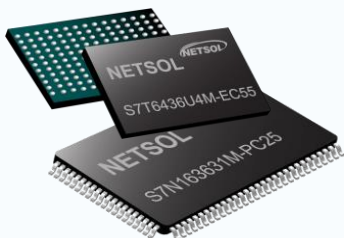




## NETSOL Product List

- **Asynchronous Fast SRAM**
- **Asynchronous Low Power SRAM**
- **Synchronous SRAM**
- **DDR SRAM**
- **Quadruple SRAM**
- **SLC NAND Flash**



*High Quality & High Performance Memory Provider*

**1Q, 2018**

**NETSOL Co., Ltd.**

3-dong 604-ho, Innoplex,  
304, Sinwon-ro, Yeongtong-gu,  
Suwon-si, Gyeonggi-do,  
16675, Korea

Email : [netsol@netsol.co.kr](mailto:netsol@netsol.co.kr)

Homepage : [www.netsol.co.kr](http://www.netsol.co.kr)

## ◆ Asynchronous FAST SRAM

- Density and Organization : 1Mb, 2Mb, 4Mb, 8Mb, 16Mb, 32Mb, x8/x16 Org.
- Temperature : Commercial, Industrial, and Automotive Temperature (-40 °C to 125 °C) support
- POWER : 1.65V ~ 3.6V, 3.0V~3.6V, 4.5V~5.5V
- PKG Type : TSOP, sTSOP, FBGA, ...
- Application : Tele-Communication equipment, Industrial equipment, IoT, Easy application, Long-term Support, Stable supplies...

Density	Org.	Part Number	VDD(V)	Access Time	Package	Availability
1M bit	64Kx16	S6R1016W1A	1.65~3.6	8/10/12/15ns	44TSOP2 48FBGA	Now
		S6R1016V1A	3.0~3.6	8/10ns		Now
		S6R1016C1A	4.5~5.5	10ns		Now
	128Kx8	S6R1008W1A	1.65~3.6	8/10/12/15ns	32sTSOP1 36FBGA	Now
		S6R1008V1A	3.0~3.6	8/10ns		Now
		S6R1008C1A	4.5~5.5	10ns		Now
2M bit	128Kx16	S6R2016W1A	1.65~3.6	8/10/12/15ns	44TSOP2 48FBGA	Now
		S6R2016V1A	3.0~3.6	8/10ns		Now
		S6R2016C1A	4.5~5.5	10ns		Now
	256Kx8	S6R2008W1A	1.65~3.6	8/10/12/15ns	44TSOP2 36FBGA	Now
		S6R2008V1A	3.0~3.6	8/10ns		Now
		S6R2008C1A	4.5~5.5	10ns		Now
4M bit	256Kx16	S6R4016W1A	1.65~3.6	8/10/12/15ns	44TSOP2 48FBGA	Now
		S6R4016V1A	3.0~3.6	8/10ns		Now
		S6R4016C1A	4.5~5.5	10ns		Now
	512Kx8	S6R4008W1A	1.65~3.6	8/10/12/15ns	44TSOP2 36FBGA	Now
		S6R4008V1A	3.0~3.6	8/10ns		Now
		S6R4008C1A	4.5~5.5	10ns		Now
8M bit	512Kx16	S6R8016W1A	1.65~3.6	8/10/12/15ns	44TSOP2 48FBGA	Now
		S6R8016C1A	4.5~5.5	10ns		Now
	1Mx8	S6R8008W1A	1.65~3.6	8/10/12/15ns	44TSOP2 48FBGA	Now
		S6R8008C1A	4.5~5.5	10ns		Now
16M bit	1Mx16	S6R1616W1M	1.65~3.6	8/10/12/15ns	48TSOP1 48FBGA	Now
		S6R1616V1M	3.0~3.6	8/10ns		Now
		S6R1616C1M	4.5~5.5	10ns		Now
	2Mx8	S6R1608W1M	1.65~3.6	8/10/12/15ns	44TSOP2 48FBGA	Now
		S6R1608V1M	3.0~3.6	8/10ns		Now
		S6R1608C1M	4.5~5.5	10ns		Now
32M bit	2Mx16	S6R3216W1M	1.65~3.6	8/10/12/15ns	48FBGA	Now
	4Mx8	S6R3208W1M	1.65~3.6	8/10/12/15ns		Now

### Notes

1. All of packaged asynchronous fast products are based on RoHS6 or lead free.
2. Industrial temperature range is recommended, but commercial one is available

## ◆ Asynchronous Low Power SRAM

- Density and Organization : 1Mb, 2Mb, 4Mb, 8Mb, x8/x16 Org.
- Temperature : Commercial, Industrial, and Automotive Temperature (-40 °C to 125 °C) support
- POWER : 2.3V~3.6V, 4.5V~5.5V
- PKG Type : TSOP, FBGA, sTSOP, SOP ...
- Application : Industrial equipment with Low power consumption, Mobile application,  
Easy application, Long-term Support, Small footprint, Stable supplies, IoT

