ISSI

INTEGRATED SILICON SOLUTION, INC.

PRODUCT SELECTOR GUIDE MAY 2010

DRAM SRAM Automotive

Dear Valued Customer,

At ISSI, we understand that one of our customers' biggest concerns is long-term product support. That is why "long-term support of our memory products" is not just a slogan, but rather a key part of the foundation on which we have built our memory business.

With the general market moving to DDR3 DRAM, many DRAM suppliers have shifted focus away from mature products such as SDR and DDR DRAM to DDR3. ISSI recognizes that many customers still need SDR and DDR DRAM supply for a long time given the fact that their products which use them have long life cycles. That is why ISSI is staying true to our commitment as a long-term supplier and continues to invest in products such as SDR and DDR DRAM. ISSI also continues to make strong investments to the rest of our DRAM portfolio and to our SRAM portfolio.

As has been the case with similar market cycles over the past twenty years, ISSI recognized early market signals in order to position ourselves ahead of the market. As such, we proactively put in place the capacity to support this upturn in the market while at the same time adding to our SRAM and DRAM product offerings.

In addition to providing long-term support, quality and reliability are key elements of our products and are a fundamental part of the design process at ISSI. This commitment to quality and reliability starts with new product definition and ends with customer satisfaction.

ISSI offers a complete line of SRAMs, with densities ranging from 64Kbit to 72Mbit. We also have a broad range of DRAM products ranging from 16Mbit EDO DRAM to 1Gbit DDR2 DRAM. We offer a wide variety of organizations, temperature and speed grades, voltages (including 5V), and packages. ISSI also offers industrial and automotive grade devices as well as KGD (known good die) products for both the SRAM and DRAM product families.

ISSI is a supplier that provides reliable, high quality SRAM and DRAM products, combined with the long-term product support on which our customers rely.

Sanjiv Asthana
Senior Vice President, Worldwide Sales
Integrated Silicon Solution Inc.

