# Micro SD Datasheet for 4GB Class 6

## Micro SD 4GB Specification

### Solution 1:

| *Technical Data* | |
|---|---|
| **Available capacity** | 4GB |
| **Standard** | Micro SD |
| **Max. transfer** | read: up to 10-15 MB/s<br>write: from 5-6 MB/s |
| **Dimensions** | 15 x 11 x 1 mm |
| **Weight** | 0,33 g |
| **Controller** | SMI |
| **Flash** | Toshiba/Hynix |
| **Manufacturer** | MRT |
| **Operating temp** | 0 do +60°C (recommended) |
| **File system** | FAT |
| **Warranty** | 3 Years |

1 gigabyte (GB) = 1 billion bytes. Some capacity not available for data storage

**Current Consumption**

Standby current: 250uA（Maximum value）
Standby current: 120uA（average value）
Operating current: 150mA（Maximum value）
Operating current: 80mA（average value）
*Test condition: GL828 card reader (Voltage 3.3V), Fluke289c multi-meter.

**Electrical Characteristics**

DC Characteristics

| Parameter | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| Power Supply Voltage | VCCAH | 2.7 | 3.3 | 3.6 | V |
| Operating Temperature | | -25 | | 85 | ℃ |
| Storage Temperature | | -40 | | 90 | ℃ |
| All Input Leakage Current | | -10 | | 10 | uA |
| All Output Leakage Current | | -10 | | 10 | uA |

**Table : General DC Characteristics**

| **Parameter Symbol** | | **Min** | **Typ** | **Max** | **Unit** | **Remark** |
|---|---|---|---|---|---|---|
| Pull-up Resistance forCMD Signal | RCMD | 10 | | 100 | KΩ | To prevent bus floating |
| Pull-up Resistance for DAT[3:0] Signals | RCMD | 10 | | 100 | KΩ | To prevent bus floating |
| Card Capacitance for Each Signal Pin | CCARD | | | 10 | pF | |
| Pull-up Resistance Inside Card(DAT[3]) | RDAT3 | 10 | | 90 | KΩ | May be used for card detection |

**Table :Bus Operating Conditions-Signal Line's Load**

| **Parameter Symbol** | | **Min** | **Max** | **Unit** | **Condition** |
|---|---|---|---|---|---|
| Output High Voltage | VOH | VCC I/O1 -0.2 | | V | IOH=-100uA |
| Output Low Voltage | VOL | 0.3 | | V | IOL= 2mA |

**Table : Open-Drain Mode Bus Signal Level**

The input levels are identical with the push-pull mode bus signal levels.

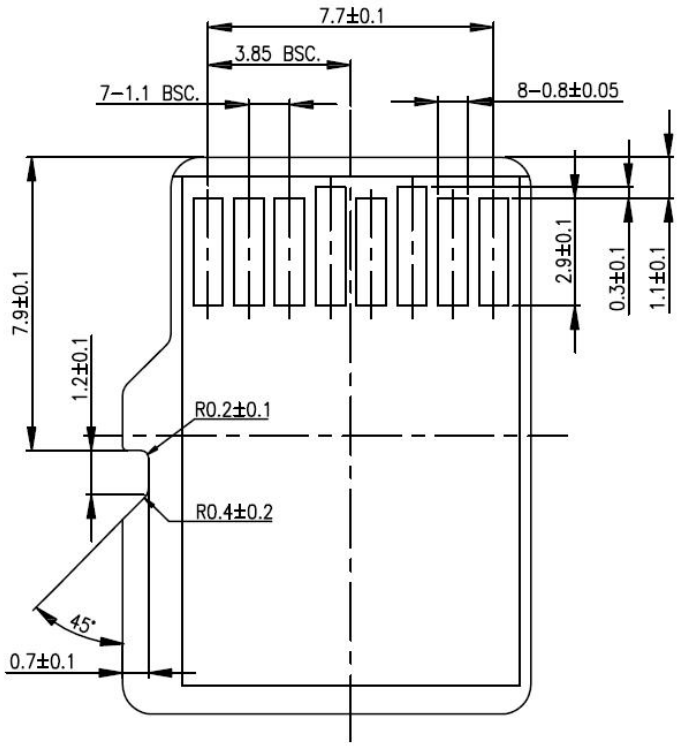
Note:1.VCC I/O = I/O buffer power.