Density	Org.	Part Number	VDD(V)	C/S Option	Speed -tAA(ns)	Package	Availability
1M bit	64Kx16	S6L1016W1M	2.3~3.6	1 C/S	45/55/70ns	44TSOP2, 48FBGA	Now
		S6L1016C1M	4.5~5.5	1 C/S		44TSOP2, 48FBGA	Now
	128Kx8	S6L1008W2M	2.3~3.6	2 C/S	45/55/70ns	32sTSOP1, 2TSOP1, 32SOP	Now
		S6L1008C2M	4.5~5.5	2 C/S			Now
2M bit	128Kx16	S6L2016W1M	2.3~3.6	1 C/S	45/55/70ns	44TSOP2,48FBGA	Now
		S6L2016W2M	2.3~3.6	2 C/S		48FBGA	Now
		S6L2016C1M	4.5~5.5	1 C/S		44TSOP2	Now
	256Kx8	S6L2008W1M	2.3~3.6	1 C/S	45/55/70ns	36FBGA	Now
		S6L2008W2M	2.3~3.6	2 C/S		32sTSOP1, 32TSOP1, 32TSOP2, 32SOP	Now
		S6L2008C2M	4.5~5.5	2 C/S		Now	
4M bit	256Kx16	S6L4016W1M	2.3~3.6	1 C/S	45/55/70ns	44TSOP2, 48FBGA	Now
		S6L4016W2M	2.3~3.6	2 C/S		44TSOP2, 48FBGA	Now
		S6L4016C1M	4.5~5.5	1 C/S		44TSOP2	Now
		S6L4016C2M	4.5~5.5	2 C/S		44TSOP2	Now
	512Kx8	S6L4008W1M	2.3~3.6	1 C/S	45/55/70ns	32sTSOP1, 32TSOP1, 32TSOP2, 32SOP	Now
		S6L4008C1M	4.5~5.5	1 C/S			Now
8M bit	512Kx16	S6L8016W1M	2.3~3.6	1 C/S	45/55/70ns	44TSOP2, 48FBGA	Now
		S6L8016W2M	2.3~3.6	2 C/S		44TSOP2, 48FBGA	Now
		S6L8016C1M	4.5~5.5	1 C/S		44TSOP2, 48FBGA	Now
		S6L8016C2M	4.5~5.5	2 C/S		48FBGA	Now
	1Mx8	S6L8008W2M	2.3~3.6	2 C/S	45/55/70ns	44TSOP2, 48FBGA	Now
		S6L8008C2M	4.5~5.5	2 C/S		44TSOP2, 48FBGA	Now
16M bit	1Mx16	S6L1616W1M	2.3~3.6	1 C/S	45/55/70ns	48TSOP1, 48FBGA	Under Consideration
		S6L1616W2M	2.3~3.6	2 C/S		48TSOP1, 48FBGA	
	2Mx8	S6L1608W1M	2.3~3.6	1 C/S	45/55/70ns	44TSOP2, 48FBGA	
		S6L1608W2M	2.3~3.6	2 C/S		44TSOP2, 48FBGA	
32M bit	2Mx16	S6L3216W1M	2.3~3.6	1 C/S	45/55/70ns	48FBGA	Under Consideration
		S6L3216W2M	2.3~3.6	2 C/S		48FBGA	
	4Mx8	S6L3208W1M	2.3~3.6	1 C/S	45/55/70ns	48FBGA	
		S6L3208W2M	2.3~3.6	2 C/S		48FBGA	

### Notes

1. All of packaged asynchronous products are based on RoHS6 or lead free.
2. . Industrial temperature range is recommended, but commercial one is available

## ◆ Synchronous SRAM

- Density and Organization : 4Mb, 9Mb, 18Mb, 36Mb, 72Mb, x18/x36 Org.
- Temperature : Commercial, Industrial temperature support
- POWER : 2.5V, 3.3V
- PKG Type : TQFP, FBGA, ...
- Application : Industrial equipment with High speed, Network equipment, Instrument, Medical equipment, Easy application, Long-term Support, Stable supplies