Synchronous Sram

Pipelined and Flow-Thru Synchronous SRAM

Den	Org	Part No.	Vcc	VccQ	Speed (Mhz)	tKQ (ns)	Pkg (#Pins)	Status[1][2]	Comment[3,4,5,6,7]
2M	64Kx32	IS61LF6432A	3.3V	2.5V/3.3V	90	8.5	TQFP(100)	Prod	F
	64Kx36	IS61LF6436A	3.3V	2.5V/3.3V	90	8.5	TQFP(100)	Prod	F
	64Kx32	IS61LP6432A	3.3V	2.5V/3.3V	133	4	TQFP(100)	Prod	P
	64Kx36	IS61LP6436A	3.3V	2.5V/3.3V	166,133	3.5,4	TQFP(100)	Prod	P
4M	128Kx32 128Kx36 256Kx18	IS61LPS12832A IS61LPS12836A IS61LPS25618A	3.3V	3.3V/2.5V	250	2.6	PBGA(119),TQFP(100) BGA(165)	Prod	P,SC
	128Kx36 256Kx18	IS61VPS12836A IS61VPS25618A	2.5V	2.5V	250,200	2.6,3.1	PBGA(119),TQFP(100) BGA(165)	Prod	P,SC
	128Kx36 256Kx18	IS61LPD12836A IS61LPD25618A	3.3V	2.5V/3.3V	250	2.6	PBGA(119),TQFP(100) BGA(165)	Prod	P,DC
	128Kx36 256Kx18	IS61VPD12836A IS61VPD25618A	2.5V	2.5V	250	2.6	PBGA(119),TQFP(100) BGA(165)	Prod	P,DC
	128Kx32 128Kx36 256Kx18	IS61LF12832A IS61LF12836A IS61LF25618A	3.3V	2.5V/3.3V	133,117	6.5,7.5	PBGA(119),TQFP(100) BGA(165)	Prod	F
	128Kx36 256Kx18	IS61VF12836A IS61VF25618A	2.5V	2.5V	133,117	6.5,7.5	PBGA(119),TQFP(100) BGA(165)	Prod	F
8M	256Kx32 256Kx36 512Kx18	IS61LPS25632A IS61LPS25636A IS61LPS51218A	3.3V	3.3V/2.5V	250,166	2.6	PBGA(119),TQFP(100) BGA(165)	Prod	P,SC
	256Kx36 512Kx18	IS61VPS25636A IS61VPS51218A	2.5V	2.5V	250,200	2.6,3.1	PBGA(119),TQFP(100) BGA(165)	Prod	P,SC
	256Kx36 512Kx18	IS61LPD25636A IS61LPD51218A	3.3V	2.5V/3.3V	250	2.6	PBGA(119),TQFP(100) BGA(165)	Prod	P,DC
	256Kx36 512Kx18	IS61VPD25636A IS61VPD51218A	2.5V	2.5V	250	2.6	PBGA(119),TQFP(100) BGA(165)	Prod	P,DC
	256Kx36 512Kx18	IS61LF25636A IS61LF51218A	3.3V	2.5V/3.3V	133	6.5	PBGA(119),TQFP(100) BGA(165)	Prod	F
	256Kx36 512Kx18	IS61VF25636A IS61VF51218A	2.5V	2.5V	133	6.5	PBGA(119),TQFP(100) BGA(165)	Prod	F
18M	256Kx72	IS61LPS25672A	3.3V	3.3V/2.5V	250	2.6	BGA(209)	Prod	P,SC
	512Kx36 1Mx18	IS61LPS51236A IS61LPS102418A	3.3V	3.3V/2.5V	250	2.6	PBGA(119),TQFP(100) BGA(165)	Prod	P,SC
	256Kx72	IS61VPS25672A	3.3V	3.3V/2.5V	250	2.6	BGA(209)	Prod	P,SC
	512Kx36 1Mx18	IS61VPS51236A IS61VPS102418A	2.5V	2.5V	250	2.6	PBGA(119),TQFP(100) BGA(165)	Prod	P,SC
	512Kx36 1Mx18	IS61LPD51236A IS61LPD102418A	3.3V	2.5V/3.3V	250	2.6	TQFP(100) BGA(165)	Prod	P, DC
	512Kx36 1Mx18	IS61VPD51236A IS61VPD102418A	2.5V	2.5V	250	2.6	TQFP(100) BGA(165)	Prod	P,DC
	256Kx72 512Kx36 1Mx18	IS61LF25672A IS61LF51236A IS61LF102418A	3.3V	2.5V/3.3V	133	6.5	PBGA(119),TQFP(100) BGA(165), BGA(209)	Prod	F
	256Kx72 512Kx36 1Mx18	IS61VF25672A IS61VF51236A IS61VF102418A	2.5V	2.5V	133	6.5	PBGA(119),TQFP(100) BGA(165), BGA(209)	Prod	F
36M	1Mx36	IS61LPS102436A	3.3V	3.3V/2.5V	166	3.5	TQFP(100), BGA(165)	Prod	
	2Mx18	IS61LPS204818A	3.3V	3.3V/2.5V	166	3.5	TQFP(100), BGA(165)	Prod	
	1Mx36	IS61VPS102436A	2.5V	2.5V	166	3.5	TQFP(100), BGA(165)	Prod	
	2Mx18	IS61VPS204818A	3.3V	2.5V	166	3.5	TQFP(100), BGA(165)	Prod	
	1Mx36	IS61LF102436A	3.3V	3.3V/2.5V	133	6.5	TQFP(100), BGA(165)	Prod	S
	2Mx18	IS61LF204818A	3.3V	3.3V/2.5V	133	6.5	TQFP(100), BGA(165)	Prod	S
	1Mx36	IS61VF102436A	2.5V	2.5V	133	6.5	TQFP(100), BGA(165)	Prod	S
	2Mx18	IS61VF204818A	2.5V	2.5V	133	6.5	TQFP(100), BGA(165)	Prod	S

Notes: 1. S = Sample 2. Prod = Production 3. CE = Chip Enable 4. P = Pipeline 5. F =Flow Through 6. SC = Single Cycle Deselect 7. DC = Double Cycle Deselect

No-Wait Synchronous SRAM (Compatible with Zero Bus Turnaround devices)

