



CYPRESS[®]
EMBEDDED IN TOMORROW™

Aerospace Memory

Q4 2018

Cypress Roadmap



Aerospace Memory Portfolio

Radiation Hardened | Latch-up Immune | QML-V¹ Certified

	Fast Async SRAM		Sync SRAM	Nonvolatile NOR	FRAM	
	Non-ECC ²	ECC ²	QDR [®] -II+/IV	Serial I/O	Serial I/O	Parallel I/O
128Mb-512Mb			<div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;"> CYRS4141x 144Mb; 1.2 V; 667 MHz x18, x36; Burst 2 </div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;"> CYRS274x 288Mb; 1.8 V; 250 MHz x18, x36; Burst 2,4 </div> <div style="border: 1px solid black; padding: 2px;"> CYRS264x Q219 144Mb; 1.8 V; 250 MHz x18, x36; Burst 2,4 </div>	<div style="border: 1px solid orange; padding: 2px; margin-bottom: 2px;"> Q418 CYRS16B512 Q219 512Mb; 3.0 V DDR DQSPI; 133MHz </div> <div style="border: 1px solid orange; padding: 2px;"> Q418 CYRS16B256 Q219 256Mb; 3.0 V DDR QSPI; 133MHz </div>		
16Mb-72Mb		<div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;"> CYRS108x 64Mb; 1.8-5.0 V 12 ns; x8, x16, x32 </div> <div style="border: 1px solid orange; padding: 2px;"> Q418 CYRS106x Q419 16Mb; 1.8-5.0 V 10 ns; x8, x16, x32 </div>	<div style="border: 1px solid green; padding: 2px;"> CYRS154x 72Mb; 1.8 V; 250 MHz x18, x36; Burst 2,4 </div>			
2Mb-4Mb	<div style="border: 1px solid green; padding: 2px;"> CYRS104x 4Mb; 3.3 V 12 ns; x8 </div>	<div style="border: 1px solid orange; padding: 2px;"> Q418 CYRS104x Q419 4Mb; 1.8-5.0 V 12 ns; x8, x16, x32 </div>			<div style="border: 1px solid orange; padding: 2px;"> Q418 CYRS15B102Q Q219 2Mb; 2.0-3.6 V 40 MHz; SPI </div>	<div style="border: 1px solid black; padding: 2px;"> CYRS15x102 2Mb; 2.0-3.6 V 60 ns; x16 </div>

¹ Qualified Manufacturers List Level V, per military specification MIL-PRF-38535

² Error-correcting code

Status Availability

Concept	Development	Sampling	Production
Q418	Q219	Q418	Q219
Q418	Q219	Q418	Q219

72Mb QDR[®]-II+ SRAM with RadStop[™] 1

Applications

Payload processing and reconfigurable computing platforms

Features

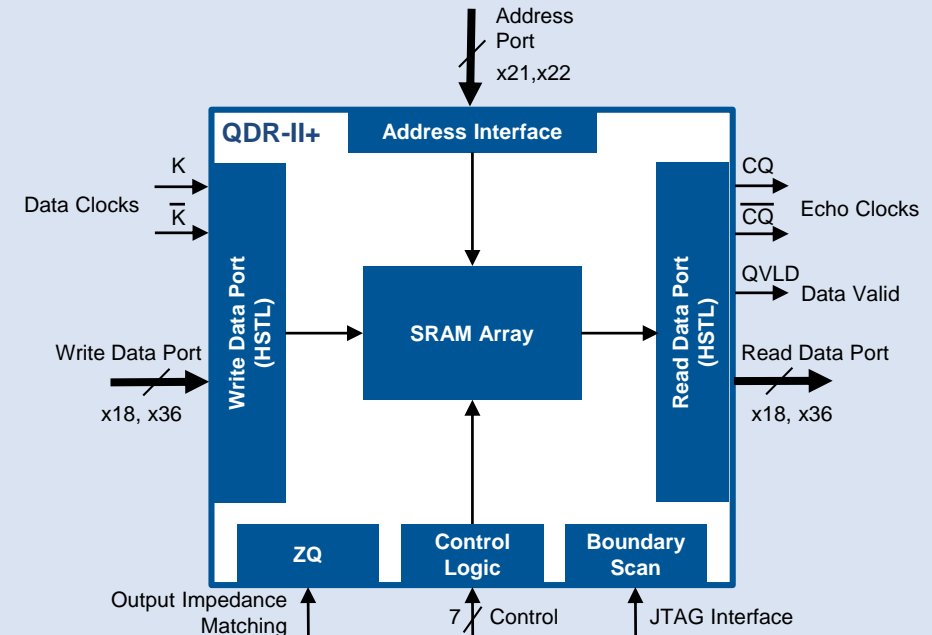
- Maximum frequency of operation/throughput: 250 MHz/36 Gbps
- Burst sizes: 2, 4
- Bus-width configurations: x18, x36
- Military temperature grade: -55°C to +125°C
- Two independent unidirectional data ports for read/write enable concurrent transactions
- Maximum throughput with double data rate (DDR) data ports
- Output impedance matching input (ZQ) matches the device outputs to system data bus impedance
- Bit-interleaving to eliminate multi-bit errors
- I/O signaling standards: 1.5 –1.8 V (HSTL)
- Controller available for Xilinx and Microsemi FPGAs
- Total ionizing dose: 300 Krad
- Heavy-ION single-event latch-up (SEL): 120 linear energy transfer (LET) MeV-cm sq/mg
- Heavy-ION single-event upset (SEU): 1.34E-07 (geosynchronous) error/bit-day
- QML-V²-qualified (DLAM² part number: 5962F11201/02VXA)

