

Micro SD Datasheet for 4GB Class 4

Micro SD 4GB Specification

Solution 1:

| <i>Technical Data</i> | |
|---------------------------|--|
| Available capacity | 4GB |
| Standard | Micro SD |
| Max. transfer | read: up to 10-12 MB/s write: from 3-4 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 | VCCA _H | 2.7 | 3.3 | 3.6 | V |
| Operating Temperature | | -25 | | 85 | °C |
| Storage Temperature | | -40 | | 90 | °C |
| 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 for CMD 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°C |
| | Non-Operating | -40 ~ -25°C and 70 ~ 85°C |
| 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 |