Den	Org	Part No.	Vcc	VccQ	Speed (Mhz)	tKQ (ns)	Pkg (#Pins)	Status[1][2]	Comment[3,4]
2M	64Kx32	IS61NLP6432A	3.3V	2.5V/3.3V	250,200	2.6,3.1	TQFP(100)	Prod	P
	64Kx36	IS61NLP6436A	3.3V	2.5V/3.3V	250,200	2.6,3.1	TQFP(100)	Prod	P
	128Kx18	IS61NLP12818A	3.3V	2.5V/3.3V	250,200	2.6,3.1	TQFP(100)	Prod	P
	64Kx36	IS61NVP6436A	2.5V	2.5V	250,200	2.6,3.1	TQFP(100)	Prod	P
	128Kx18	IS61NVP12818A	2.5V	2.5V	250,200	2.6,3.1	TQFP(100)	Prod	P
4M	128Kx32	IS61NLP12832B					PBGA(119),TQFP(100)		
	128Kx36	IS61NLP12836B	3.3V	2.5V/3.3V	250	2.6	BGA(165)	Prod	P
	256Kx18	IS61NLP25618A							
	128Kx36	IS61NVP12836B	2.5V	2.5V	250	2.6	PBGA(119),TQFP(100)	Prod	P
	256Kx18	IS61NVP25618A					BGA(165)		
	128Kx36	IS61NLF12836A	3.3V	2.5V/3.3V	117,133	7.5,6.5	TQFP(100)	Prod	F
	256Kx18	IS61NLF25618A					PBGA(119),BGA(165)		
	128Kx36	IS61NVF12836A	2.5V	2.5V	117,133	7.5,6.5	TQFP(100)	Prod	F
	256Kx18	IS61NVF25618A					PBGA(119),BGA(165)		
8M	256Kx36	IS61NLP25636A	3.3V	2.5V/3.3V	250	2.6	PBGA(119),TQFP(100)	Prod	P
	512Kx18	IS61NLP51218A					BGA(165)		
	256Kx36	IS61NVP25636A	2.5V	2.5V	250	2.6	PBGA(119),TQFP(100)	Prod	P
	512Kx18	IS61NVP51218A					BGA(165)		
	256Kx36	IS61NLF25636A	3.3V	2.5V/3.3V	133	6.5	TQFP(100)	Prod	F
	512Kx18	IS61NLF51218A					PBGA(119),BGA(165)		
	256Kx36	IS61NVF25636A	2.5V	2.5V	133	6.5	TQFP(100)	Prod	F
	512Kx18	IS61NVF51218A					PBGA(119),BGA(165)		
18M	256Kx72	IS61NLP25672							
	512Kx36	IS61NLP51236	3.3V	2.5V/3.3V	250	2.6	BGA(209),TQFP(100)	Prod	P
	1Mx18	IS61NLP102418					BGA(165)		
	256Kx72	IS61NVP25672							
	512Kx36	IS61NVP51236	2.5V	2.5V	250	2.6	BGA(209),TQFP(100)	Prod	P
	1Mx18	IS61NVP102418					BGA(165)		
	256Kx72	IS61NLF25672							
	512Kx36	IS61NLF51236	3.3V	2.5V/3.3V	133	6.5	BGA(209),TQFP(100)	Prod	F
	1Mx18	IS61NLF102418					BGA(165)		
	256Kx72	IS61NVF25672							
	512Kx36	IS61NVF51236	2.5V	2.5V	133	6.5	BGA(209),TQFP(100)	Prod	F
	1Mx18	IS61NVF102418					BGA(165)		
36M	2Mx18	IS61NVP204818A	2.5V	2.5V	166	3.5	TQFP(100)	Prod	P
	1Mx36	IS61NVP102436A					BGA(165)		
	2Mx18	IS61NLP204818A	3.3V	3.3V/2.5V	166	3.5	TQFP(100)	Prod	P
	1Mx36	IS61NLP102436A					BGA(165)		
	2Mx18	IS61NLF204818A	3.3V	3.3V/2.5V	133,117	6.5,7.5	TQFP(100)	Prod	
	1Mx36	IS61NLF102436A					BGA(165)		
	2Mx18	IS61NVF204818A	2.5V	2.5V	133,117	6.5,7.5	TQFP(100)	Prod	
	1Mx36	IS61NVF102436A					BGA(165)		

Notes: 1. S = Sample 2. Prod = Production 3. P = Pipeline 4. F =Flow Through 5. SC = Single Cycle Deselect 6. DC = Double Cycle Deselect

QUAD/DDR-II Synchronous SRAM

Family	Den	Org	Part No.	Burst Length	Speed (Mhz)	Pkg (#Pins)	Status[1][2]	Comment
QUAD	36Mb	1Mx36	IS61QDB41M36	4	250	BGA(165)	Prod	
	36Mb	2Mx18	IS61QDB42M18	4	250	BGA(165)	Prod	
	36Mb	1Mx36	IS61QDB21M36	2	250	BGA(165)	Prod	
	36Mb	2Mx18	IS61QDB22M18	2	250	BGA(165)	Prod	
DDR-II	36Mb	1Mx36	IS61DDB41M36	4	250	BGA(165)	Prod	
	36Mb	2Mx18	IS61DDB42M18	4	250	BGA(165)	Prod	
	36Mb	1Mx36	IS61DDB21M36	2	250	BGA(165)	Prod	
	36Mb	2Mx18	IS61DDB22M18	2	250	BGA(165)	Prod	
QUAD	72Mb	2Mx36	IS61QDB42M36	4	300,250	BGA(165)	Prod	
	72Mb	4Mx18	IS61QDB44M18	4	300,250	BGA(165)	Prod	
	72Mb	2Mx36	IS61QDB22M36	2	300,250	BGA(165)	Prod	
	72Mb	4Mx18	IS61QDB24M18	2	300,250	BGA(165)	Prod	
QUADP	72Mb	2Mx36	IS61QDPB42M36	4	375,400	BGA(165)	Prod	
	72Mb	4Mx18	IS61QDPB44M18	4	375,400	BGA(165)	Prod	
DDR-II	72Mb	2Mx36	IS61DDB42M36	4	300	BGA(165)	Prod	
	72Mb	4Mx18	IS61DDB44M18	4	300	BGA(165)	Prod	
	72Mb	2Mx36	IS61DDB22M36	2	300	BGA(165)	Prod	
	72Mb	4Mx18	IS61DDB24M18	2	300	BGA(165)	Prod	
DDR-IIP	72Mb	2Mx36	IS61DDPB22M36	2	375,400	BGA(165)	Prod	

