



• Low Power SRAM Specialist

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# BSI Low Power SRAM

Brilliance Semiconductor, Inc.  
SRAM Business Group  
November, 2008



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# Low Power SRAM Application I

## I: Low Standby Current:

Backup memory for holding data by sharing battery of device.

Backup memory driven by battery for suddenly system power off.

### Application:

Medical Instruments

Handheld Game

Moisture analyzer

Hand Held Gas Monitor

Video gaming for Casino

Science Calculator

Airport Luggage Weight Measurement

POS E-Dictionary

GPS / Car Navigator

Wireless Measurement

Transport System for Automobile

Vending Machine

Power Supply

E-Learning Gadgets (Toy)

Parking Meter

Tire Pressure Measure

Music Instrument

Car Stereo

Blood Pressure Measurement



## Low Power SRAM Application II

### II: Small / Simple System:

Main memory for small system.

Working memory for simple timing system.

Application:

POS system

IC Card Reader /Casino

FAX Machine (Brother) IPC

PLC

Medical Timer

Wind Turbine Control Wave Scope

Weight Measurement

Cash Register

Security System

Cordless Phone

Temperature Measure

Power Line Meter

Bar code Reader

STB

Printer / Scanner

### III: Others:

Memory for 5V system

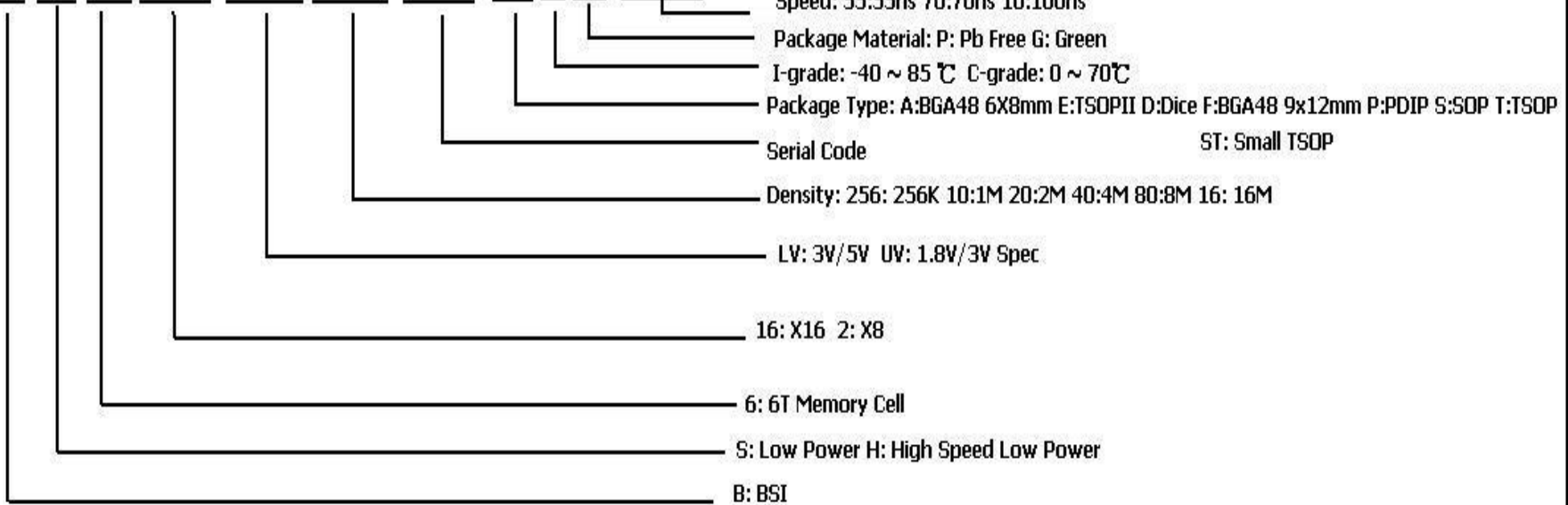
Application:

Textile Machine PLC Industrial Control

## BSI Low Power SRAM Naming Rule

BSI LPSRAM Part Number Naming Rule:

# BS616LV1027SIP55

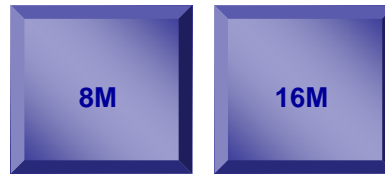




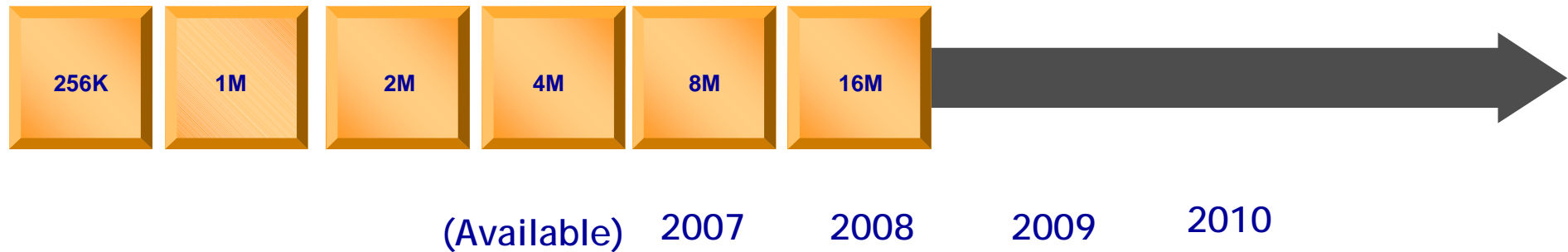
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## BSI Low Power SRAM Lineup

BH Series SRAM (1.65V - 3.6V)



BS Series SRAM (2.4V - 5.5V)





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# BSI Low Power SRAM Lineup I

## BS Series Low Density

ROHS Compliant

256Kb	Voltage	Part Number	Configuration	Package					status
				PDIP	SOP	TSOP	sTSOP	TSOPII	
	2.4 - 5.5V	BS62LV256	32K X 8	V	V	V	-	-	-

1M	Voltage	Part Number	Configuration	Package					status
				PDIP	SOP	TSOP	sTSOP	TSOPII	
	2.4 - 5.5V	BS62LV1027	128K X 8	V	V	V	V	-	-
2.4 - 5.5V	BS616LV1010	64K X 16	-	-	-	-	V	V	MP

Low Standby current: 25°C 3V, BSI: 0.1~0.11uA (256k)

Long Term Production more than 10 years (256k)

Fast Access Time: 55ns Max

Keep Production stable



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## BSI Low Power SRAM Lineup II BS Series Middle Density

ROHS Compliant

2M

Voltage	Part Number	Configuration	Package						status
			PDIP	SOP	TSOP	sTSOP	TSOPII	BGA	
2.4 - 5.5V	BS62LV2006	256K X 8	-	V	V	V	-	-	MP
2.4 - 3.6V	BS616LV2019	128K X 16	-	-	V	-	-	V	MP
2.4 - 5.5V	BS616LV2016	128K X 16	-	-	-	-	V	V	MP

4M

Voltage	Part Number	Configuration	Package						status
			PDIP	SOP	TSOP	sTSOP	TSOPII	BGA	
2.4 - 5.5V	BS62LV4006	512K X 8	V	V	V	V	V	-	MP
2.4 - 5.5V	BS616LV4017	256K X 16	-	-	-	-	V	V	MP

Full package type lineup  
Wide Range 2.4V - 5.0 V support  
Keep production and supply stable  
Fast Access Time 55ns Max



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## BSI Low Power SRAM Lineup III BS Series Higher Density

ROHS Compliant

8M

Voltage	Part Number	Configuration	Package		status
			TSOPII	BGA	
2.4 - 5.5V	BS62LV8001	1M X 8	V	-	MP
2.4 - 5.5V	BS616LV8017	512K X 16	V	V	MP

