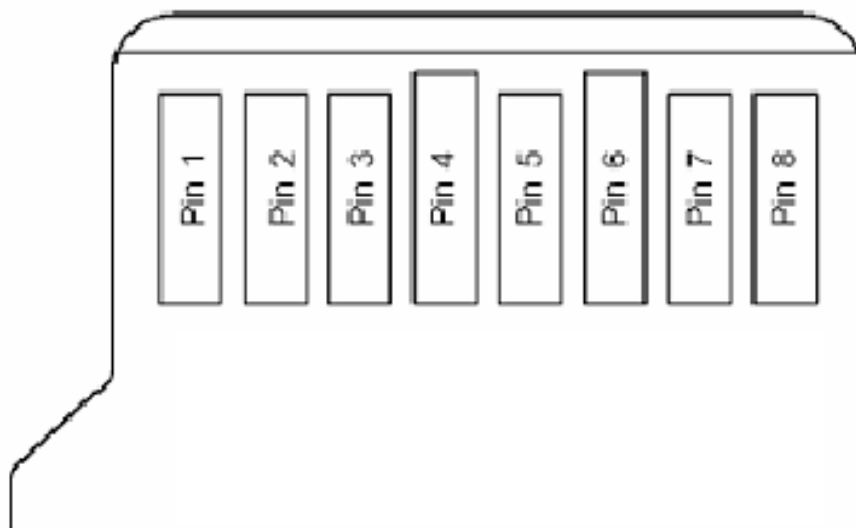
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Electrical Interface

- Card Architecture



- Pin Assignment

Pin	SD Mode		SPI Mode	
	Name	Description	Name	Description
1	<i>DAT2</i>	Data Line [Bit 2]	<i>RSV</i>	<i>Reserved</i>
2	<i>CD/DAT3</i>	Card Detect/ Data Line [Bit 3]	<i>CS</i>	Chip Select (neg true)
3	<i>CMD</i>	Commend/ Response	<i>DI</i>	Data In
4	<i>VDD</i>	Supply voltage	<i>VDD</i>	Supply voltage
5	<i>CLK</i>	Clock	<i>SCLK</i>	Clock
6	<i>VSS</i>	Supply voltage ground	<i>VSS</i>	Supply voltage ground
7	<i>DAT0</i>	Data line [Bit 0]	<i>DO</i>	Data out
8	<i>DAT1</i>	Data line [Bit 1]	<i>RSV</i>	<i>Reserved</i>

Physical Dimensions

- Physical Mechanical Outline**

Dimensions Card Package	11mmx15mm Min. 10.9mmx14.9mm Max.11.1mmx15.1mm
Thickness	1.0mm +/- 0.1mm
Surface	Plain (except contact area)
Edges	Smooth edges
Inverse insertion	Protection on right corner (top view)