Notes: 1. S = Sample 2. Prod = Production 3. P = Pipeline 4. F =Flow Through 5. SC = Single Cycle Deselect 6. DC = Double Cycle Deselect

Asynchronous Sram

5V High-Speed Asynchronous SRAM

Den	Org	Part No.	Vcc	Speeds (ns)	Pkg (#Pins)	Status[1][2]	Comment
64K	8Kx8	IS61C64AL	5V	10	SOJ(28),TSOP1(28)	Prod	
256K	32Kx8	IS61C256AL	5V	10,**12**	SOJ(28),TSOP1(28)	Prod	
512K	32Kx16	IS61C3216AL	5V	**12**	SOJ(44),TSOP2(44)	Prod	
1M	64Kx16	IS61C6416AL	5V	**12**	SOJ(44),TSOP2(44)	Prod	
	128Kx8	IS61C1024AL	5V	12	SOJ(32.3),SOJ(32.4) TSOP1(32), sTSOP1(32)	Prod	
4M	512Kx8	IS61C5128AL	5V	**10,12**	SOJ(36),TSOP2(44)	Prod	
	512Kx8	IS61C5128AS	5V	25	SOP(32),sTSOP1(32),TSOP(32)	Prod	
	256Kx16	IS61C25616AL	5V	10	SOJ(44),TSOP2(44)	Prod	
	256Kx16	IS61C25616AS	5V	25	SOJ(44),TSOP2(44)	Prod	

Low Power Asynchronous SRAM

Den	Org	Part No.	Vcc	Speeds (ns)	Pkg (#Pins)	Status[1][2]	Comment
256K	32Kx8	IS62C256AL	5V	25,45	SOP(28),TSOP1(28)	Prod	
1M	128Kx8	IS62C1024AL	5.0V	35	SOP(32),TSOP1(32)	Prod	
8M	1Mx8	IS62C10248AL	5.0V	45,55	TSOP2(44), BGA(48)	Prod	
	512Kx16	IS62C51216AL	5.0V	45,55	TSOP2(44), BGA(48)	Prod	

High Speed Low Power Asynchronous SRAM

Den	Org	Part No.	Vcc	Speed (ns)	Pkg (#Pins)	Status[1][2]	Comment
256K	32Kx8	IS61LV256AL	3.3V	10	SOJ(28),TSOP1(28)	Prod	
512K	32Kx16	IS61WV3216BLL	3.3V	12	TSOP2(44), mBGA(48)	Prod	
1M	64Kx16	IS61LV6416/L	3.3V	8,**10,12**	SOJ(44),TSOP2(44),mBGA(48)	Prod	
	64Kx16	IS61WV6416BLL	2.5V-3.6V	12	TSOP2(44),mBGA(48),SOJ(44)	Prod	
	128Kx8	IS63WV1288DALL/DBLL	1.65V-3.6V	8,10,12,20	TSOP2(32),mBGA(48) sTSOP1(32),SOJ(32.3)	S=NOW	Lead-free
2M	128Kx16	IS61WV12816DALL/DBLL	1.65V-3.6V	8,10,12,20	TSOP2(44). BGA(48)	Prod	
	256Kx8	IS61LV2568L	3.3V	8,**10**	SOJ(36),TSOP2(44)	Prod	
3M	128Kx24	IS61LV12824	3.3V	**8**,**10**	PBGA(119),TQFP(100)	Prod	x24 Interface
4M	256Kx16	IS61WV25616ALL/BLL	1.65V-3.6V	**8,10,20**	TSOP2(44), mBGA(48)	Prod	
	512Kx8	IS61WV5128ALL/BLL	1.65V-3.6V	**8,10**,20	SOJ(36),TSOP2(44),mBGA(36)	Prod	
8M	512Kx16	IS61WV51216ALL/BLL	1.65V-3.3V	8,**10**,20	TSOP2(44),mBGA(48)	Prod	
	1Mx8	IS61WV10248ALL/BLL	1.65V-3.6V	8,10,20	TSOP2(44),mBGA(48)	Prod	
	256Kx32	IS61WV25632ALL/BLL	1.65V-3.6V	8,10,20	BGA(90)	Prod	

Notes: 1. S = Sample 2. Prod = Production 3. 2CS = 2 chip enable

Available in Commercial (0°C to +70°C) and Industrial (-40°C to +85°C) temperature options.

