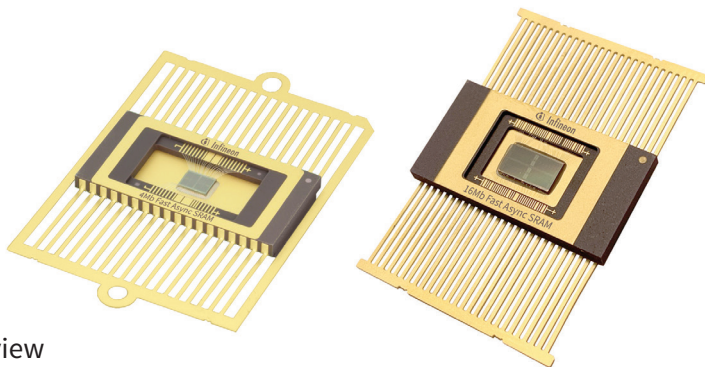


## Product brief

# Fast Async SRAMs with RadStop™

Infineon's HiRel memories perform in the most extreme environments

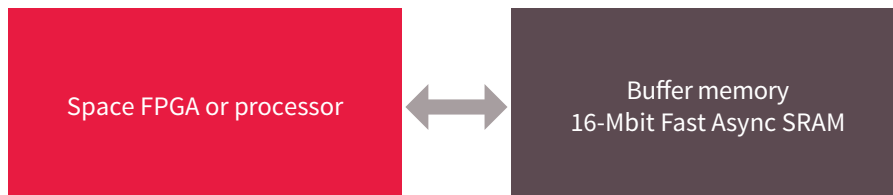


### Overview

Infineon's Fast 4-Mbit and 16-Mbit asynchronous Static RAMs designed with Infineon's patented RadStop™ Technology is well suited for space as well as other harsh environment applications. The 4-Mbit Fast SRAM is a high-performance, low power SRAM organized as 512 Kwords by 8-bits. The 16-Mbit SRAM is available in 8, 16, and 32-bit wide configurations and features embedded ECC for single-bit error correction. The ECC logic can detect and correct single-bit error in any read data word during the read cycles. Easy memory expansion is provided by utilizing OE, CE and tri-stated output drivers.

Infineon's state-of-the art RadStop™ Technology is radiation hardened through propriety design and process hardening techniques. Our asynchronous Static RAM devices are the fastest QML-V qualified devices operating up to 100 MHz at maximum datasheet temperature of 125°C. They meet all radiation requirements and are well suited for applications for payload processing buffer memory, sensors and switch applications for extreme environments.

### Reconfigurable payload processor



Infineon's radiation-hardened memories are QML-V certified, meeting the reliability and lifecycle demands of extreme environments. Our RadStop™ memory solutions enhance overall system computing limits while providing Size, Weight, and Power (SWaP) benefits and greater design flexibility.

### Key benefits

#### Certified reliability

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

#### Ultimate radiation

##### 4-Mbit

- > >300 Krad TID
- > >120 LET SEL immunity
- > <5.0e<sup>-8</sup> Err/bit.day

##### 16-Mbit

- > >200 Krad TID
- > >60 LET SEL immunity
- > <3.0e<sup>-12</sup> Err/bit.day

#### Product features

- > 4-Mbit (512-kbit x8)
- > 16-Mbit (2-Mbit x8, 1-Mbit x16, 512-kbit x32)
- > 10 ns access times
- > Embedded ECC (SEC) (16-Mbit only)
- > MIL-PRF 38535 certified

#### Key applications

- > Payload processing
- > Sensors
- > Switches

#### Differentiated memory portfolio

- > Performance
- > Density
- > Reliability
- > Longevity

## Key features

## 4-Mbit Fast SRAM

- › 512-kbit x8 bus-width configuration
- › 10 ns (85°C), 12 ns (125°C) access Times
- › 3.3 V operating voltage
- › -55 to +125°C military temperature grade
- › Bit-interleaving to eliminate multi-bit errors
- › Low active power
- › Low CMOS standby power
- › 2.0 V data retention
- › Automatic power-down when deselected
- › Transistor-Transistor Logic (TTL) compatible inputs and outputs
- › Easy memory expansion with  $\overline{\text{CE}}$  and  $\overline{\text{OE}}$  features
- › 36-pin Ceramic Flat Pack (CFP)
- › MIL-PRF 38535 compliant
- › QML-V qualified