16M

Voltage	Part Number	Configuration	Package			status
			TSOPI	TSOPII	BGA	
2.4 - 5.5V	BS62LV1600	2M X 8	-	V	-	MP
2.4 - 5.5V	BS616LV1611	1M X 16	V	-	V	MP

5.0 V support  
Keep production and supply stable  
Low Standby current



# BSI Low Power SRAM Lineup IV

## BH Series Higher Density

ROHS Compliant

BH8M

Voltage	Part Number	Configuration	Package		status
			TSOPI	BGA	
1.65 – 3.6V	BH62UV8001	1M X 8	-	V	MP
1.65 – 3.6V	BH616UV8011	512K X 16	V	V	MP

BH16M

Voltage	Part Number	Configuration	Package	status
			BGA	
1.65 – 3.6V	BH62UV1600	2M X 8	V	MP
1.65 – 3.6V	BH616UV1611	1M X 16	V	MP

Wide Low operation voltage: 1.65V - 3.6 V  
Ultra low Power Consumption  
Keep production and supply stable



## Advantage of BSI Low Power SRAM I

### 1. Focus and long term support LP SRAM

BSI only focus on LP SRAM and in LP SRAM business more than 12 years.

### 2. Complete LP SRAM product family

Operation Voltage: 1.65V-3.6V , 2.4V-5.5V

Density: 256Kbits, 1Mbit, 2Mbits, 4Mbits, 8Mbits, 16Mbits

Package: SOP, TSOP, TSOPII, sTSOP, BGA, PDIP

### 3. Contribution of system performance

(Ultra Low Standby current) (Low Operation power consumption)

256Kbits (25°C 3V, BSI: 0.1~0.11uA, R-Company: 0.3~1.0uA L-Company: 0.3~0.4uA)

(Better AC Electrical Characteristics)

256Kbits Compare to the most major SRAM brand

BSI LPSRAM is easier compatible and failure rate is much lower.



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## Advantage of BSI Low Power SRAM II

### 5. Environment friendly

ROHS Compliant, IEQC080000 Certified

### 6. Wide Range Operation Voltage LP SRAM

(BS Series 2.4V-5.5V)

(BH Series 1.8V -3.6V)

### 7. Pin to Pin Compatible with most major SRAM brand products like Samsung, Cypress and Renesas

(Enclose with the major brand cross reference table)

# BSI Low Power SRAM Cross Reference Table

Density	Config.	Part No.	Speed (ns)	Iccsb1			Icc			Voltage (V)	Samsung	Cypress	Renesas	ISSI
				Typical (at 25C)			3V		5V					
				2V	3V	5V	1MHz	fmax	fmax					
256K	x8	BS62LV256	70	0.05uA	0.1uA	0.4uA	1mA	20mA	35mA	2.4-5.5			M5M5256D-G	
										2.4-3.6	K6X0808T1D	CY62256V		IS62LV256AL
										4.5-5.5	K6X0808C1D	CY62256	M5M5256D-L	IS62C256AL
1M	x8	BS62LV1027	55/70	0.1uA	0.2uA	0.6uA	1mA	15mA	40mA	2.4-5.5				
										2.4-3.6	K6F1008V2D	CY62128DV30	M5M5V108D	IS62WV1288BLL
											K6X1008T2D	CY62128V		
	4.5-5.5	K6X1008C2D	CY62128B	M5M51008D	IS62C1024AL									
	x16	BS616LV1010	55/70	0.1uA	0.2uA	0.4uA	1mA	20mA	40mA	2.4-5.5				
										2.4-3.6	K6F1016U4C	CY62126DV30		IS62WV6416BLL
												CY62127DV30		
4.5-5.5														