Asynchronous SRAM (Cont'd)

High Speed Low Power Asynchronous SRAM

Den	Org	Part No.	Vcc	Speed (ns)	Pkg (#Pins)	Status[1][2]	Comment
16M	1Mx16	IS61WV102416ALL/BLL	1.65V-3.6V	8,10,20	TSOP1(48),mBGA(48)	Prod	
	1Mx16	IS62WV102416ALL/BLL	1.65V-3.6V	25,35	TSOP1(48),mBGA(48)	Prod	Low Power
	2Mx8	IS61WV20488ALL/BLL	1.65V-3.6V	8,**10,20**	TSOP2(44),mBGA(48)	Prod	
	2Mx8	IS62WV20488ALL/BLL	1.65V-3.6V	25,35	TSOP2(44),mBGA(48)	Prod	Low Power
	512Kx32	IS61WV51232ALL/BLL	1.65V-3.6V	8,**10,20**	BGA(90)	Prod	

PowerSaver™ Low Power Asynchronous SRAM

Den	Org	Part No.	Vcc	Speeds (ns)	Pkg (#Pins)	Status[1][2]	Comment[3]
256K	32Kx8	IS62LV256AL	3.3V	20,45	SOJ(28),SOP(28),TSOP1(28)	Prod	
1M	64Kx16	IS62WV6416ALL/BLL	1.7V-3.6V	45,**55**	TSOP2(44),mBGA(48)	Prod	
	64Kx16	IS62WV6416DALL/DBLL	1.65V-3.6V	35,45,**55**	TSOP2(44),mBGA(48)	Prod	
	128Kx8	IS62WV1288DALL/DBLL	1.65V-3.6V	35,45,**55**	SOP(32), sTSOP1(32), TSOP1(32), mBGA(36)	Prod	
2M	128Kx16	IS62WV12816ALL/BLL	1.65V-3.6V	45,**55,70**	mBGA(48),TSOP2(44)	Prod	2CS Option Avail.
	256Kx8	IS62WV2568ALL/BLL	1.65V-3.6V	45,55,**70**	sTSOP1(32),TSOP1(32),mBGA(36)	Prod	
4M	256Kx16	IS62VV25616LL	1.65V-1.95V	70,**85**	µBGA(48),TSOP2(44)	Prod	
	256Kx16	IS62WV25616ALL/BLL	1.65V-3.6V	55,**70**	TSOP2(44), mBGA(48)	Prod	
	512Kx8	IS62WV5128ALL/BLL	1.65V-3.6V	55,**70**	sTSOP1(32),TSOP1(32), TSOP2(32), mBGA(36),SOP(32)	Prod	
8M	512Kx16	IS62WV51216ALL/BLL	1.65V-3.6V	45,**55**	mBGA(48),TSOP2(44)	Prod	
	1MX8	IS62WV10248DALL/BLL	1.65V-3.6V	45,55	mBGA(48),TSOP2(44)	Prod	

Pseudo SRAM

Den	Org	Part No.	Vcc	Speed (ns)	Pkg (#Pins)	Status[1][2][6]	Comment[3][4]
4M	256Kx16	IS66WV25616ALL/BLL	1.7V-3.6V	**55**	BGA(48),TSOP2(44)	Prod	L
8M	512Kx16	IS66WV51216ALL/BLL	1.7V-3.6V	**55**	BGA(48),TSOP2(44)	Prod	L
	256Kx32	IS66WV25632ALL/BLL	1.7V-3.6V	**55**	BGA(90)	S=NOW	L
32M	2Mx16	IS66WVC2M16ALL	1.8V	**70**	VFBGA(54)	S=Q2/10	L, CRAM 1.5
	2Mx16	IS66WVD2M16ALL	1.8V	**70**	VFBGA(54)	S=Q2/10	L, CRAM 2.0
	2Mx16	IS66WVE2M16ALL	1.8V	**70**	TFBGA(48), TSOP1(48)	S=Q2/10	L, Asynch/Page
	2Mx16	IS66WVE2M16BLL	3.3V	**70**	TFBGA(48), TSOP1(48)	S=Q2/10	L, Asynch/Page
64M	4Mx16	IS66WVC4M16ALL	1.8V	**70**	VFBGA(54)	S=Q2/10	L, CRAM 1.5
	4Mx16	IS66WVD4M16ALL	1.8V	**70**	VFBGA(54)	S=Q2/10	L, CRAM 2.0
	4Mx16	IS66WVE4M16ALL	1.8V	**70**	TFBGA(48), TSOP1(48)	S=Q2/10	L, Asynch/Page
	4Mx16	IS66WVE4M16BLL	3.3V	**70**	TFBGA(48), TSOP1(48)	S=Q2/10	L, Asynch/Page

*Contact SRAM Marketing for questions

Notes: 1. S = Sample 2. Prod = Production 3. 2CS = 2 chip enable

Available in Commercial (0°C to +70°C) and Industrial (-40°C to +85°C) temperature options.

