PRODUCT BRIEF

256 Kbit I²C radiation tolerant F-RAM

Infineon's NewSpace memories are optimized for performance in low Earth orbit

Infineon's 256 Kbit I²C F-RAM is the industry's lowest power and only I2C non-volatile memory with Single Event Upset (SEU) immunity and virtually unlimited endurance. The widely-adopted I²C interface offers numerous benefits, including reduced pin count, simplified wiring, and lower power consumption. This NewSpace memory is optimized for low Earth orbit (LEO) satellites and constellations, designed to meet the right mix of reliability and radiation performance.

With 10 trillion read /write cycle endurance, the 256 Kbit F-RAM provides virtually unlimited endurance, making it an ideal solution for applications requiring frequent or rapid writes. This memory also offers 121 years of data retention at 85°C, assuring life-long performance for mission critical applications. Infineon's F-RAMs are well-suited for data storage for sensors and instruments, data logging for calibration data for satellites, and processor boot code applications.



Key features

Product features
- 256 Kbit density
- Serial two-wire (I2C) interface
- 8-pin SOIC plastic package
- Operating temp -40°C to +125°C

Radiation Performance
- TID: 50 Krad (Si)
- SEU: IMMUNE
- SEL: >69 MeV.cm2/mg @125^{0}C
- SEFI: <1.59e-03 err/dev.day

NewSpace Portfolio Benefits
- Single Lot Date Code (SLDC)
- 100% electrical testing
- Certificate of Conformance (CoC)
- Radiation Lot Acceptance (RLAT) for TID

Key Applications
- Data storage for sensors and instruments
- Data logging for calibration data for satellites
- Boot code storage for microcontrollers
- Direct replacement for serial flash and EEPROMs

New space

www.infineon.com/hirelmemory

PRODUCT BRIEF

Infineon's radiation tolerant NewSpace memory portfolio features solutions designed for Low Earth Orbit (LEO) space applications and constellations. Our rad tol memories provide the right balance between performance and reliability based on size, weight, power, and cost (SWaP-C) considerations.

Infineon NewSpace memories provide:

- Single Lot Date Code (SLDC)
- 100% guaranteed electrical testing
- Certificate of Conformance (CoC)
- Radiation Lot Acceptance (RLAT) for TID

Product Features

- 256 Kbit density
- I2C, 3.4 MHz interface
- Infineon instant non-volatile write technology
- 120 years data retention at +85°C
- 10-trillion read / write cycle endurance
- Low power consumption
  - 500-µA active current at 100 kHz
  - 500-µA standby current
  - 12-µA sleep mode current
- 8 pin SOIC (5.23 x 5.28 mm)
  - Lead finish Pb-free (PureSn)
- Operating temp -40°C to +125°C

Parts list

Density	Interface	Part Number	Description	Package	Temp. range	TID
256 Kbit	I²C	CYEL15B256J-SXE	256 Kbit I²C rad tol F-RAM	8-pin SOIC	-40°C to 125°C	50 Krad

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