### (1) Synchronous Pipe Burst SRAM

Density	Org.	Part Number	Operating	VDD(V)	tCYC	Access Time	Package	Availability
4M bit	128Kx36	S7A403630M	SPB	2.3~3.5	250MHz	2.6ns	100TQFP	Now
	256Kx18	S7A401830M	SPB	2.3~3.5	250MHz	2.6ns	100TQFP	Now
9M bit	256Kx36	S7A803630M	SPB	2.3~3.5	250MHz	2.6ns	100TQFP	Now
	512Kx18	S7A801830M	SPB	2.3~3.5	250MHz	2.6ns	100TQFP	Now
18M bit	512Kx36	S7A163630M	SPB	2.3~3.5	250MHz	2.6ns	100TQFP	Now
	1Mx18	S7A161830M	SPB	2.3~3.5	250MHz	2.6ns	100TQFP	Now
36M bit	1Mx36	S7A323630M	SPB	2.3~3.5	250MHz	2.6ns	100TQFP	Now
	2Mx18	S7A321830M	SPB	2.3~3.5	250MHz	2.6ns	100TQFP	Now
72M bit	2Mx36	S7A643630M	SPB	2.3~3.5	250MHz	2.6ns	100TQFP	Now
	4Mx18	S7A641830M	SPB	2.3~3.5	250MHz	2.6ns	100TQFP	Now

### (2) Synchronous Flow Through SRAM

Density	Org.	Part Number	Operating	VDD(V)	tCYC	Access Time	Package	Availability
4M bit	128Kx36	S7B403635M	FT	2.3~3.5	133MHz	6.5ns	100TQFP	Now
	256Kx18	S7B401835M	FT	2.3~3.5	133MHz	6.5ns	100TQFP	Now
9M bit	256Kx36	S7B803635M	FT	2.3~3.5	133MHz	6.5ns	100TQFP	Now
	512Kx18	S7B801835M	FT	2.3~3.5	133MHz	6.5ns	100TQFP	Now
18M bit	512Kx36	S7B163635M	FT	2.3~3.5	133MHz	6.5ns	100TQFP	Now
	1Mx18	S7B161835M	FT	2.3~3.5	133MHz	6.5ns	100TQFP	Now
36M bit	1Mx36	S7B323635M	FT	2.3~3.5	133MHz	6.5ns	100TQFP	Now
	2Mx18	S7B321835M	FT	2.3~3.5	133MHz	6.5ns	100LQFP	Now
72M bit	2Mx36	S7B643635M	FT	2.3~3.5	133MHz	6.5ns	100TQFP	Now
	4Mx18	S7B641835M	FT	2.3~3.5	133MHz	6.5ns	100LQFP	Now

### (3) NT Pipe Burst SRAM

Density	Org.	Part Number	Operating	VDD(V)	tCYC	Access Time	Package	Availability
4M bit	128Kx36	S7N403631M	NT_SPB	2.3~3.5	250MHz	2.6ns	100TQFP	Now
	256Kx18	S7N401831M	NT_SPB	2.3~3.5	250MHz	2.6ns	100TQFP	Now
9M bit	256Kx36	S7N803631M	NT_SPB	2.3~3.5	250MHz	2.6ns	100TQFP	Now
	512Kx18	S7N801831M	NT_SPB	2.3~3.5	250MHz	2.6ns	100TQFP	Now
18M bit	512Kx36	S7N163631M	NT_SPB	2.3~3.5	250MHz	2.6ns	100TQFP	Now
	1Mx18	S7N161831M	NT_SPB	2.3~3.5	250MHz	2.6ns	165FBGA	Now
36M bit	1Mx36	S7N323631M	NT_SPB	2.3~3.5	250MHz	2.6ns	100TQFP	Now
	2Mx18	S7N321831M	NT_SPB	2.3~3.5	250MHz	2.6ns	165FBGA	Now
72M bit	2Mx36	S7N643631M	NT_SPB	2.3~3.5	250MHz	2.6ns	100TQFP	Now
	4Mx18	S7N641831M	NT_SPB	2.3~3.5	250MHz	2.6ns	165FBGA	Now

### (4) NT Flow Through SRAM

Density	Org.	Part Number	Operating	VDD(V)	tCYC	Access Time	Package	Availability
4M bit	128Kx36	S7M403635M	NT_FT	2.3~3.5	133MHz	6.5ns	100TQFP	Now
	256Kx18	S7M401835M	NT_FT	2.3~3.5	133MHz	6.5ns	100TQFP	Now
9M bit	256Kx36	S7M803635M	NT_FT	2.3~3.5	133MHz	6.5ns	100TQFP	Now
	512Kx18	S7M801835M	NT_FT	2.3~3.5	133MHz	6.5ns	100TQFP	Now
18M bit	512Kx36	S7M163635M	NT_FT	2.3~3.5	133MHz	6.5ns	100TQFP	Now
	1Mx18	S7M161835M	NT_FT	2.3~3.5	133MHz	6.5ns	100TQFP	Now
36M bit	1Mx36	S7M323635M	NT_FT	2.3~3.5	133MHz	6.5ns	100TQFP	Now
	2Mx18	S7M321835M	NT_FT	2.3~3.5	133MHz	6.5ns	100TQFP	Now
72M bit	2Mx36	S7M643635M	NT_FT	2.3~3.5	133MHz	6.5ns	100TQFP	Now
	4Mx18	S7M641835M	NT_FT	2.3~3.5	133MHz	6.5ns	100TQFP	Now