Dynamic RAM

3.3V EDO and Fast Page Mode DRAM

Den	Org	Type	Part No.	Vcc	Refsh	Ras (ns)	Pkg (#Pins)	Status[1,2]	Comment [3]
16M	4Mx4	EDO	IS41LV44002B	3.3V	2K	50	TSOP2(24)	Prod	
	4Mx4	FP	IS41LV44052B	3.3V	2K	50	TSOP2(24)	Prod	
	1Mx16	EDO	IS41LV16100B	3.3V	1K	50,60	SOJ(42),TSOP2(44/50)	Prod	
	1Mx16	FP	IS41LV16105B	3.3V	1K	50,60	SOJ(42),TSOP2(44/50)	Prod	

3.3V SDR (Single Data Rate) Synchronous DRAM

Den	Org	Type	Part No.	Vcc	Refsh	Speed (Mhz)	Pkg (#Pins)	Status[1,2]	Comment [3]
16M	1Mx16	SDR	IS42S16100E	3.3V	2K	200,166,143	TSOP2(50), BGA(60)	Prod	KGD available
	1Mx16	SDR	IS42S16100F	3.3V	2K	200,166,143	TSOP2(50), BGA(60)	S=NOW	KGD available
64M	4Mx16	SDR	IS42S16400E	3.3V	4K	166,143	TSOP2(54)	Prod	
	4Mx16	SDR	IS42S16400F	3.3V	4K	200,166,143	TSOP2(54), BGA(54)	Prod	KGD available
	2Mx32	SDR	IS42S32200E	3.3V	4K	200,166,143	TSOP2(86), BGA(90)	Prod	KGD available
128M	16Mx8	SDR	IS42S81600E	3.3V	4K	200,166,143,133	TSOP2(54)	Prod	KGD available
	8Mx16	SDR	IS42S16800E	3.3V	4K	200,166,143,133	TSOP2(54), BGA(54)	Prod	KGD available
	4Mx32	SDR	IS42S32400E	3.3V	4K	166,143,133	TSOP2(86), BGA(90)	Prod	KGD available
256M	32Mx8	SDR	IS42S83200D	3.3V	8K	166,143,133	TSOP2(54)	Prod	KGD available
	16Mx16	SDR	IS42S16160D	3.3V	8K	166, 143,133	TSOP2(54), BGA(54)	Prod	KGD available
	8Mx32	SDR	IS42S32800D	3.3V	4K	166,143,133	TSOP2(86), BGA(90)	Prod	KGD available
512M	64Mx8	SDR	IS42S86400B	3.3V	8K	166,143,133	TSOP2(54)	Prod	KGD available
	32Mx16	SDR	IS42S16320B	3.3V	8K	166,143,133	TSOP2(54), BGA(54)	Prod	KGD available
	16Mx32	SDR	IS42S32160B	3.3V	8K	166,143,133	TSOP2(86),BGA(90)	Prod	KGD available, 11x13mm BGA
	16Mx32	SDR	IS42S32160C	3.3V	8K	166,133	BGA(90)	Prod	stacked die, 8x13mm BGA

PowerSaver™ / Low Voltage SDR Synchronous DRAM

Den	Org	Type	Part No.	Vcc	Refsh	Speed (Mhz)	Pkg (#Pins)	Status [1,2]	Comment [3, 4]
16M	1Mx16	SDR	IS42R16100E	2.5V	2K	143,100	TSOP2(50)	Prod	KGD - contact ISSI
	1Mx16	SDR	IS42VS16100E	1.8V	2K	133,100	TSOP2(50),BGA(60)	Prod	KGD - contact ISSI
64M	4Mx16	SDR	IS42VS16400E	1.8V	4K	133	TSOP2(54),BGA(54)	Prod	KGD - contact ISSI
	2Mx32	SDR	IS42VS32200E	1.8V	4K	133	TSOP2(86),BGA(90)	Prod	KGD - contact ISSI

