

Micron® Memory Support for Renesas® Platforms

		Micron External Memory													
		Internal	NOR		NAND					DRAM					
Micron Memory	Product	Flash Embedded in Renesas Controller	Serial NOR, Xccela™	Parallel NOR	SLC NAND	e.MMC	UFS	SSD	μSD/SD	eUSB	LPDDR5	LPDDR4/4X	DDR3/3L	DDR2	SDR SDRAM
	Family		MT35X, MT25T, MT25Q	MT28EW, MT29FW	MT29F	MTFC	MTFC	MTFD	MTSD	MTED	MT62	MT53	MT41	MT47	MT48
	Voltage		1.8V, 3.3V	3.3V	1.8V, 3.3V	3.3V	3.3V	3.3V, 5V	-	3.3V, 5V	VDD1: 1.8V VDD2H: 1.05V VDD2L: VDD2H/0.9V VDDQ: 0.5/0.3V	VDD1: 1.8V VDD2: 1.1V VDDQ: 1.1V/0.6V	1.35V, 1.5V	1.8V	3.3V
	Speed		50–200 MHz SDR/DDR	Async 70–105ns	ONFI 1.0/2.2	e.MMC 4.41, 4.51, 5.1	UFS 3.1	SATA 6 Gb/s PCIe Gen 3	Class 10 (UHS-I U1)	USB 2.0, 3.1	6400 Mb/s	3200-4266 Mb/s	1600–2133 Mb/s	800 Mb/s	133–167 MHz
	Width		x4, x8	x8, x16	x1, x2, x4 (SPI) x8 x16 (Parallel)	-	-	-	-	-	x32, x64	x32	x8, x16	x8, x16	x8, x16, x32
	Density		128Mb–2Gb	128Mb–2Gb	1Gb–256Gb	4GB–128GB	64GB–256GB	>64GB	>8GB	2GB–32GB	16Gb–64Gb	4Gb–64Gb	1Gb–8Gb	512Mb–2Gb	64Mb–256Mb
System on Chips (SOCs) Aligned with Micron Memory															
Renesas Products	R-Car S4, S4N	-	✓			✓ e.MMC 5.0	✓	✓* (PCIe)	✓*			✓ (3200 Mb/s, 32 bits)			
	R-Car H3, M3, E3, H3e, H3Ne, M3e, M3Ne, E3e	-	✓			✓ e.MMC 5.0		✓* (SATA)	✓*	✓*		✓ H3: 3200 Mb/s, 128 bits M3: 3200 Mb/s, 64 bits	✓ E3: 1866 Mb/s, 32 bits		
	R-Car H2, M2, E2	-	✓ MT25T, MT25Q	✓*	✓*	✓* e.MMC 4.41		✓* H2, M2: SATA 2ch	✓*	✓* H2, M2: 4 ports, E2: 2 ports			✓ 1600 Mb/s, H2, M2: 32 bits x 2ch E2: 32 bits x 1ch		
	R-Car V4H	-	✓			✓ e.MMC 5.0		✓* PCIe	✓*		✓ 6400 Mb/s, 64 bits				
	R-Car V3U	-	✓* 2ch: MT25Q, 1ch: MT35X, MT25T			✓ e.MMC 5.0						✓ 4266 Mb/s, 128 bits			
	R-Car V3H2, V3H, V3M	-	✓* 2ch: MT25Q, 1ch: MT35X, MT25T			✓* V3M: e.MMC 4.51, V3H: e.MMC 5.0						✓ V3H: 3200 Mb/s, 32 bits	✓ V3M: 1600 Mb/s, 32 bits		
	R-CAR V2H	-	✓ MT25T, MT25Q	✓*	✓*	✓* e.MMC 4.41			✓*				✓ 1600 Mb/s, 32 bits x 1ch		
	R-Car D3, D3e	-	✓* 2ch: MT25Q, 1ch: MT35X, MT25T		✓*	✓*							✓ 1866 Mb/s, 16 bits x 1ch		
R-Car D1	-	✓*		✓*	✓* (e.MMC 4.41)				✓*			✓			

*For additional details, please contact your local Micron sales representative.

