The NAND Flash Radiation Tolerant and Intelligent Memory Stack (RTIMS FLASH) is a user-friendly, plug-and-play, radiation protected high density NAND Flash Memory. It provides a very high density, radiation hardened by design (RHBD), non-volatile memory module suitable for many space applications such as geo-stationary missions, earth observation, navigation, manned space vehicles and deep space scientific exploration.

The RTIMS embeds three non-volatile NAND Flash memories and one intelligent Flash Memory Controller (FMC). All of the basic devices embedded in the RTIMS are SEL immune. Protection against high current SEFIs is performed by current detection and power switch electronics controlled by the FMC. The FMC also provides the module with full protection against SEU, Error Detection and Correction (EDAC) or Triple Modular Redundancy (TMR). The SEU protection can be selected between EDAC and TMR or switched off, and the effective RTIMS Flash density will be 8Gb in TMR protection, 16Gb in EDAC protection and 24Gb in the SEU protection off configuration.

The 3DSS24G08VS3626 offers continuous logic sectors (no bad blocks) and high added value functionalities such as wear leveling and memory self-test, as well as internal registers for telemetry information:
- Error free guaranteed sector 0 for Boot data storage
- Continuous logic sectors - Embedded Bad blocks management
- Embedded dynamic wear leveling function
- Embedded format, fetch failing block, sector logic generation commands for initialization
- Internal registers for configuration, operation status and telemetry information

And all these functionalities are fully configurable via H/W configuration pins and a powerful User Interface Port.

Thanks to its standard NAND FLASH interface, the 3DSS24G08VS3626 can easily be connected to any existing microprocessor or FPGA with an embedded NAND Flash interface. Its embedded high level functions also allow using it as a standalone small local data recorder.
PARAMETER CONDITIONS MIN MAX UNIT
TID - - 50 Krad(Si)
SEL - - 80 Mev.cm²/mg
HC	SEFI - - Immune by design Mev.cm²/mg
SEU (TMR Mode) LEO (1336km, 66°) 9.4E⁻²⁶ error/bit/year
SEU (EDAC Mode) LEO (1336km, 66°) 1.7E⁻²⁵ error/bit/year

ENVIRONMENT SPECIFICATIONS

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QUALITY GRADE
N: Commercial
B: Industrial
S: Space

ORDERING INFORMATION
Part Number – X X – X00X
Temperature Range

PACKAGE

Min Max
A 10.90 11.90
A2 9.80 10.20
D 27.80 28.30
E 20.70 31.10
E1 27.90 28.10
b 0.35 1.27
Dimension (mm)

Max. weight: 16 gr.