#### Notes

- All of NTSRAM products are based on RoHS6.  
All NTSRAM is based on 100TQFP including 165FBGA for NT-SPB.
- NTSRAM : Non-Turnaround Static Random Access Memory
- Both commercial temperature range and industrial are available.
- Single bin policy by 250Mhz for NT-SPB and by 6.5ns for NT-FT.  
Faster than 250Mhz are possible upon request.
- Non-parity such as 32-bits is possible upon request.
- 1.8V Vdd is also available, please ask us.

## ◆ DDR SRAM

- Density and Organization : 18Mb, 36Mb, 72Mb, x18/x36 Org.
- Temperature : Commercial, Industrial temperature support
- POWER : 1.8V
- PKG Type : FBGA
- Application : Network equipment such as Look-up tables, Que Management, Policing and Packet buffers, Long-term Support, Stable supplies

Density	Org.	Part Number	Operating Mode	VDD (V)	Cycle time (MHz)	Burst Length	Clock Latency	Package	Availability
18M bit	512Kx36	S7I163682M	DDR II	1.8	333,300,250	2	1.5	165FBGA	Now
	1Mx18	S7I161882M	DDR II	1.8	333,300,250	2	1.5	165FBGA	Now
	512Kx36	S7K1636T2M	DDR II+	1.8	450,400,333	2	2	165FBGA	Now
	1Mx18	S7K1618T2M	DDR II+	1.8	450,400,333	2	2	165FBGA	Now
	512Kx36	S7K1636U2M	DDR II+	1.8	550,450,400	2	2.5	165FBGA	Now
	1Mx18	S7K1618U2M	DDR II+	1.8	550,450,400	2	2.5	165FBGA	Now
	512Kx36	S7L1636T2M	DDR II+, ODT	1.8	450,400,333	2	2	165FBGA	Now
	1Mx18	S7L1618T2M	DDR II+, ODT	1.8	450,400,333	2	2	165FBGA	Now
	512Kx36	S7L1636U2M	DDR II+, ODT	1.8	550,450,400	2	2.5	165FBGA	Now
	1Mx18	S7L1618U2M	DDR II+, ODT	1.8	550,450,400	2	2.5	165FBGA	Now
	512Kx36	S7J163682M	DDR II, SIO	1.8	333,300,250	2	1.5	165FBGA	Now
	1Mx18	S7J161882M	DDR II, SIO	1.8	333,300,250	2	1.5	165FBGA	Now
	512Kx36	S7I163684M	DDR II	1.8	333,300,250	4	1.5	165FBGA	Now
	1Mx18	S7I161884M	DDR II	1.8	333,300,250	4	1.5	165FBGA	Now
36M bit	2Mx18	S7I321882M	DDR II	1.8	333,300,250	2	1.5	165FBGA	Now
	1Mx36	S7I323682M	DDR II	1.8	333,300,250	2	1.5	165FBGA	Now
	1Mx36	S7K3236T2M	DDR II+	1.8	450,400,333	2	2	165FBGA	Now
	2Mx18	S7K3218T2M	DDR II+	1.8	450,400,333	2	2	165FBGA	Now
	1Mx36	S7K3236U2M	DDR II+	1.8	550,450,400	2	2.5	165FBGA	Now
	2Mx18	S7K3218U2M	DDR II+	1.8	550,450,400	2	2.5	165FBGA	Now
	1Mx36	S7L3236T2M	DDR II+, ODT	1.8	450,400,333	2	2	165FBGA	Now
	2Mx18	S7L3218T2M	DDR II+, ODT	1.8	450,400,333	2	2	165FBGA	Now
	1Mx36	S7L3236U2M	DDR II+, ODT	1.8	550,450,400	2	2.5	165FBGA	Now
	2Mx18	S7L3218U2M	DDR II+, ODT	1.8	550,450,400	2	2.5	165FBGA	Now
	1Mx36	S7I323684M	DDR II	1.8	333,300,250	4	1.5	165FBGA	Now
	2Mx18	S7I321884M	DDR II	1.8	333,300,250	4	1.5	165FBGA	Now
	1Mx36	S7J323682M	DDR II, SIO	1.8	333,300,250	2	1.5	165FBGA	Now
	2Mx18	S7J321882M	DDR II, SIO	1.8	333,300,250	2	1.5	165FBGA	Now

