



Parallel Attached SCSI Removable Solid State Drives

Channel Speed: 320 MBytes / sec

Capacity: Scalable from 32 GBytes to 1.2 TBytes

Internal RAID 0, 1, 3 and 5 Configurations Available

Optional HTML/Web Page Configuration Interface

Optional SNMP v3 Support, via Gigabit Ethernet



VANGUARD

The VRSS-XXXG/T-PASY Solid State Drive product class is designed to integrate state of the art SATA Solid State (FLASH) Drive technology into existing Parallel SCSI Ultra-320, Ultra-160, Ultra-40 and 8 bit SCSI based systems.

In a RAID 0 configuration, the VRSS-XXXG-PASY may significantly boost SCSI throughput. In RAID 1, RAID 3 or RAID 5 configurations, the VRSS-XXXG/T-PASY provides complete data protection if one of the drives in the RAID fails.

The VRSS-XXXG/T-PASY product class is built upon Vanguard Rugged's proprietary SCSI Ultra-320 to SATA 3 Gbit/sec. bridge platform. When needed, the bridge platform firmware can be adapted to the unique interface requirements of legacy SCSI systems.

STORAGE SPECIFICATIONS & OPTIONS

Storage Technology:
Interface:

Storage Capacity, 0 to +60 C:
Storage Capacity, -20 to +70 C:
Storage Capacity, -40 to +85 C:
Storage Organization:
RAID Configurations:
Channel Speed (Burst Data Rate):
Write Sustained Data Rate:
Read Sustained Data Rate:
Access Time:
Data Encryption:
Data Reliability (per drive):
Wear Leveling:
Endurance:

Embedded De-Classification Application:

Solid State (FLASH), SLC, E-MLC, or MLC NAND FLASH
PAS, Parallel Attached SCSI, Ultra-320 Backward Compatible
with SCSI Ultra-160, Ultra-40 and 8 bit Narrow SCSI
50, 100, 200, 400, 480, 800, 960, 1200 GBytes, E-MLC or MLC NAND
32, 60, 64, 120, 128, 240, 256, 480, 512 GBytes, SLC NAND
32, 60, 64, 120, 128, 240, 256, 480, 512 GBytes, SLC NAND
1, 2, or 3 Independent Internal SATA Drives
0, 1, 3, 5
320 MBytes/sec. (SCSI Ultra-320)
Up to 60 MBytes / sec.
Up to 65 MBytes / sec.
< 1 msec.
AES-256 bit Encryption with SLC and E-MLC
< 1 in 10¹⁸ bits read
Yes
5 Years¹, E-MLC and MLC
3 Years¹, SLC
Optional. Configurable to customer requirements.



AUXILIARY INTERFACE OPTIONS

Optional Physical Interface:
Optional Device Configuration / Monitoring Interface:
Optional Network Management Interface:
Optional Drive S.M.A.R.T. Attribute Support:

Ethernet: 1 Gbit/sec. single channel
HTML / Web Page accessible with any web browser
SNMP v3 Supported
Via HTML / Web Page or SNMP v3

TECHNICAL SPECIFICATIONS

Mechanical:

Form Factor:

Weight (Drive Only):
External Cooling Options:
Moisture / Vapor Sealed Enclosure:

Electrical Power:

Input Voltage Requirements:
Input Power, Idle (with 2 Drives):
Input Power, Operating (with 2 Drives):

Environmental:

Operational Temperature Options:

Non-Operational Temperature Options:

Humidity:
Operational Vibration:
Operational Shock:
Altitude:

Materials:

Conformal Coating:
Electrical Wiring:

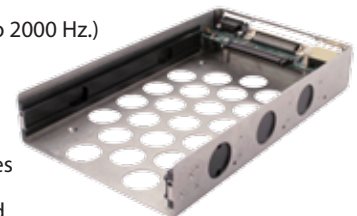
Corrosion Protection:

5-1/4 in. Half Height with
Docking Bay: 5.75" w X 1.63" h x 9.5" d
=< 3.5 lbs
Forced Air Convection Cooling.
No.

+ 12 V DC +/- 5% and + 5 V DC +/- 5%
=< 27 Watts
=< 48 Watts

1) 0 to +60 C, 32 to +140 F
2) -20 to +70 C, -4 to +158 F
3) -40 to +85 C, -40 to +185 F
1) -20 to +80 C, -4 to +176 F
2) -55 to +95 C, -67 to +203 F
5 to 90% non-condensing
16.3 G rms, Mil-Std 810F (constant APSD, 20 to 2000 Hz.)
50 G half-sine, 11 msec., 3 Shocks each axis
Up to 50,000 ft., estimated

Standard, all circuit boards.
PVC free, except for high frequency data cables that are not commercially available PVC free.
All metal parts are stainless steel, nickel plated, and or powder coated.



Product Nomenclature / Part Numbering

VRSS-XXXG/T-PASY

VRSS Vanguard Rugged Solid State (FLASH) Drive
XXXG/T Capacity: 32 GBytes to 1.2 TBytes
PAS Interface: Parallel Attached SCSI
Y Feature / Option Configuration #: 1,2,3...



(1) Performance throttling may be activated by the drive(s) to ensure this endurance / lifetime for specific workloads.

Specifications Subject To Change Without Notice

Rev. B