



## DuraFlash™

# R800v | 2.5" & M.2 2280 SATA

SMART's DuraFlash R800v 2.5" SATA and M.2 2280 solid state drives bring the advantages of non-volatile memory to embedded computing applications. The R800v are enterprise feature rich and reliable mass storage in a 2.5" and M.2 2280 form factor available in both commercial and industrial temperature ranges. The capacities range from 240GB to 7680GB for the 2.5" and 240GB to 1920GB for the M.2 2280.

SMART's 2.5" SATA and M.2 2280 drives are offered with Triple-Level Cell (TLC) 3D NAND. The 2.5" SATA and M.2 2280 product lines offer excellent sustained random read/write and sustained sequential read/write performance. The R800v is suitable for applications that cannot tolerate variations in performance.

### Features & Benefits

- Advanced Static and Dynamic Wear-Leveling
- Advanced Error Detection/Correction Circuitry for Superior Data Reliability
- Self-Monitoring Analysis and Reporting Technology (S.M.A.R.T.) Support
- Supports for 48bit LBA Addressing with Larger Maximum Transfer Size

### Product Family Overview

	Capacity	Sequential Performance
<b>2.5" SATA</b>		
	240GB to 7680GB	Up to 550MB/s Read; Up to 530MB/s Write
<b>M.2 SATA 2280</b>		
	240GB to 1920GB	Up to 550MB/s Read; Up to 530MB/s Write



### Applications

- ATCA Compute Blades
- Enterprise
- Distributed Scale-Out Cloud Servers
- Industrial Control
- NAS / SAN Storage Systems
- Single-Board Computers for Defense, Gaming and Industrial Control Applications
- Telecom and Networking Routers and Switches
- x86 Server-Storage Appliances

## Specifications

	R800v 2.5" SATA	R800v M.2 2280 SATA
<b>NAND Type</b>	TLC	
<b>Performance</b>		
Host Interface Rate (maximum)	6Gb/s (Backwards compatible to 3Gb/s & 1.5Gb/s)	
Capacities	240GB to 7680GB	240GB to 1920GB
Sequential Read (maximum)	Up to 550MB/s (240GB to 7680GB )	
Sequential Write (maximum)	Up to 530MB/s (480GB to 7680GB) Up to 340MB/s (240GB)	
<b>Reliability</b>		
Data Reliability	< 1 Non-Recoverable Error in 10 <sup>17</sup> bits read	
Data Retention	10 years >90% life remaining 1 year at the end of life	
Endurance (JEDEC Enterprise Workload) <sup>1</sup>	7680GB: 5810 TBW 3840GB: 2905 TBW 1920GB: 1210 TBW 960GB: 595 TBW 480GB: 295 TBW 240GB: 140 TBW	
Error Correction	LDPC (Equivalent to 130 bits/2KB)	
<b>Environmental</b>		
Shock	1500 g half-sine, 0.5 msec, 1 shock along each axis, X, Y, Z in each direction	
Vibration	20G 80-2000Hz, 1.52mm 20-80Hz, 3 axis	
Operating Temperature	Commercial: 0°C to +70°C Industrial: -40°C to +85°C	
Storage Temperature	-40°C to +85°C	
Humidity	40°C, Operation: 90% RH, Storage: 93% RH	
Altitude	24,384 m [80,000 ft]	
<b>Physical</b>		
Length	100 mm	80.0 mm
Width	69.85 mm	22.0 mm
Height	7.0 mm	3.8 mm

<sup>1</sup>Endurance is directly related to the User Specific Workload.

## Ordering Information

Part Number	Density
<b>R800v 2.5" SATA</b>	
<b>Commercial Operating Temperature (0°C to +70°C)</b>	
SVSAT67680RT51	7680GB
SVSAT63840RT51	3840GB
SVSAT61920RT51	1920GB
SVSAT6960GRT51	960GB
SVSAT6480GRT51	480GB
SVSAT6240GRT51	240GB
<b>R800v 2.5" SATA</b>	
<b>Industrial Operating Temperature (-40°C to +85°C)</b>	
SVSAT63840RTI51	3840GB
SVSAT61920RTI51	1920GB
SVSAT6960GRTI51	960GB
SVSAT6480GRTI51	480GB
SVSAT6240GRTI51	240GB
<b>R800v-S 2.5" SATA (with SafeDATA™)</b>	
<b>Commercial Operating Temperature (0°C to +70°C)</b>	
SVSATQ7680RT51	7680GB
SVSATQ3840RT51	3840GB
SVSATQ1920RT51	1920GB
SVSATQ960GRT51	960GB
SVSATQ480GRT51	480GB
SVSATQ240GRT51	240GB
<b>R800v-S 2.5" SATA (with SafeDATA™)</b>	
<b>Industrial Operating Temperature (-40°C to +85°C)</b>	
SVSATQ3840RTI51	3840GB
SVSATQ1920RTI51	1920GB
SVSATQ960GRTI51	960GB
SVSATQ480GRTI51	480GB
SVSATQ240GRTI51	240GB
<b>R800v M.2 2280</b>	
<b>Commercial Operating Temperature (0°C to +70°C)</b>	
SVM2S861920RT51	1920GB
SVM2S86960GRT51	960GB
SVM2S86480GRT51	480GB
SVM2S86240GRT51	240GB
<b>R800v M.2 2280</b>	
<b>Industrial Operating Temperature (-40°C to +85°C)</b>	
SVM2S86960GRTI51	960GB
SVM2S86480GRTI51	480GB
SVM2S86240GRTI51	240GB



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