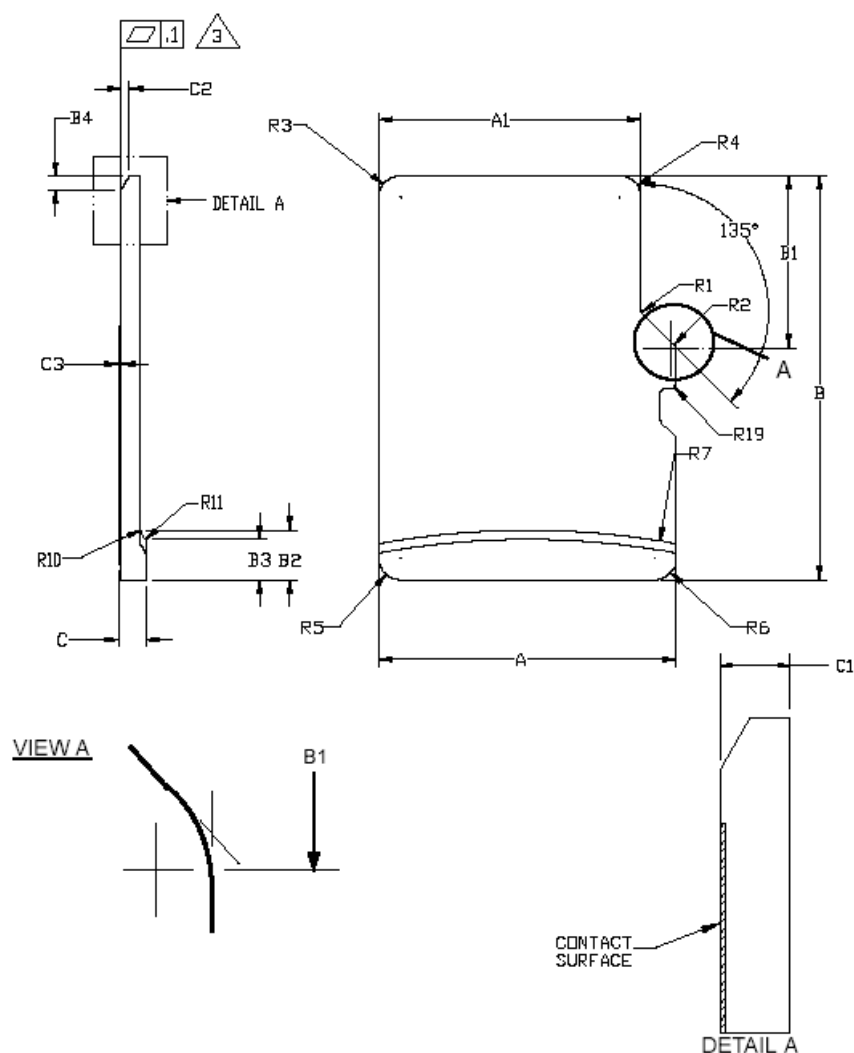


Figure 1: Mechanical Description: Top View

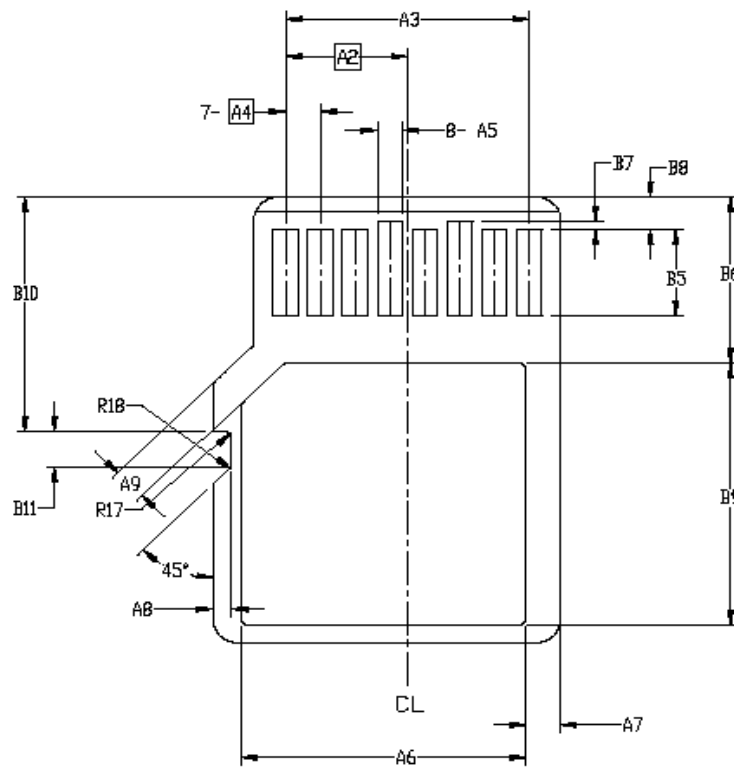


Figure 2: Mechanical Description: Bottom View

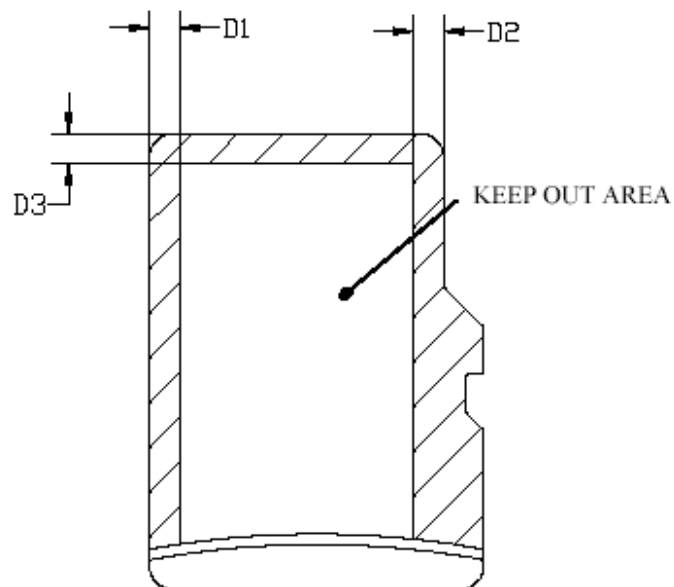


Figure 3: Mechanical Description: Keep Out Area

microSD Card 3.0
APXXXXMCSH10XX-X / APXXXXMCSX10XX-X



SYMBOL	COMMON DIMENSIONS			NOTE
	MIN	NOM	MAX	
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	
A6	-	-	8.50	
A7	0.90	-	-	
A8	0.60	0.70	0.80	
A9	0.80	-	-	
B	14.90	15.00	15.10	
B1	6.30	6.40	6.50	
B2	1.64	1.84	2.04	
B3	1.30	1.50	1.70	
B4	0.42	0.52	0.62	
B5	2.80	2.90	3.00	
B6	5.50	-	-	
B7	0.20	0.30	0.40	
B8	1.00	1.10	1.20	
B9	-	-	9.00	
B10	7.80	7.90	8.00	
B11	1.10	1.20	1.30	
C	0.90	1.00	1.10	
C1	0.60	0.70	0.80	
C2	0.20	0.30	0.40	
C3	0.00	-	0.15	
D1	1.00	-	-	
D2	1.00	-	-	
D3	1.00	-	-	
R1	0.20	0.40	0.60	
R2	0.20	0.40	0.60	
R3	0.70	0.80	0.90	
R4	0.70	0.80	0.90	
R5	0.70	0.80	0.90	
R6	0.70	0.80	0.90	
R7	29.50	30.00	30.50	
R10	-	0.20	-	
R11	-	0.20	-	
R17	0.10	0.20	0.30	
R18	0.20	0.40	0.60	
R19	0.05	-	0.20	

Notes:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.

2. DIMENSIONS ARE IN MILLIMETERS.

3. COPLANARITY IS ADDITIVE TO C1 MAX THICKNESS.

Ordering Information