Density	Org.	Part Number	Operating Mode	VDD (V)	Cycle time (MHz)	Burst Length	Clock Latency	Package	Availability
72M bit	2Mx36	S7I643682M	DDR II	1.8	333,300,250	2	1.5	165FBGA	Now
	4Mx18	S7I641882M	DDR II	1.8	333,300,250	2	1.5	165FBGA	Now
	2Mx36	S7K6436T2M	DDR II+	1.8	450,400,333	2	2	165FBGA	Now
	4Mx18	S7K6418T2M	DDR II+	1.8	450,400,333	2	2	165FBGA	Now
	2Mx36	S7K6436U2M	DDR II+	1.8	550,450,400	2	2.5	165FBGA	Now
	4Mx18	S7K6418U2M	DDR II+	1.8	550,450,400	2	2.5	165FBGA	Now
	2Mx36	S7L6436T2M	DDR II+, ODT	1.8	450,400,333	2	2	165FBGA	Now
	4Mx18	S7L6418T2M	DDR II+, ODT	1.8	450,400,333	2	2	165FBGA	Now
	2Mx36	S7L6436U2M	DDR II+, ODT	1.8	550,450,400	2	2.5	165FBGA	Now
	4Mx18	S7L6418U2M	DDR II+, ODT	1.8	550,450,400	2	2.5	165FBGA	Now
	2Mx36	S7J643682M	DDR II, SIO	1.8	333,300,250	2	1.5	165FBGA	Now
	4Mx18	S7J641882M	DDR II, SIO	1.8	333,300,250	2	1.5	165FBGA	Now
	2Mx36	S7I643684M	DDR II	1.8	333,300,250	4	1.5	165FBGA	Now
	4Mx18	S7I641884M	DDR II	1.8	333,300,250	4	1.5	165FBGA	Now

#### Notes

1. All of DDR SRAM products are based on RoHS6.
2. All of RoHS5 or leaded type is recommended to convert it into RoHS6 or lead free.
3. Both commercial temperature range and industrial are available.
4. Lower bins such as 200Mhz and 167Mhz are recommended to 250Mhz.

## ◆ Quadruple SRAM

- Density and Organization : 18Mb, 36Mb, 72Mb, 144Mb x18/x36 Org. .
- Temperature : Commercial, Industrial temperature support
- POWER : 1.8V, (QDR I : 1.8V, 2.5V)
- PKG Type : FBGA
- Application : Network equipment such as Look-up tables, Que Management, Policing and Packet buffers, Long-term Support, Stable supplies

Density	Org.	Part Number	Operating Mode	VDD(V)	Cycle time (MHz)	Burst Length	Clock Latency	Package	Availability
18M bit	512Kx36	S7Q163662M	QDR I	1.8~2.5	167	2	1	165FBGA	Now
	1Mx18	S7Q161862M	QDR I	1.8~2.5	167	2	1	165FBGA	Now
	512Kx36	S7R163682M	QDR II	1.8	333,300,250	2	1.5	165FBGA	Now
	1Mx18	S7R161882M	QDR II	1.8	333,300,250	2	1.5	165FBGA	Now
	2Mx9	S7R160982M	QDR II	1.8	333,300,250	2	1.5	165FBGA	Now
	512Kx36	S7Q163664M	QDR I	1.8~2.5	167	4	1	165FBGA	Now
	1Mx18	S7Q161864M	QDR I	1.8~2.5	167	4	1	165FBGA	Now
	512Kx36	S7R163684M	QDR II	1.8	333,300,250	4	1.5	165FBGA	Now
	1Mx18	S7R161884M	QDR II	1.8	333,300,250	4	1.5	165FBGA	Now
	512Kx36	S7S1636T4M	QDR II+	1.8	450,400,333	4	2	165FBGA	Now
	1Mx18	S7S1618T4M	QDR II+	1.8	450,400,333	4	2	165FBGA	Now
	512Kx36	S7S1636U4M	QDR II+	1.8	550,450,400	4	2.5	165FBGA	Now
	1Mx18	S7S1618U4M	QDR II+	1.8	550,450,400	4	2.5	165FBGA	Now
	512Kx36	S7T1636T4M	QDR II+, ODT	1.8	450,400,333	4	2	165FBGA	Now
	1Mx18	S7T1618T4M	QDR II+, ODT	1.8	450,400,333	4	2	165FBGA	Now
	512Kx36	S7T1636U4M	QDR II+, ODT	1.8	550,450,400	4	2.5	165FBGA	Now
1Mx18	S7T1618U4M	QDR II+, ODT	1.8	550,450,400	4	2.5	165FBGA	Now	
36M bit	1Mx36	S7R323682M	QDR II	1.8	333,300,250	2	1.5	165FBGA	Now
	2Mx18	S7R321882M	QDR II	1.8	333,300,250	2	1.5	165FBGA	Now
	4Mx9	S7R320982M	QDR II	1.8	333,300,250	2	1.5	165FBGA	Now
	1Mx36	S7S3236U2M	QDR II+	1.8	450,400,366	2	2.5	165FBGA	Now
	2Mx18	S7S3218U2M	QDR II+	1.8	450,400,366	2	2.5	165FBGA	Now
	1Mx36	S7R323684M	QDR II	1.8	333,300,250	4	1.5	165FBGA	Now
	2Mx18	S7R321884M	QDR II	1.8	333,300,250	4	1.5	165FBGA	Now
	4Mx9	S7R320984M	QDR II	1.8	333,300,250	4	1.5	165FBGA	Now
	1Mx36	S7S3236T4M	QDR II+	1.8	450,400,333	4	2	165FBGA	Now
	2Mx18	S7S3218T4M	QDR II+	1.8	450,400,333	4	2	165FBGA	Now
	1Mx36	S7S3236U4M	QDR II+	1.8	550,450,400	4	2.5	165FBGA	Now
	2Mx18	S7S3218U4M	QDR II+	1.8	550,450,400	4	2.5	165FBGA	Now
	1Mx36	S7T3236T4M	QDR II+, ODT	1.8	450,400,333	4	2	165FBGA	Now
	2Mx18	S7T3218T4M	QDR II+, ODT	1.8	450,400,333	4	2	165FBGA	Now
	1Mx36	S7T3236U4M	QDR II+, ODT	1.8	550,450,400	4	2.5	165FBGA	Now
	2Mx18	S7T3218U4M	QDR II+, ODT	1.8	550,450,400	4	2.5	165FBGA	Now



