

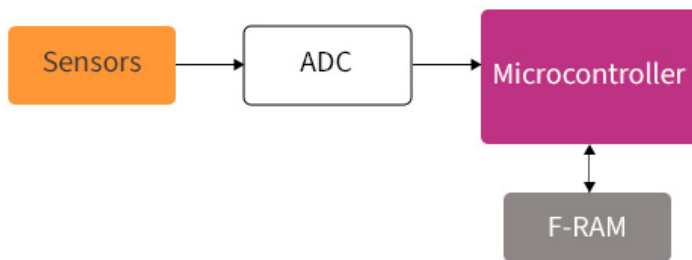
1 and 2Mb rad hard non-volatile F-RAM

Infineon’s HiRel memories perform in extreme conditions

Infineon’s radiation hardened 1 and 2 Mb non-volatile Ferroelectric RAM (F-RAM) memories offers the utmost reliability and performance for extreme environments. The F-RAMs are low-power and support a parallel interface configured as 128K x 8 for the 1Mb density and 128K x 16 for the 2Mb density. Our rad hard parallel F-RAMs are ideal for data storage for sensors and instruments, data logging for satellite calibration data and microcontroller boot code storage.

Our rad hard SPI F-RAM’s virtually infinite endurance, instant non-volatile write technology, greater than 100-year data retention and immune to Single Event Upsets (SEU) is the highest reliable, non-volatile memory for space applications and is a direct replacement for parallel EEPROMs.

Datalogger for satellite calibration data



Key features

Ultimate reliability

- DLAM QML-V
- QCI, datapacks
- RHA, WLAT

Product features

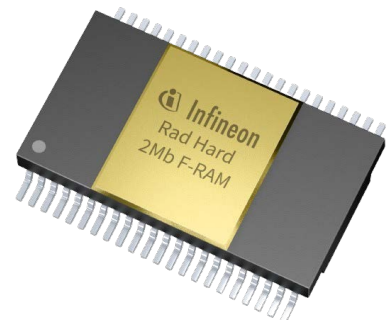
- 1 and 2Mb densities
- TID > 150 Krad (Si)
- SEL > 114 MeV.cm²/mg
- SEFI < 1.34 x 10⁻⁴ err/dev.day
- SEU immune
- MIL temperature grade
- 44-pin ceramic TSOP
- DLAM QML-V certified

Key applications

- Data logging for calibration data for satellites
- Data storage for sensors and instruments
- Secure encryption key storage

Differentiated memory portfolio

- Performance
- Density
- Reliability
- Longevity



1 and 2Mb rad hard non-volatile F-RAM

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Radiation hardened memories

Infineon’s HiRel rad hard memory products portfolio consists of the world’s most-reliable non-volatile memory and offers a wide selection of NOR flash, F-RAM, and SRAM solutions that enhance overall system computing limits, while providing Size, Weight and Power (SWaP) benefits with greater design flexibility to satisfy the needs of today’s advanced space systems and beyond.

Key features

- CYRS15B101N / CYRS15B102N
- 1 Mb (128K x 8) and 2 Mb (128K x 16) Mb densities
- Infineon instant non-volatile write technology
- 10-trillion read/write cycle endurance
- 120 years data retention at +85°C
- 2.0–3.6 V operating voltage range
- Low operating current (10 mA max)
- –55°C to +125°C military temperature grade
- 44-pin ceramic TSOP
- DLAM QML-V qualified
- Radiation performance
 - TID: > 150 Krad (Si)
 - SEL: > 114 MeV.cm²/mg [LET] @ 115°C
 - SEU: immune
 - SEFI: < 1.34 x 10⁻⁴ err/dev.day

Parts list

Density	Infineon P/N	Description	Operating temp	Qual. level	TID ¹⁾	SEL ²⁾	SEU ³⁾	SEFI ⁴⁾
1 Mb	CYPT15B101N-GGMB	1Mb rad hard, parallel (128K x 8), F-RAM - PROTO	-55°C to 125°C	PROTOTYPE	-	-	-	-
	5962R2321302VXC	1Mb rad hard, parallel (128K x 8), F-RAM - DLAM	-55°C to 125°C	QML-V	150 Krad (Si)	>114	Immune	1.34 x 10 ⁻⁴
2 Mb	CYPT15B102N-GGMB	2Mb rad hard, parallel (128K x 16), F-RAM - PROTO	-55°C to 125°C	PROTOTYPE	-	-	-	-
	5962R2321301VXC	2Mb rad hard, parallel (128K x 16), F-RAM - DLAM	-55°C to 125°C	QML-V	150 Krad (Si)	>114	Immune	1.34 x 10 ⁻⁴

- 1) Total Ionizing Dose [Krad (Si)]
- 2) Single Event Latchup MeV.cm²/mg [LET] @ 115°C
- 3) Single Event Upset
- 4) Single Event Functional Interrupt err/device-day



www.infineon.com/hirel

Published by
Infineon Technologies AG
Am Campeon 1-15, 85579 Neubiberg
Germany

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Document number: B119-I1491-V1-7600-NA-EC-P
Date: 04/2024

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