



## RENESAS Low Power SRAM Roadmap

Density		2005	2006	2007	2008	2009	Status
LOW	256 KB		x8	0.6 $\mu\text{m}$			· Stable support
	1 MB		x8	0.25 $\mu\text{m}$			
	2 MB		x8 / x16	0.25 $\mu\text{m}$			
Middle	4 MB			0.18 $\mu\text{m}$	x8 / x16	0.15 $\mu\text{m}$ Advanced LPSRAM (Vcc = 3.3V ver.)	· All 0.18 $\mu\text{m}$ 4MB LPSRAM MP · 0.15 $\mu\text{m}$ Advanced LPSRAM under Development
	8 MB		0.18 $\mu\text{m}$		x8 / x16		
Large	16 MB		x8 / x16	0.13 $\mu\text{m}$			· 0.13 $\mu\text{m}$ 16 MB SRAM 3.3 V $\rightarrow$ MP
	16 MB		x8 / x16	0.15 $\mu\text{m}$ Advanced LPSRAM			· 16 MB Advanced LPSRAM 3.3 V $\rightarrow$ MP
			x8 / x16	0.15 $\mu\text{m}$ Advanced LPSRAM			· (16 MB + 16 MB) MCP Advanced LPSRAM 3.3 V $\rightarrow$ MP

## SRAM Highlights

RENESAS is the leading Low Power SRAM Supplier with a full Line-Up and well balanced long term Support.

### Key Features:

- A full Line-Up (256KB to 32MB)
- Contribution to System Performance (Standby current, wide Temperature)
- Next Generation Technology (large Density with high Reliability)
- Voltage 5V,3V,1.8V, Configuration x8, x16
- Low 256KB – 2MB / Middle 4MB-8MB / High 16MB-32MB Density
- Package Series SOP / TSOP / small TSOP / FBGA

## Cross-Reference-List: SRAM, 3V (256 KBit-32 MBit)

Memory Capacity [Bit]	Organization		RENESAS	Samsung	Operating Temperature [°C]	Package	
	[Word]	[Bit]					
1M	128Kx8		M5M5V108DFP-70H	K6X1008T2D-BB70	0 ~ 70	SOP	
			M5M5V108DFP-70HI	K6X1008T2D-BF70	-40 ~ 85	SOP	
			M5M5V108DVP-70H	K6X1008T2D-TB70	0 ~ 70	TSOP	
			M5M5V108DVP-70HI	K6X1008T2D-TF70	-40 ~ 85	TSOP	
			M5M5V108DKV-70HI	K6X1008V2C-LF70	-40 ~ 85	sTSOP	
2M	256Kx8		M5M5V208AKV-55HI	K6F2008T2E-YF55	-40 ~ 85	sTSOP	
			M5M5V208AKV-70HI	K6F2008T2E-YF70	-40 ~ 85	sTSOP	
4M	512Kx8		R1LV0408CSA-5SC	K6X4008T1F-LB55	0 ~ 70	sTSOP	
			R1LV0408CSA-5SI	K6X4008T1F-LF55	-40 ~ 85	sTSOP	
			R1LV0408CSA-7LC	K6X4008T1F-LB70	0 ~ 70	sTSOP	
			R1LV0408CSA-7LI	K6X4008T1F-LF70	-40 ~ 85	sTSOP	
			R1LV0408CSB-5SC	K6X4008T1F-UB55	0 ~ 70	TSOP	
			R1LV0408CSB-5SI	K6X4008T1F-UF55	-40 ~ 85	TSOP	
			R1LV0408CSB-7LC	K6X4008T1F-UB70	0 ~ 70	TSOP	
			R1LV0408CSB-7LI	K6X4008T1F-UF70	-40 ~ 85	TSOP	
			R1LV0408CSP-5SC	K6X4008T1F-BB55	0 ~ 70	SOP	
			R1LV0408CSP-5SI	K6X4008T1F-BF55	-40 ~ 85	SOP	
			R1LV0408CSP-7LC	K6X4008T1F-BB70	0 ~ 70	SOP	
			R1LV0408CSP-7LI	K6X4008T1F-BF70	-40 ~ 85	SOP	
	256Kx16		R1LV0416CSB-5SI	K6X4016T3F-UF55	-40 ~ 85	TSOP	
			R1LV0416CSB-7LI	K6X4016T3F-UF70	-40 ~ 85	TSOP	
			R1LV0416CBG-5SI	K6F4016U6G-AF55	-40 ~ 85	CSP	
			R1LV0416CBG-7SI	K6F4016U6G-AF70	-40 ~ 85	CSP	
	8M	1Mx8		HM62V8100LTI5SL	K6X8008T2B-UF55	-40 ~ 85	TSOP
		512Kx16		M5M5W816TP-55HI	K6X8016T3B-UF55	-40 ~ 85	TSOP
				M5M5W816TP-70HI	K6X8016T3B-UF70	-40 ~ 85	TSOP
16M	1Mx16		R1LV1616HBG-5SI	K6F1616U6C-F55	-40 ~ 85	CSP	
32M	2Mx16		R1WV3216RBG-7SI	K6F3216U6M-EF70	-40 ~ 85	CSP	