Density	Org.	Part Number	Operating Mode	VDD(V)	Cycle time (MHz)	Burst Length	Clock Latency	Package	Availability
72M bit	2Mx36	S7R643682M	QDR II	1.8	333,300,250	2	1.5	165FBGA	Now
	4Mx18	S7R641882M	QDR II	1.8	333,300,250	2	1.5	165FBGA	Now
	8Mx9	S7R640982M	QDR II	1.8	333,300,250	2	1.5	165FBGA	Now
	2Mx36	S7S6436U2M	QDR II+	1.8	450,400,366	2	2.5	165FBGA	Now
	4Mx18	S7S6418U2M	QDR II+	1.8	450,400,366	2	2.5	165FBGA	Now
	2Mx36	S7T6436T2M	QDR II+, ODT	1.8	400,357,333	2	2	165FBGA	Now
	4Mx18	S7T6418T2M	QDR II+, ODT	1.8	400,357,333	2	2	165FBGA	Now
	2Mx36	S7R643684M	QDR II	1.8	333,300,250	4	1.5	165FBGA	Now
	4Mx18	S7R641884M	QDR II	1.8	333,300,250	4	1.5	165FBGA	Now
	2Mx36	S7S6436T4M	QDR II+	1.8	450,400,333	4	2	165FBGA	Now
	4Mx18	S7S6418T4M	QDR II+	1.8	450,400,333	4	2	165FBGA	Now
	2Mx36	S7S6436U4M	QDR II+	1.8	550,450,400	4	2.5	165FBGA	Now
	4Mx18	S7S6418U4M	QDR II+	1.8	550,450,400	4	2.5	165FBGA	Now
	2Mx36	S7T6436T4M	QDR II+, ODT	1.8	450,400,333	4	2	165FBGA	Now
	4Mx18	S7T6418T4M	QDR II+, ODT	1.8	450,400,333	4	2	165FBGA	Now
	2Mx36	S7T6436U4M	QDR II+, ODT	1.8	550,450,400	4	2.5	165FBGA	Now
4Mx18	S7T6418U4M	QDR II+, ODT	1.8	550,450,400	4	2.5	165FBGA	Now	
144M bit	4Mx36	S7R443682M	QDR II	1.8	333,300,250	2	1.5	165FBGA	Now
	8Mx18	S7R441882M	QDR II	1.8	333,300,250	2	1.5	165FBGA	Now
	16Mx9	S7R440982M	QDR II	1.8	333,300,250	2	1.5	165FBGA	Now
	4Mx36	S7S4436U2M	QDR II+	1.8	450,400,366	2	2.5	165FBGA	Now
	8Mx18	S7S4418U2M	QDR II+	1.8	450,400,366	2	2.5	165FBGA	Now
	4Mx36	S7T4436T2M	QDR II+, ODT	1.8	400,357,333	2	2	165FBGA	Now
	8Mx18	S7T4418T2M	QDR II+, ODT	1.8	400,357,333	2	2	165FBGA	Now
	4Mx36	S7R443684M	QDR II	1.8	333,300,250	4	1.5	165FBGA	Now
	8Mx18	S7R441884M	QDR II	1.8	333,300,250	4	1.5	165FBGA	Now
	4Mx36	S7S4436T4M	QDR II+	1.8	450,400,333	4	2	165FBGA	Now
	8Mx18	S7S4418T4M	QDR II+	1.8	450,400,333	4	2	165FBGA	Now
	4Mx36	S7S4436U4M	QDR II+	1.8	550,450,400	4	2.5	165FBGA	Now
	8Mx18	S7S4418U4M	QDR II+	1.8	550,450,400	4	2.5	165FBGA	Now
	4Mx36	S7T4436T4M	QDR II+, ODT	1.8	450,400,333	4	2	165FBGA	Now
	8Mx18	S7T4418T4M	QDR II+, ODT	1.8	450,400,333	4	2	165FBGA	Now
	4Mx36	S7T4436U4M	QDR II+, ODT	1.8	550,450,400	4	2.5	165FBGA	Now
8Mx18	S7T4418U4M	QDR II+, ODT	1.8	550,450,400	4	2.5	165FBGA	Now	