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Micron Memory	Product	Flash Embedded in Renesas Controller	Serial NOR, Xccela™	Parallel NOR	SLC NAND	e.MMC	UFS	SSD	μSD/SD	eUSB	LPDDR4/4X	DDR4	DDR3/3L	DDR2	SDR SDRAM
	Family		MT35X, MT25T, MT25Q	MT28EW, MT29FW	MT29F	MTFC	MTFC	MTFD	MTSD	MTED	MT53	MT40	MT41	MT47	MT48
	Voltage		1.8V, 3.3V	3.3V	1.8V, 3.3V	3.3V	3.3V	3.3V, 5V	–	3.3V, 5V	VDD1: 1.8V VDD2: 1.1V VDDQ: 1.1V/0.6V	1.2V	1.35V, 1.5V	1.8V	3.3V
	Speed		50–200 MHz SDR/DDR	Async 70–105ns	ONFI 1.0/2.2	e.MMC 4.41, 4.51, 5.1	UFS 3.1	SATA 6 Gb/s PCIe Gen 3	Class 10 (UHS-I U1)	USB 2.0, 3.1	3200–4266 Mb/s	3200 Mb/s	1600–2133 Mb/s	800 Mb/s	133–167 MHz
	Width		x4, x8	x8, x16	x1, x2, x4 (SPI) x8 x16 (Parallel)	–	–	–	–	–	x32	x8, x16	x8, x16	x8, x16	x8, x16, x32
	Density		128Mb–2Gb	128Mb–2Gb	1Gb–256Gb	4GB–128GB	128GB–256GB	>64GB	>8GB	2GB–32GB	4Gb–64Gb	8Gb–16Gb	1Gb–8Gb	512Mb–2Gb	64Mb–256Mb
Renesas Products															
Microcontrollers (MCUs) for Automotive Aligned with Micron Memory															
RH850/D1Mx, D1Lx	5MB MAX (code) + 64KB (data)	✓ D1L1: x4 SDR (40 MHz) D1L2: x4 SDR (120 MHz)/ DTR (80 MHz) D1Mx, D1L2H: x8 SDR (120 MHz)/ DTR (80 MHz)		✓ D1M1A: x8										✓ D1M2: 240 MHz, x16/ D1M2H: 240 MHz, x32	✓ D1M1H: 100 MHz, x32/ D1M1A: 120 MHz, x32
RH850/U2A16, U2B	16MB max. (code) + 512KB (data)				✓										

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	Family		MT35X, MT25T, MT25Q	MT28EW, MT29FW	MT29F	MTFC	MTFC	MTFD	MTSD	MTED	MT53	MT40	MT41	MT47	MT48
	Voltage		1.8V, 3.3V	3.3V	1.8V, 3.3V	3.3V	3.3V	3.3V, 5V	–	3.3V, 5V	VDD1: 1.8V VDD2: 1.1V VDDQ: 1.1V/0.6V	1.2V	1.35V, 1.5V	1.8V	3.3V
	Speed		50–200 MHz SDR/DDR	Async 70–105ns	ONFI 1.0/2.2	e.MMC 4.41, 4.51, 5.1	UFS 2.1, UFS 3.1	SATA 6 Gb/s	Class 10 (UHS-I U1)	USB 2.0, 3.1	3200-4266 Mb/s	3200 Mb/s	1600–2133 Mb/s	800 Mb/s	133–167 MHz
	Width		x4, x8	x8, x16	x1, x2, x4 (SPI) x8 x16 (Parallel)	–	–	–	–	–	x32	x8, x16	x8, x16	x8, x16	x8, x16, x32
	Density		128Mb–2Gb	128Mb–2Gb	1Gb–256Gb	2GB–128GB	32GB–256GB	>64GB	>8GB	2GB–32GB	4Gb–64Gb	8Gb–16Gb	1Gb–8Gb	512Mb–2Gb	64Mb–256Mb
Renesas Products															
Microprocessors (MPUs) Aligned with Micron Memory															
RZ/V2M, V2MA, V2L	–	✓ V2L: QSPI SDR/DDR 66/50 MHz			✓ e.MMC 4.51				✓*	✓*	✓ V2M, V2MA: 3200 Mb/s, x32 1ch	✓ V2L: 1600 Mb/s, x16 1ch	✓ V2L: 1600 Mb/s, x16 1ch		
RZ/A3UL	–	✓ QSPI SDR/DDR 66/50 MHz			✓ e.MMC 4.51				✓*	✓*		✓ 1600 Mb/s, x16 1ch	✓ 1333 Mb/s, x16 1ch		
RZ/A2M	–	✓ QSPI x1, 55 MHz		✓*	✓ e.MMC 4.51				✓*	✓*					✓*
RZ/A1H, A1M, A1LU, A1LC, A1L	–	✓ A1H, A1M: QSPI SDR 50 MHz, 1/2ch A1LU, A1L: QSPI SDR 66 MHz 1ch	✓	✓*	✓ e.MMC 4.41				✓*	✓*					✓
RZ/G2H, G2M, G2N, G2E	–	✓ G2H,M,N: QSPI DDR 160 MHz MAX x4/x8 G2E: QSPI DDR 150/160 MHz MAX x4/x8			✓ e.MMC 5.0, HS400		✓ G2H, G2N: SATA Gen3		✓*	✓*	✓* G2H, G2M: 3200 Mb/s x32 x 2ch G2N: 3200 Mb/s x32 x 1ch		✓* G2E: 1856 Mb/s x32 x 1ch		
RZ/Five, G2L, G2LC, G2UL	–	✓ G2L: QSPI DDR 50 MHz/ SDR 66 MHz/ x8 100 MHz G2LC, G2UL, Five: QSPI DDR 50 MHz/ SDR 66 MHz			✓ e.MMC 4.51				✓*	✓*		✓ 1600 Mb/s x16 x 1ch	✓ 1333 Mb/s x16 x 1ch		