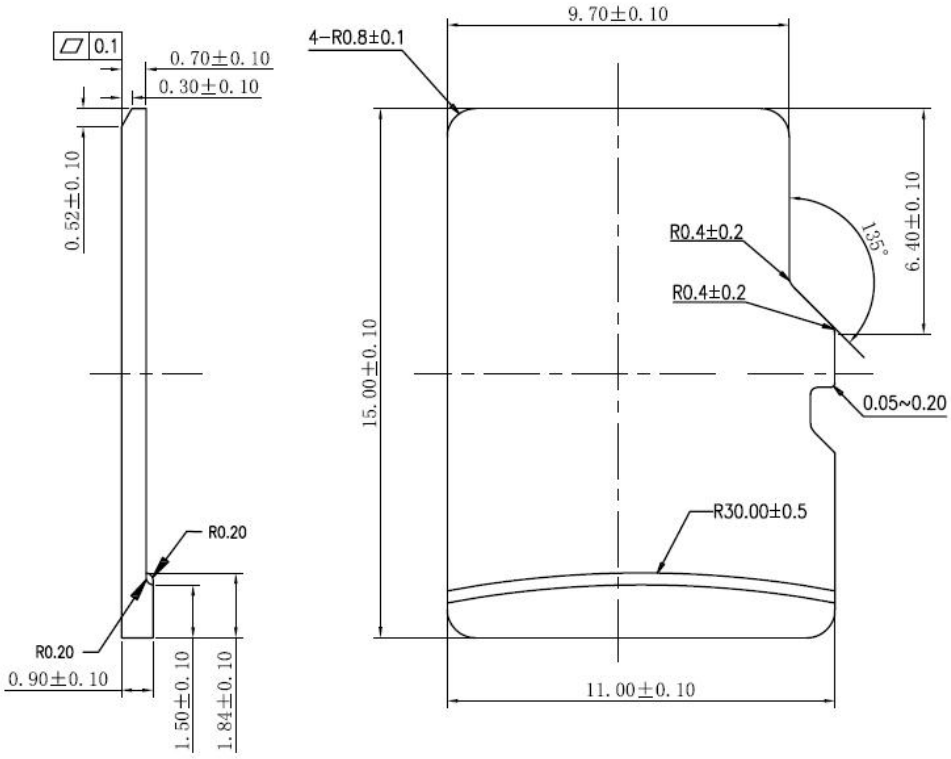
**Operational Environment**

| Parameter | Range | |
|---|---|---|
| Temperature | Operating | -25 ~ 70℃ |
| | Non-Operating | -40 ~ -25℃ and 70 ~ 85℃ |
| Humidity | Operating | 25% to 85%, non-condensing |
| | | |
| Durability | insertion/removal cycles | 10,000 |
| Data Retention | | 10 years |

**Table 4. Physical Dimension Specifications (Unit in mm)**

| Type Measurement | |
|---|---|
| Length | 15mm +/- 0.1mm(B) |
| Width | 11mm +/- 0.1mm(A) |
| Thickness | 1.0mm+/-0.1mm(C) |
| | 0.7mm+/-0.1mm(C1) |
| Weight | 0.33 gram Max |


7.7±0.1
3.85 BSC.
7-1.1 BSC.
8-0.8±0.05
7.9±0.1
1.2±0.1
2.9±0.1
0.3±0.1
1.1±0.1
R0.2±0.1
R0.4±0.2
45°
0.7±0.1


0.1
0.70±0.10
0.30±0.10
0.52±0.10
R0.20
R0.20
0.90±0.10
1.50±0.10
1.84±0.10
4-R0.8±0.1
9.70±0.10
6.40±0.10
135°
R0.4±0.2
R0.4±0.2
15.00±0.10
0.05~0.20
R30.00±0.5
11.00±0.10