Notes

1. All of Quadruple SRAM products are based on RoHS6.
2. All of RoHS5 or leaded type is recommended to convert it into RoHS6 or lead free.
3. Both commercial temperature range and industrial are available.
4. Lower bins such as 200Mhz and 167Mhz are recommended to 250Mhz.

## ◆ SLC NAND Flash

- Density and Organization : 1Gb, 2Gb, 4Gb, x8 Org.
- Temperature : Commercial, Industrial, and Extended Temperature support
- POWER : 1.8V, 3.3V
- PKG Type : TSOP, FBGA
- Application : Tele-Communication equipment, Industrial equipment, IoT, Easy application, Long-term Support, Stable supplies...

Density	Org.	Part Number	VDD(V)	I/O Type	Speed (μs)	ECC	Package	Availability
1G bit	128Mx8	S8F1G08U0A	2.7V~3.6V	Parallel	25	1bit	48 TSOP1 48 FBGA 63 FBGA	MP
	128Mx8	S8F1G08S0B	1.7V~1.95V	Parallel	25	4bit	48 TSOP1 48 FBGA 63 FBGA	MP
2G bit	256Mx8	S8F2G08U0A	2.7V~3.6V	Parallel	25	4bit	48 TSOP1 48 FBGA 63 FBGA	MP
	256Mx8	S8F2G08S0A	1.7V~1.95V	Parallel	30	4bit	48 TSOP1 48 FBGA 63 FBGA	MP
4G bit	512Mx8 (2KB Page)	S8F4G08U0M	2.7V~3.6V	Parallel	45	Internal ECC	48 TSOP1 48 FBGA 63 FBGA	CS
	512Mx8 (4KB Page)	S8F4G08UAM	2.7V~3.6V	Parallel	55	Internal ECC	48 TSOP1 48 FBGA 63 FBGA	CS

### Notes

1. All packaged products are RoHS6/lead free.

## Asynchronous SRAM Packaged Product Code Information

1	2	3	4,5	6,7	8	9	10	11	12	13	14,15	16	17,18
S	6	X	XX	XX	X	X	X	-	X	X	XX	X	XX

NETSOL  
Memory : S

Special  
code for  
customer  
demand :  
0: Default

Async. SRAM : 6

Packing Type :  
0 : Tray  
T : T&R

FAST SRAM : R

Speed :  
08 : 8ns, 10 : 10ns  
12 : 12ns, 15 : 15ns

Density :  
10 : 1Mb, 20 : 2Mb  
40 : 4Mb, 80 : 8Mb  
16 : 16Mb, 32 : 32Mb

Temperature :  
C : Commercial (0°C~+70°C)  
I : Industrial (-40°C~+85°C)  
A : Automotive (-40°C~+125°C)

Organization :  
04 : X4, 08 : X8, 16 : X16

Package :  
U : 44 TSOP2, Y : 48 TSOP1  
X : 48 FBGA, L : 32 sTSOP1

Vcc :  
C : 5.0V, V : 3.3V, W : 1.65V~3.6V

Mode :  
1 : CS Low Active  
2 : CS1, CS2 - Chip Select Mode  
3 : CS1, CS2, CS3 - Select Mode

Generation :  
M : 1<sup>st</sup> Generation  
A : 2<sup>nd</sup> Generation  
B : 3<sup>rd</sup> Generation

## Asynchronous SRAM Wafer/Chip Code Information

1	2	3	4,5	6	7	8	9	10	11	12	13,14
S	6	X	XX	X	X	X	-	X	X	X	XX

NETSOL  
Memory : S

Special  
code for  
Customer demand :  
0: Default

Async. SRAM : 6

Carrier Type :  
0 : Cassette type  
T : Jar type

FAST SRAM : R

Test Level :  
1 : Hot Temp, DC Sort  
2 : Hot Temp, DC and AC Sort  
3 : Hot and Cold Temp,  
DC and AC Sort