## Cross-Reference-List: SRAM, 5V (256 KBit-8 MBit)

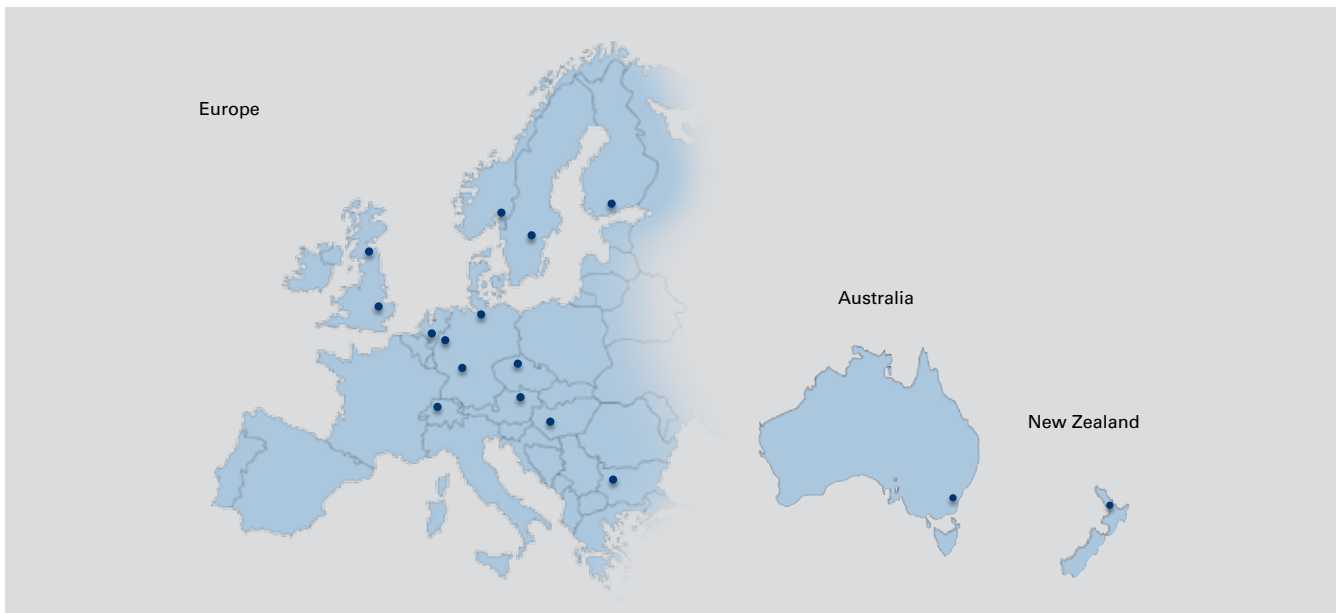
Memory Capacity [Bit]	Organization		RENESAS	Samsung	Operating Temperature [°C]	Package
	[Word]	[Bit]				
256KB	32Kx8		M5M5256DFP-70LLI	K6X0808C1D-BF70	-40 ~ 85	SOP
			M5M5256DVP-70LLI	K6X0808C1D-LF70	-40 ~ 85	TSOP
1M	128Kx8		M5M51008DFP-55H	K6X1008C2D-BB55	0 ~ 70	SOP
			M5M51008DFP-55HI	K6X1008C2D-BF55	-40 ~ 85	SOP
			M5M51008DFP-70H	K6X1008C2D-BB70	0 ~ 70	SOP
			M5M51008DFP-70HI	K6X1008C2D-BF70	-40 ~ 85	SOP
			M5M51008DVP-55H	K6X1008C2D-PB55	0 ~ 70	TSOP
			M5M51008DVP-55HI	K6X1008C2D-PF55	-40 ~ 85	TSOP
			M5M51008DVP-70H	K6X1008C2D-PB70	0 ~ 70	TSOP
			M5M51008DVP-70HI	K6X1008C2D-PF70	-40 ~ 85	TSOP
		4M	512Kx8		R1LP0408CSB-5SC	K6X4008C1F-UB55
	R1LP0408CSB-5SI			K6X4008C1F-UF55	-40 ~ 85	TSOP
	R1LP0408CSB-7LC			K6X4008C1F-UB-70	0 ~ 70	TSOP
	R1LP0408CSB-7LI			K6X4008C1F-UF70	-40 ~ 85	TSOP
	R1LP0408CSC-5SC			K6X4008C1F-MB55	0 ~ 70	TSOP
	R1LP0408CSC-5SI			K6X4008C1F-MF55	-40 ~ 85	TSOP
	R1LP0408CSC-7LC			K6X4008C1F-MB70	0 ~ 70	TSOP
	R1LP0408CSC-7LI			K6X4008C1F-MF70	-40 ~ 85	TSOP
	R1LP0408CSP-5SC			K6X4008C1F-BB55	0 ~ 70	SOP
	R1LP0408CSP-5SI			K6X4008C1F-BF55	-40 ~ 85	SOP
	R1LP0408CSP-7LC			K6X4008C1F-BB70	0 ~ 70	SOP
	R1LP0408CSP-7LI			K6X4008C1F-BF70	-40 ~ 85	SOP
8M	1Mx8				HM28100TTI5SE	K6X8008C2B-TF55
8M	512Kx16		HM216514TTI5SE	K6x8016C3B-UF55	-40 ~ 85	TSOP

## 4MB Fast SRAM Specification

(Asynchronous)

High Speed / Low Power Consumption

Supply Voltage		5V+/-10%			3.3V+/-0.3V		
Bit Configuration		x4	x8	x16	x4	x8	x16
Part Number		R1RP0404D	R1RP0408D	R1RP0416D	R1RW0404D	R1RW0408D	R1RW0416D
Access Time		12ns			12ns		
Operating current		130mA	130mA	160mA	100mA	100mA	130mA
Stand-By current		5mA max.			5mA max.		
	L	1.0mA max.			0.8mA max.		
	SL	-		0.5mA max.	-		0.5mA max.
Data Retention current	L	500uA max.			400uA max.		
	SL	-		200uA max.	-		200uA max.
Extended Temperature [-40 - +85°C]		-	X	X	-	X	X
Package	400mil SOJ	X	X	X	X	X	X
	400mil TSOP-II	-	-	X	-	-	X



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