PowerSaver™ / Mobile SDR Synchronous DRAM

Den	Org	Type	Part No.	Vcc	Refsh	Speed (Mhz)	Pkg (#Pins)	Status [1,2]	Comment [3]
16M	1Mx16	LPSDR	IS42VM16100G	1.8V	4K	166,133	BGA(60)	S=NOW	KGD available
32M	2Mx16	LPSDR	IS42VM16200C	1.8V	4K	166,133	BGA(54)	S=NOW	KGD available
	2Mx16	LPSDR	IS42SM16200C	3.3V	4K	166,133	BGA(54)	S=NOW	KGD available
	1Mx32	LPSDR	IS42VM32100C	1.8V	4K	166,133	BGA(90)	S=NOW	KGD available
	1Mx32	LPSDR	IS42SM32100C	3.3V	4K	166,133	BGA(90)	S=NOW	KGD available
64M	4Mx16	LPSDR	IS42VM16400G	1.8V	4K	133	BGA(54)	Prod	KGD available
	4Mx16	LPSDR	IS42SM16400G	1.8V	4K	133	BGA(54)	Prod	KGD available
	2Mx32	LPSDR	IS42VM32200G	1.8V	4K	133	BGA(90)	Prod	KGD available
	2Mx32	LPSDR	IS42SM32200G	1.8V	4K	133	BGA(90)	Prod	KGD available
128M	8Mx16	LPSDR	IS42SM16800F	3.3V	4K	133	BGA(54)	Prod	KGD available
	8Mx16	LPSDR	IS42RM16800F	2.5V	4K	133	BGA(54)	Prod	KGD available
	8Mx16	LPSDR	IS42VM16800F	1.8V	4K	133	BGA(54)	Prod	KGD available

Notes: 1. S = Sample 2. Prod = Production 3. Industrial temp: -40°C to +85°C 4. Do not support mobile features

PowerSaver™ / Mobile SDR Synchronous DRAM

Den	Org	Type	Part No.	Vcc	Refsh	Speed (Mhz)	Pkg (#Pins)	Status (1,2)	Comment (3,4)
128M	4Mx32	LPSDR	IS42SM32400F	3.3V	4K	133	BGA(90)	Prod	KGD available
	4Mx32	LPSDR	IS42RM32400F	2.5V	4K	133	BGA(90)	Prod	KGD available
	4Mx32	LPSDR	IS42VM32400F	1.8V	4K	133	BGA(90)	Prod	KGD available
256M	32Mx8	LPSDR	IS42SM83200D	3.3V	8K	143	TSOP2(54)	S=NOW	KGD available
	32Mx8	LPSDR	IS42RM83200D	2.5V	8K	143	TSOP2(54)	S=NOW	KGD available
	32Mx8	LPSDR	IS42VM83200D	1.8V	8K	125	TSOP2(54)	S=NOW	KGD available
	16Mx16	LPSDR	IS42SM16160D	3.3V	8K	143	TSOP2(54),BGA(54)	Prod	KGD available
	16Mx16	LPSDR	IS42RM16160D	2.5V	8K	143	TSOP2(54),BGA(54)	Prod	KGD available
	16Mx16	LPSDR	IS42VM16160D	1.8V	8K	125	TSOP2(54),BGA(54)	Prod	KGD available
	8Mx32	LPSDR	IS42SM32800D	3.3V	4K	133	TSOP2(86),BGA(90)	S=NOW	KGD available
	8Mx32	LPSDR	IS42RM32800D	2.5V	4K	133	TSOP2(86),BGA(90)	S=NOW	KGD available
	8Mx32	LPSDR	IS42VM32800D	1.8V	4K	100	TSOP2(86),BGA(90)	S=NOW	KGD available
512M	32Mx16	LPSDR	IS42VM16320D	1.8V	8K	166,133	BGA(54)	S=NOW	8x13mm BGA
	16Mx32	LPSDR	IS42SM32160C	3.3V	8K	133	BGA(90)	Prod	8x13mm BGA
	16Mx32	LPSDR	IS42RM32160C	2.5V	8K	133	BGA(90)	Prod	8x13mm BGA
	16Mx32	LPSDR	IS42VM32160C	1.8V	8K	100	BGA(90)	Prod	8x13mm BGA
	16Mx32	LPSDR	IS42VM32160D	1.8V	8K	166,133	BGA(90)	S=NOW	8x13mm BGA

2.5V DDR (Double Data Rate) Synchronous DRAM

Den	Org	Type	Part No.	Vcc	Refsh	Speed (Mhz)	Pkg (#Pins)	Status (1,2)	Comment (3)
64M	4Mx16	DDR	IS43R16400A	2.5V	4K	200,166	BGA(60)	S=NOW	KGD available
	2Mx32	DDR	IS43R32200A	2.5V	2K	200,166	BGA(144)	S=NOW	KGD available
128M	8Mx16	DDR	IS43R16800CC	2.5V	4K	200,166	TSOP2(66)	Prod	
	4Mx32	DDR	IS43R32400D	2.5V	4K	250,200,166	BGA(144)	Prod	
256M	32Mx8	DDR	IS43R83200B	2.5V	8K	200,166	TSOP2(66)	Prod	
	16Mx16	DDR	IS43R16160B	2.5V	8K	200,166	TSOP2(66), BGA(60)	Prod	KGD available
	8Mx32	DDR	IS43R32800B	2.5V	4K	200,166	BGA(144)	Prod	KGD available
512M	64Mx8	DDR	IS43R86400D	2.5V	8K	200,166	TSOP2(66), BGA(60)	S=NOW	
	32Mx16	DDR	IS43R16320D	2.5V	8K	200,166	TSOP2(66), BGA(60)	S=NOW	KGD available
	16Mx32	DDR	IS43R32160D	2.5V	8K	200,166	BGA(144)	S=Q3/10	