microSD Card 3.0
APXXXXMCSH10XX-X / APXXXXMCSX10XX-X



Speed	Capacity	P/N
UHS-I U1 Class10	8GB	AP8GMCSH10U1-X
	16GB	AP16GMCSH10U1-X
	32GB	AP32GMCSH10U1-X
	64GB	AP64GMCSX10U1-X
	128GB	AP128GMCSX10U1-X
UHS-I U1 Class10 R/W: 85/10MB/s	8GB	AP8GMCSH10U5-X
	16GB	AP16GMCSH10U5-X
	32GB	AP32GMCSH10U5-X
	64GB	AP64GMCSX10U5-X
	128GB	AP128GMCSX10U5-X
UHS-I U3 Class10 R/W: 95/45MB/s	16GB	AP16GMCSH10U3-X
	32GB	AP32GMCSH10U3-X
UHS-I U3 Class10 R/W: 95/85 MB/s	32GB	AP32GMCSH10U4-X
	64GB	AP64GMCSX10U4-X

Revision History

Version	Description	Date
0.1	Preliminary release	06/14/2013
0.2	Added Class x as speed class	06/24/2013
	Removed Write Protect mechanical switch	
	Revised the dimensions	
0.3	Defined interface speed class as Class 10	06/26/2013
	Added ECC in Features	
0.4	Updated address of Taiwan headquarter	10/14/2013
0.5	Revised features and General Product Specifications	11/06/2014
0.6	Added new part number	02/25/2015
0.7	Revised features, Specifications and PN	03/11/2015
0.8	Revised Capacity	06/22/2015
0.9	Added Electrical interface and dimensions	07/14/2016
1.0	Added new part number	01/11/2017
1.1	Revised certifications and temperature	11/24/2017

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