Density :  
10 : 1Mb, 20 : 2Mb  
40 : 4Mb, 80 : 8Mb  
16 : 16Mb, 32 : 32Mb

Production Form :  
W : Wafer  
C : Chip

Vcc :  
C : 5.0V, V : 3.3V, W : 1.65V~3.6V

Mode :  
1 : CS Low Active  
2 : CS1, CS2 - Chip Select Mode  
3 : CS1, CS2, CS3 - Select Mode

Generation :  
M : 1<sup>st</sup> Generation  
A : 2<sup>nd</sup> Generation  
B : 3<sup>rd</sup> Generation

## Synchronous SRAM Code Information

1	2	3	4,5	6,7	8,9	10	11	12	13	14,15	16	17,18
S	7	X	XX	XX	X	X	-	X	X	XX	X	XX

NETSOL Memory : S	Special code for customer demand : 0: Default
Sync. SRAM : 7	Packing Type : 0 : Tray T : T&R
Functional Mode Refer below #1	Speed : Refer below #4
Density : 40:4Mb~4.5Mb, 80:8Mb~9Mb 16:16Mb~18Mb, 32:32Mb~36Mb 64:62Mb~72Mb, 44:144Mb	Temperature : C : Commercial (0°C~+70°C) I : Industrial (-40°C~+85°C) A : Automotive (-40°C~+125°C)
Organization : 08 : X8, 09 : X9, 16 : X16 18 : X18, 32 : X32, 36 : X36	Package : Refer below #3
Vcc, Interface, Mode : Refer below #2	Generation : M : 1 <sup>st</sup> Generation, A : 2 <sup>nd</sup> Generation B : 3 <sup>rd</sup> Generation, C : 4 <sup>th</sup> Generation

### #1, Functional Mode

Standard Sync.	SPB	Flow Through
Sync Pipelined	A	B
NTSRAM	N	M

Q/DDR	I	II	II+	II+ With ODT
Quadruple	Q	R	S	T
DDR C I/O	D	I	K	L
DDR S I/O		J		

### #2, Vcc, Interface, Mode :

Type	Standard	Burst 2	Burst 4
2.5V/3.3V Wide, LVTTTL, 2E1D	30		
2.5V/3.3V Wide, LVTTTL, 2E2D	31		
2.5V/3.3V Wide, LVTTTL, SB-FT	35		
2.5V HSTL, 1.0 CLK Latency		62	64
1.8V HSTL, 1.5 CLK Latency		82	84
1.8V HSTL, 2.0 CLK Latency		T2	T4
1.8V HSTL, 2.5 CLK Latency		U2	U4

### #3. Package

Type	Lead Free	Leaded
QFP	P	Q
FBGA	E	F

### #4. Speed

\* SPB, NTSPB, DDR, Quadruple

Speed	Code	Speed	Code
133MHz	13	450MHz	45
166MHz	16	500MHz	50
200MHz	20	550MHz	55
250MHz	25	600MHz	60
300MHz	30	650MHz	65
333MHz	33	666MHz	66
400MHz	40		

\* FT, NTFT

Speed	Code	Speed	Code
6.0ns	60	8.0ns	80
6.5ns	65	9.0ns	90
7.0ns	70	10.0ns	10
7.5ns	75		

## Nand Flash Product Code Information

1	2	3	4,5	6	7	8	9	10	11	12	13	14	15	16	17,18
S	8	F	X,X	X	X	X	X	X	-	X	X	X	X	X	X,X

NETSOL Memory : S	Special code for Customer Default :00
NAND Flash : 8	Packing Type : 0 : Tray T : T&R
SLC normal : F MLC normal : G	Pre-Program None : 0 Serial (1~9,A~Z)
Density 1Gb : 1G, 2Gb : 2G 4Gb : 4G, 8Gb : 8G 16Gb : AG	Customer Bad Block Including Bad Block : B None : 0
Technology Normal (x8) : 0 Normal (x16) : 1	Temperature : C : Commercial (0°C~+70°C) I : Industrial (-40°C~+85°C)
Organization X8 : 8 X16 : 6	Package : 48TSOP1 : Y 48 FBGA : X 63 FBGA : B
Vcc / VccQ 3.3V (3.0V~3.6V) : V 2.7V ~ 3.6V : U 1.7V ~ 1.95V : S	
Mode Normal : 0 Normal and 4KB page with 4Gb density : A Dual $\overline{CE}$ & Dual $\overline{R/B}$ : 1 Tri $\overline{CE}$ & Tri $\overline{R/B}$ : 3 Qua $\overline{CE}$ & Single $\overline{R/B}$ : 4	
Generation 1 <sup>st</sup> generation : M 2 <sup>nd</sup> generation : A 3 <sup>rd</sup> generation : B	



**Thank You!**