Collateral

Cypress Datasheet: [72-Mbit SRAMs w/ RadStop[™]](#)

DLAM Datasheet: [72-Mbit SRAMs w/ RadStop](#)

CYRS154XAV18: Radiation Hard QDR-II+ SRAM



Availability

Non-Space-Qualified Prototypes (CYPT154x): Now

QML-V Space-Qualified Devices (CYRS154x): Now

¹ Cypress's proprietary design and process technology that increases radiation-resistance

² Qualified Manufacturers List Level V, per military specification MIL-PRF-38535

³ Defense Logistics Agency Land and Maritime, Columbus, OH

4Mb Fast SRAM with RadStop™¹

Applications

Payload processing, sensors and switches

Features

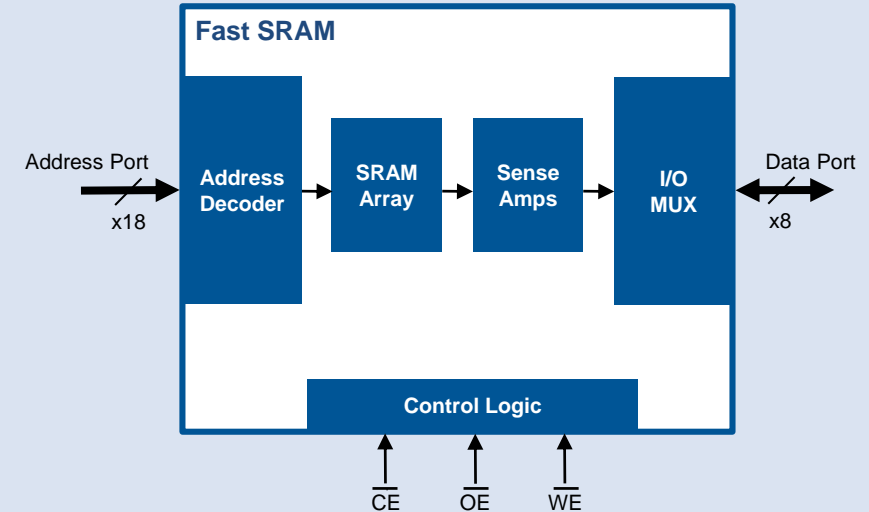
- Access time: 10 ns (85°C), 12 ns (125°C)
- Bus-width configuration: x8
- Operating voltage: 3.3 V
- Military temperature grade: -55°C to +125°C
- Bit-interleaving to eliminate multi-bit errors
- Package: 36-pin ceramic flat pack (CFP)
- Total ionizing dose: 300 Krad
- Heavy-ION single-event latch-up (SEL): 120 linear energy transfer (LET) MeV-cm sq/mg
- Heavy-ION single-event upset (SEU): 5.0E-08 (geosynchronous) error/bit-day
- QML-V² qualified (DLAM³ part number: 5962F1123501VXC)

Collateral

Cypress Datasheet: [4-Mbit SRAM w/ RadStop™](#)

DLAM6 Datasheet: [4-Mbit SRAM w/ RadStop](#)

CYRS1049DV33: Radiation Hard 4M Fast Asynchronous SRAM



Availability

Non-Space-Qualified Prototypes (CYPT1049): Now

QML-V Space-Qualified Devices (CYRS1049): Now

¹ Proprietary Cypress design and process technology that increases radiation-resistance

² Qualified Manufacturers List Level V, per military specification MIL-PRF-38535

³ Defense Logistics Agency Land and Maritime, Columbus, OH



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