Density	Config.	Part No.	Speed (ns)	Iccsb1			Icc			Voltage (V)	Samsung	Cypress	Renesas	ISSI
				Typical (at 25C)			3V		5V					
				2V	3V	5V	1M Hz	fmax	fmax					
2M	x8	BS62LV2006	55/70	0.1uA	0.3uA	1.0 uA	1m A	20m A	45m A	2.4~5.5				
										2.4~3.6	K6F2008S2E		M5M5V208A	IS62WV2568B LL
											K6F2008T2E			
											K6F2008U2E			
	x16	BS616LV2016	55/70	0.1uA	0.3uA	1.0 uA	1m A	25m A	45m A	4.5~5.5				
										2.4~3.6	2.4~5.5			
											K6F2016S4E	CY62136CV/30/33		IS62WV12816 BLL
											K6F2016U4E	CY62136V		
		K6F2016V4E	CY62137CV/30/33											
		CY62137V	M5M5V216A											
	BS616LV2019	55/70	0.1uA	0.3ua	N.A	1m A	25m A	N.A.	2.4~3.6					
	BS616UV2019	85/100	0.1uA	0.3ua	N.A	1m A	25m A	N.A.	1.8~3.6					



Density	Config.	Part No.	Speed (ns)	Iccsb1			Icc			Voltage (V)	Samsung	Cypress	Renesas	ISSI	
				Typical (at 25C)			3V		5V						
				2V	3V	5V	1MHz	f <sub>max</sub>	f <sub>max</sub>						
8M	x8	BS62LV8001	55/70	0.5uA	1.5uA	8.0uA	2mA	30mA	75mA	2.4-5.5					
										2.7-3.6	K6X8008T2B	CY62158CV30/33 CY62158DV30	HM62V8100	IS62WV10248D BLL	
										4.5-5.5	K6X8008C2B		HM628100		
			BH62UV8001	55/70	2.0uA	2.0uA	N.A.	1.5mA	9mA	N.A.	1.65-3.6				
	x16	BS616LV8017	55/70	0.5uA	1.5uA	8.0uA	2mA	30mA	75mA	2.4-5.5					
										2.7-3.6	K6X8016T3B		M5M5W816TP	IS62WV51216B LL	
										4.5-5.5	K6X8016C3B		HM6216514		
		BS616LV8016	55/70	0.5uA	1.5uA	8.0uA	2mA	30mA	75mA	2.4-5.5					
										2.7-3.6	K6F8016T6C	CY62157CV30/33			
										4.5-5.5	K6F8016U6C/ D	CY62157DV30/33	M5M5W816WG		
				BH616UV8011	55/70	2.0uA	2.0uA	N.A.	1.5mA	9mA	N.A.	1.65-3.6			



Density	Config.	Part No.	Speed (ns)	Iccsb1			Icc			Voltage (V)	Samsung	Cypress	Renesas	ISSI
				Typical (at 25C)			3V		5V					
				2V	3V	5V	1MHz	f <sub>max</sub>	f <sub>max</sub>					
16M	x8	BS62LV1600	55/70	0.5uA	1.5uA	8.0 uA	2mA	30mA	75mA	2.4-5.5				
		BH62UV1601	55/70	3.0uA	3.0uA	N.A	1.5mA	10mA	N.A.	1.65-3.6				
	x16	BS616LV1611	55/70	0.5uA	1.5uA	8.0 uA	2mA	35mA	90mA	2.4-5.5				
										2.7-3.6	K6F1616T6C	CY62167DV30	HM62V16100	
										4.5-5.5	K6F1616U6B/C			
		BH616UV1611	55/70	3.0uA	3.0uA	N.A	1.5mA	10mA	N.A.	1.65-3.6	K6F1616R6B/C	CY62167DV18/20		



## Controlled condition for the opened bag

The bag contains moisture and electrostatic sensitive device.  
Please open this bag under controlled conditions.

- I. Bag storage environment: Below 30°C /60%R.H.
- II. You can process solder reflow directly when humidity Indicator card to verify that the 30% position is blue.
- III. If the humidity Indicator card turned pink on 30% position.  
Rebake the device at 125 °C for 10 hours beside thin package for 6 hours before use.
- IV. The contents must be mounted after opening with in 168hours at <30°C /60%R.H.



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