



The DATARAM SSDM2-SATA M.2 (Solid State Drive) family fully consists of semiconductor devices using NAND Flash Memory which provide high reliability and high performance for a storage media. The SSD does not have any moving parts such as platter (disk) and head media, which provides a better solution in a notebook PC, Tablet PC and industrial PC for a storage device providing higher performance, reduced latencies, and a low power consumption in a small form factor.

### Identification/Capacity

SSDM2-SATA-128GB  
SSDM2-SATA-256GB  
SSDM2-SATA-512GB  
SSDM2-SATA-1TB

### Form Factor:

M.2 2280

### Host interface:

SATA 6.0Gbps (SATA-III)  
SATA 3.0Gbps (SATA-II)  
SATA 1.5Gbps (SATA-I)

### Power Consumption

Active write: 4280mW  
Active read: 2780mW

### Performance

Host transfer rate:  
Sequential Read: Up to 500MB/s  
Sequential Write: Up to 550MB/s

Access Time: 0.2ms  
Seek Time: 0ms

### Temperature

Operating: 0°C to 70°C

### MTBF

– 1,000,000 Hours

### Shock

Shock: 1500G, duration 0.5ms, Half Sine Wave  
Vibration : 7~800Hz, 3.08Grms, 30min/axis (X,Y,Z)

## Features

- Capacity: 128GB, 256GB, 512GB, 1TB
- Form Factor: 80mm M.2 (80mm SATA B Key)
- Reliable TLC NAND type flash
- Electrically fully complies with the SATA -II/SATA -III standards
- Complies with the slot B primary key SSD SATA pin out
- Modules with the “B” and “M” key for ultimate performance SSD or cache
- Data retention: JESD47 compliant
- S.M.A.R.T. command transport (SCT) technology
- Enhanced endurance by dynamic/static wear-leveling
- Hardware LDPC ECC engine
- Data integrity under power-cycling
- 3 Year Limited Warranty or Maximum TBW
- 100% tested HW and SW

## Data Transfer Speeds

Capacity	Data Transfer Speed (R / W)			
	Seq. read	Seq. write	4K Q32T1 read	4K Q32T1 write
<b>128GB</b>	550	500	220	210
<b>256GB</b>	550	500	220	210
<b>512GB</b>	550	500	230	210
<b>1TB</b>	550	500	260	270

## Endurance

Capacity	TBW	DWPD
<b>128GB</b>	50TB	0.357
<b>256GB</b>	100TB	0.357
<b>512GB</b>	200TB	0.357
<b>1TB</b>	400TB	0.357

## Absolute Maximum Rating

<b>V<sub>CC</sub></b>	Power Supply Voltage	-0.3 to +3.6	V
<b>V<sub>IN</sub></b>	Input Voltage	-0.5 to V <sub>CC</sub> +0.5	V
<b>T<sub>STG</sub></b>	Storage Temperature	-55 to 115	°C
<b>T<sub>OPR</sub></b>	Commercial Grade	0 to +70	°C

**Mechanical Specification**

- Length:  $80.0 \pm 0.2$  mm
- Width:  $22.0 \pm 0.2$  mm
- Thickness:  $2.20 \pm 0.15$  mm
- Weight: <7.0g

