

SD Card Datasheet for 8GB Class 6

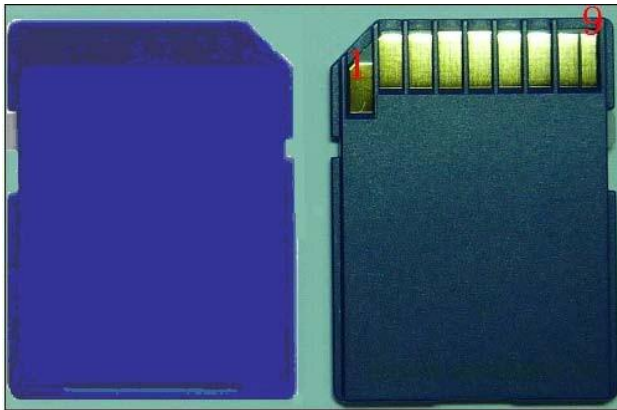
Specifications

| | |
|---|--|
| Model | SD Card 8GB Class 6 |
| Interface | SD2.0 |
| Form Factor | SD |
| Controller | SMI |
| Flash | Toshiba/Intel/Micron |
| Sustained Read Performance (MB/sec) | Up to 20 |
| Sustained Write Performance (MB/sec) | Up to 6 |
| Manufacturer | MRT |
| Extended Operating Temperature (°C) | -40 ~ + 85 |
| Storage Temperature (°C) | -40 ~ + 100 |
| Shock | (Operating) 1,500G, 0.5ms |
| Vibration | Operating: 7.69(Grms), 20~2000(Hz)/random (comply with MIL-STD-810G) Non-operating: 4.02(Grms), 15~2000(Hz)/random (comply with MIL-STD-810G) |
| Operating Voltage | 3.3 V ± 5% |
| Power Consumption | Active mode: 120 mA & Idle mode: 260 uA |
| Dimension (L x W x H) | 32x24x2.1 (mm) |
| File system | FAT32 |

FEATURES SUMMARY

- Capacity: 4~32GB
- Compliant SD Specification V2.0.
- On card error correction.
- Voltage range for communication: 2.7~3.6V.
- Low power consumption:
Automatic power down and automatic wake up, smart power management.
- No external programming voltage required.
- Damage free powered card insertion and removal
- Mechanical Write Protection Switch
- Easy handling for the end user.
- Reliable electrical interconnection.
- Bearing textual information and image.
- In System Programming (ISP) function to update the firmware on demand.
- Noise-free operation.

Sample Picture



Front

Back

Table 1. Pin Assignment

| Pin No | SD Mode | | | SPI Mode | | |
|--------|-------------|-------------|------------------------------------|----------|------|-------------|
| | Name | Type | Description | Name | Type | Description |
| 1 | Dat2 | I/O/PP | Data Line [Bit 2] | RSV | | Reserved |
| 2 | CD/DAT 3 | I/O/PP 3 | Card Detect / Data Line [Bit 3] | CS | I3 | Chip Select |
| 3 | CMD | PP | Command/Response | DI | I | Data In |

| | | | | | | |
|---|------|------------|-----------------------|------|------|-----------------------|
| 4 | VSS | S | Supply voltage ground | VSS | S | Supply voltage ground |
| 5 | VDD | S | Supply voltage | VDD | S | Supply voltage |
| 6 | CLK | I | Clock | SCLK | I | Clock |
| 7 | VSS | S | Supply voltage ground | VSS | S | Supply voltage ground |
| 8 | DAT0 | I/O/P P | Data Line [Bit 0] | DO | O/PP | Data Out |
| 9 | DAT1 | I/O/P P | Data Line [Bit 1] | RSV | | Reserved |

S: power supply; I: input; O: output; PP: I/O using push-pull drivers

Current Consumption

Standby current: 250uA (Maximum value)
Standby current: 120uA (average value)
Operating current: 130mA (Maximum value)

Operating current: 60mA (average value)

*Test condition: GL828 card reader (Voltage 3.3V), Fluke187 multimeter.

Table 2. Operational Environment

| Parameter | Range | |
|----------------|--------------------------|----------------------------|
| Temperature | Operating | 0 ~ 70°C |
| | Non-Operating | -40 ~ 85°C |
| Humidity | Operating | 25% to 85%, non-condensing |
| | Non-Operating | 25% to 85%, non-condensing |
| Durability | Insertion/removal cycles | 10,000 |
| Data Retention | | 10 years |

Table 3. Physical Dimension Specifications (Unit in mm)

| Type | Measurement |
|-----------|--------------------|
| Length | 32.00mm ±0.10mm |
| Width | 24.00mm ±0.10mm |
| Thickness | 2.10mm ±0.15mm |
| Weight | Approx.2.0 gram |

Mechanical form factor as follows: (Unit in mm)

