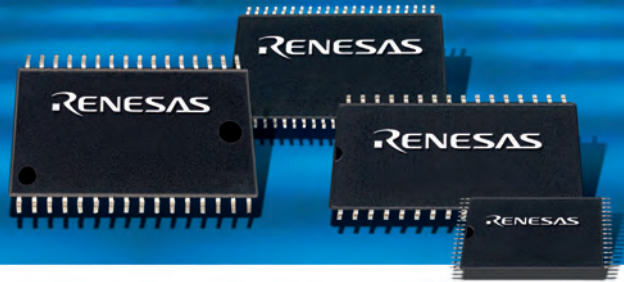


Low-power SRAM



Low-power SRAM

From 256kB to 64MB (multi-chip package)

Renesas will continue to offer and support a complete SRAM product portfolio over the long term. From the ongoing production of our low density series (256kB, 1MB, 2MB), through the extremely popular medium densities (4MB, 8MB), to the introduction of a new type of memory cell enabling higher density with the same high reliability (16MB, 32MB and 64MB (MCP)), we are committed to meeting customers' future SRAM needs. While Renesas

SRAMs work in perfect partnership with our world-leading microcontrollers, their compliance with all industry-standard requirements ensures wide-reaching compatibility with any system.

Key features of core low-power SRAM technology:

- high reliability
- smaller die size
- latch-up free
- soft-error free

Package line up for Renesas low-power SRAM

Renesas provides six kinds of packages, which are upwards compatible, making it easy to expand density without changing the PCB.

(*1) Package size for 64MB FBGA is under consideration.

	28-pin	32-pin	44-pin	48-pin (48-ball)	52-pin
SOP					
TSOP(I)					
sTSOP(II)					
TSOP(III)					
μTSOP(III)					
FBGA					
WL-CSP					

LPSRAM		2008	2009	2010	2011	2012	2013	2014	Status
Low	256kB			x8		0.6 μm			Contd. support
	1MB			x8		0.25 μm			
	2MB			x8, x16		0.25 μm			
Medium	4MB	0.18 μm	5V 3V	x8, x16		0.15 μm Advanced			Contd. support
	8MB	0.18 μm		x8, x16					Contd. support
High	16MB			x8, x16		0.13 μm			Contd. support
	16MB			x8, x16		0.15 μm Advanced			Contd. support
	32MB	(16MB + 16MB) MCP		x8, x16		0.15 μm Advanced			MCP contd. support Monolithic samples available
	64MB			x8, x16					Samples available
				(32MB + 32MB) MCP		0.15 μm Advanced			

Density	Type	Voltage	Package	Access time
Low density (256kB, 1MB, 2MB) series				
256kB	M5M5256D series	5V 3.3V	SOP, TSOP (sTSOP size)	55ns/70ns
1MB	M5M51008D, M5M5V108D series	5V 3.3V	SOP, TSOP, sTSOP	55ns/70ns
2MB	M5M5V208A, M5M5V216A series	3.3V	TSOP sTSOP	55ns/70ns
Medium density (4MB, 8MB) series				
4MB*	R1LP0408C, R1LV0408D*	5V, 3.3V	SOP, TSOP, sTSOP, FBGA	55/70ns
8MB	M5M5W816, M5M5W817	3.3V	μTSOP, TSOP, FBGA	55ns
	HM628100, HM6216514 HM62V8100 series	5V, 3.3V	TSOP	55ns
High density (16MB, 32MB, 64MB) series				
16MB	R1LV1616H Series	3.3V	TSOP, FBGA	45ns/55ns/On chip ECC
Advanced LPSRAM				
16MB*	R1LV1616R series	3.3V	μTSOP, TSOP, FBGA	55ns/ 70ns New type memory cell
32MB*	R1WV3216R series (MCP)	3.3V	μTSOP, FBGA	55ns/ 70ns/85ns New type memory cell
	R1LV3216R series (Monolithic)	3.3V	μTSOP, TSOP	55ns/ 70ns New type memory cell
64MB*	R1WV6416R series (MCP)	3.3V	μTSOP, TSOP, FBGA	55ns/ 70ns New type memory cell
* = Advanced technology				

Useful links



Please see:

www.eu.renesas.com/LPSRAM-doc
for Renesas low-power SRAM technical documentation.

www.eu.renesas.com/LPSRAM-xref
for applicable Renesas low-power SRAM cross-reference list.

www.eu.renesas.com/LPSRAM-sales
for Renesas-franchised European distributors and sales locations.



Denity	Organization	Voltage	Operating Temperature	Package (P/N)	Brand	Renesas	Samsung
256Kb	128Mx 8	1.8V / 2.5V	-40 to 85°C	60P128	70nm	60L128C100-1000	60L128C100-1000
				70P128	70nm	70L128C100-1000	70L128C100-1000
				80P128	80nm	80L128C100-1000	80L128C100-1000
				90P128	90nm	90L128C100-1000	90L128C100-1000
				100P128	100nm	100L128C100-1000	100L128C100-1000
				110P128	110nm	110L128C100-1000	110L128C100-1000
	128Mx 8	1.8V / 2.5V	-40 to 85°C	60P128	70nm	60L128C100-1000	60L128C100-1000
				70P128	70nm	70L128C100-1000	70L128C100-1000
				80P128	80nm	80L128C100-1000	80L128C100-1000
				90P128	90nm	90L128C100-1000	90L128C100-1000
				100P128	100nm	100L128C100-1000	100L128C100-1000
				110P128	110nm	110L128C100-1000	110L128C100-1000
256Kb	256Mx 8	1.8V / 2.5V	-40 to 85°C	120P256	120nm	120L256C100-1000	120L256C100-1000
				130P256	130nm	130L256C100-1000	130L256C100-1000
				140P256	140nm	140L256C100-1000	140L256C100-1000
				150P256	150nm	150L256C100-1000	150L256C100-1000
				160P256	160nm	160L256C100-1000	160L256C100-1000
				170P256	170nm	170L256C100-1000	170L256C100-1000
	256Mx 8	1.8V / 2.5V	-40 to 85°C	120P256	120nm	120L256C100-1000	120L256C100-1000
				130P256	130nm	130L256C100-1000	130L256C100-1000
				140P256	140nm	140L256C100-1000	140L256C100-1000
				150P256	150nm	150L256C100-1000	150L256C100-1000
				160P256	160nm	160L256C100-1000	160L256C100-1000
				170P256	170nm	170L256C100-1000	170L256C100-1000