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	Family		MT35X, MT25T, MT25Q	MT28EW, MT29FW	MT29F	MTFC	MTFC	MTFD	MTSD	MTED	MT53	MT40	MT41	MT47	MT48
	Voltage		1.8V, 3.3V	3.3V	1.8V, 3.3V	3.3V	3.3V	3.3V, 5V	–	3.3V, 5V	VDD1: 1.8V VDD2: 1.1V VDDQ: 1.1V/0.6V	1.2V	1.35V, 1.5V	1.8V	3.3V
	Speed		50–200 MHz SDR/DDR	Async 70–105ns	ONFI 1.0/2.2	e.MMC 4.41, 4.51, 5.1	UFS 2.1, UFS 3.1	SATA 6 Gb/s	Class 10 (UHS-I U1)	USB 2.0, 3.1	3200–4266 Mb/s	3200 Mb/s	1600–2133 Mb/s	800 Mb/s	133–167 MHz
	Width		x4, x8	x8, x16	x1, x2, x4 (SPI) x8 x16 (Parallel)	–	–	–	–	–	x32	x8, x16	x8, x16	x8, x16	x8, x16, x32
	Density		128Mb–2Gb	128Mb–2Gb	1Gb–256Gb	2GB–128GB	32GB–256GB	>64GB	>8GB	2GB–32GB	4Gb–64Gb	8Gb–16Gb	1Gb–8Gb	512Mb–2Gb	64Mb–256Mb
Renesas Products															
Microprocessors (MPUs) Aligned with Micron Memory															
RZ/G1H, G1M, G1N, G1E	–	✓ QSPI SDR 48.75 MHz MAX, 1ch	✓*		✓ e.MMC 4.41		✓ G1H, G1M, G1N: SATA Gen3	✓*	✓*			✓ DDR3: 1600Mb/s x32 x 2ch G1E: 1333Mb/s x32 x 1ch DDR3L: G1M: 1600Mb/s x32 x 2ch G1N: 1600Mb/s x32 x 1ch			
RZ/T2M	–	✓*	✓*												
RZ/T1, T1-M	–	✓*	✓*												✓ T1: 32-bit bus
RZ/N2L	–	✓*	✓*												
RZ/N1D, N1S, N1L	–	✓* MT25Q		✓*	✓*			✓*	✓*			✓* N1D only	✓* N1D only		

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	Family		MT35X, MT25T, MT25Q	MT28EW, MT29FW	MT29F	MTFC	MTFC	MTFD	MTSD	MTED	MT53	MT40	MT41	MT47	MT48
	Voltage		1.8V, 3.3V	3.3V	1.8V, 3.3V	3.3V	3.3V	3.3V, 5V	-	3.3V, 5V	VDD1: 1.8V VDD2: 1.1V VDDQ: 1.1V/0.6V	1.2V	1.35V, 1.5V	1.8V	3.3V
	Speed		50–200 MHz SDR/DDR	Async 70–105ns	ONFI 1.0/2.2	e.MMC 4.41, 4.51, 5.1	UFS 2.1, UFS 3.1	SATA 6 Gb/s	Class 10 (UHS-I U1)	USB 2.0, 3.1	3200-4266 Mb/s	3200 Mb/s	1600–2133 Mb/s	800 Mb/s	133–167 MHz
	Width		x4, x8	x8, x16	x1, x2, x4 (SPI) x8 x16 (Parallel)	-	-	-	-	-	x32	x8, x16	x8, x16	x8, x16	x8, x16, x32
	Density		128Mb–2Gb	128Mb–2Gb	1Gb–256Gb	2GB–128GB	32GB–256GB	>64GB	>8GB	2GB–32GB	4Gb–64Gb	8Gb–16Gb	1Gb–8Gb	512Mb–2Gb	64Mb–256Mb
Renesas Products															
Microcontrollers (MCUs) Aligned with Micron Memory															
RX700, RX600	4MB MAX code + 64KB data	✓ QSPI, SDR 60 MHz			✓ e.MMC 4.51				✓	✓					✓ 60 MHz MAX 80MHz for RX72M, x8/x16/x32
RX200, RX100	1MB MAX code + 8KB MAX data	No external memory interface (except eUSB for RX111/113/230/231)													
R-IN32M3, M4	-	✓ x1/x2/x4, SDR, 50 MHz	✓												
S7G2	4MB + 64KB	✓ QSPI			✓ e.MMC 4.51				✓	✓					✓ 60/120 MHz
S5D3, S5D5, S5D9	2MB MAX code + 64KB MAX data	✓ QSPI			✓ e.MMC 4.51				✓	✓					
S3A1, S3A3, S3A6, S3A7	1MB MAX code + 16KB MAX data	✓ QSPI			✓ e.MMC 4.51				✓	✓					
S124, S128, S1JA	256KB MAX code + 8KB MAX data	✓ QSPI								✓					
RE01-1500KB, RE01-256K	1.5MB MAX code	✓ QSPI								✓ 1500KB					
RA2, RA4, RA6, RA8	1MB MAX code + 64KB MAX data	✓ QSPI/Xccela			✓ RA6: eMMC 4.51				✓	✓					

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