## 16-Mbit Fast SRAM

- › 2-Mbit x8, 1-Mbit x16, 512-kbit x32 bus-width configurations
- › 8 ns (85°C), 10 ns (125°C) access times
- › 1.8–5.0 V operating voltage
- › -55 to +125°C military temperature grade
- › Embedded ECC (SEC)
- › Low active power
- › Low CMOS standby power
- › 1.0 V data retention
- › Automatic power-down when deselected
- › Transistor-Transistor Logic (TTL) compatible inputs and outputs
- › Easy memory expansion with  $\overline{\text{CE}}$  and  $\overline{\text{OE}}$  features
- › 54-lead ceramic TSOP (CTSOP) package
- › MIL-PRF 38535 compliant
- › QML-V qualified

## Technical support

Infineon datasheet

[4 Mb Fast SRAM w/RadStop™](#)[16 Mb Fast SRAM w/RadStop™](#)

DLAM datasheet

[5962-11235 4 Mb Fast SRAM w/RadStop™](#)[5962-20202 16-Mbit SRAM w/RadStop™](#)

## Parts list

Density	Description	Infineon P/N DLAM P/N	Operating temperature [°C]	Qual level	TID <sup>1)</sup>	SEL <sup>2)</sup>	SEU <sup>3)</sup>	SEFI <sup>4)</sup>	PD <sup>5)</sup>
4-Mbit	Fast Async SRAM	CYRS1049DV33-12FZMB	-55 to +125	QML-V	300	>120	<5.0e <sup>-8</sup>	Immune 120 LET	>2e <sup>9</sup>
		5962F1123501VXC	-55 to +125	DLAM QML-V	300	>120	<5.0e <sup>-8</sup>	Immune 120 LET	>2e <sup>9</sup>
		CYPT1049DV33-12FZMB	-55 to +125	PROTOTYPE	–	–	–	–	–
	Fast Async SRAM QML-V die	CYRS1049DV33-1X18M	-55 to +125	DLAM QML-V	300	>120	<5.0e <sup>-8</sup>	Immune 120 LET	>2e <sup>9</sup>
	Fast Async SRAM proto die	CYPT1049DV33-1X18M	-55 to +125	PROTOTYPE	–	–	–	–	–
16-Mbit	Fast Async SRAM x16	CYRS1061G30-10GGMB	-55 to +125	DLAM QML-V	200	>60	<3e <sup>-12</sup>	>80 LET	>1e <sup>9</sup>
	Fast Async SRAM x16	5962R2020201VXC	-55 to +125	DLAM QML-V	200	>60	<3e <sup>-12</sup>	>80 LET	>1e <sup>9</sup>
	Fast Async SRAM x16 proto	CYPT1061G30-10GGMB	-55 to +125	PROTOTYPE	–	–	–	–	–
	Fast Async SRAM QML-V die	CYRS1061G-1X18M	-55 to +125	DLAM QML-V	200	>60	<3e <sup>-12</sup>	>80 LET	>1e <sup>9</sup>
	Fast Async SRAM x32	CYRS1062G30-10FZMB	-55 to +125	Available 2023	200	>60	<3e <sup>-12</sup>	>80 LET	>1e <sup>9</sup>
	Fast Async SRAM x8	CYRS1069G30-10FZMB	-55 to +125	Available 2022	200	>60	<3e <sup>-12</sup>	>80 LET	>1e <sup>9</sup>

1) Total Ionizing Dose [Krad (Si)]

2) Single Event Latchup [LET] @ 95°C

3) Single Event Upset [err/bit.dy] Geo sync-solar min

4) Single Event Functional Interrupt [err/dev.dy] geo sync-solar min

5) Prompt Dose [rad (Si)/s]

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