Notes: 1. S = Sample 2. Prod = Production 3. Industrial temp: -40°C to +85°C 4. Support mobile features

1.8V Mobile DDR (Double Data Rate) Synchronous DRAM

Den	Org	Type	Part No.	Vcc	Refsh	Speed (Mhz)	Pkg (#Pins)	Status [1,2]	Comment [3]
32M	2Mx16	MDDR	IS43LR16200C	1.8V	4K	166,133	BGA(60)	S=NOW	KGD available
	1Mx32	MDDR	IS43LR32100C	1.8V	4K	166,133	BGA(90)	S=NOW	KGD available
128M	8Mx16	MDDR	IS43LR16800E	1.8V	4K	166,133	BGA(60)	Prod	KGD available
	4Mx32	MDDR	IS43LR32400E	1.8V	4K	166,133	BGA(90)	Prod	KGD available
512M	32Mx16	MDDR	IS43LR16320B	1.8V	8K	166,133	BGA(60)	S=NOW	KGD available
	16Mx32	MDDR	IS43LR32160B	1.8V	8K	166,133	BGA(90)	S=NOW	KGD available

1.8V DDR2 (Double Data Rate) Synchronous DRAM

Den	Org	Type	Part No.	Vcc	Refsh	Speed (MTS)	Pkg (#Pins)	Status [1][2]	Comment [3]
256M	32Mx8	DDR2	IS43DR83200A	1.8V	8K	800,667,533,400	BGA(60)	S=Q3/10	
	16Mx16	DDR2	IS43DR16160A	1.8V	8K	800,667,533,400	BGA(84)	Prod	
	8Mx32	DDR2	IS43DR32800A	1.8V	4K	533,400	BGA(126)	Prod	Standard Page
	8Mx32	DDR2	IS43DR32801A	1.8V	8K	533,400	BGA(126)	Prod	Reduced Page
512M	64Mx8	DDR2	IS43DR86400B	1.8V	8K	800,667,533,400	BGA(60)	Prod	
	32Mx16	DDR2	IS43DR16320B	1.8V	8K	800,667,533,400	BGA(84)	Prod	
1G	128Mx8	DDR2	IS43DR81280A	1.8V	8K	800,667,533,400	BGA(60)	S=NOW	
	64Mx16	DDR2	IS43DR16640A	1.8V	8K	800,667,533,400	BGA(84)	S=NOW	

Notes: 1. S = Sample 2. Prod = Production 3. Industrial temp: -40°C to +85°C 4. Support mobile features

Automotive Memory Products

Automotive Synchronous SRAM

Den	Org	Part No.	Vcc	VccQ	Speed (Mhz)	tKQ (ns)	Pkg (#Pins)	Status[1][2]	Comment[3,4,5,6]
4M	128Kx32	IS64VPS12832A	2.5V	2.5V	200	3.1	TQFP(100)	Prod	P/SC
	128Kx36	IS64VPS12836A	2.5V	2.5V	200	3.1	TQFP(100)	Prod	P/SC
	256Kx18	IS64VPS25618A	2.5V	2.5V	200	3.1	TQFP(100)	Prod	P/SC
	128Kx32	IS64LPS12832A	3.3V	2.5V/3.3V	200	3.1	TQFP(100)	Prod	P/SC
	128Kx36	IS64LPS12836A	3.3V	2.5V/3.3V	200	3.1	TQFP(100)	Prod	P/SC
	256Kx18	IS64LPS25618A	3.3V	2.5V/3.3V	200	3.1	TQFP(100)	Prod	P/SC
	128Kx32	IS64LF12832A	3.3V	2.5V/3.3V	117	7.5	TQFP(100)	Prod	F
	128Kx36	IS64LF12836A	3.3V	2.5V/3.3V	117	7.5	TQFP(100)	Prod	F
	256Kx18	IS64LF25618A	3.3V	2.5V/3.3V	117	7.5	TQFP(100)	Prod	F
	128Kx32	IS64VF12832A	2.5V	2.5V	117	7.5	TQFP(100)	Prod	F
	128Kx36	IS64VF12836A	2.5V	2.5V	117	7.5	TQFP(100)	Prod	F
	256Kx18	IS64VF25618A	2.5V	2.5V	117	7.5	TQFP(100)	Prod	F
9M	512Kx18	IS64LF51218A	3.3V	2.5V/3.3V	117	7.5	TQFP(100), PBGA(165)	Prod	F, copper[9]
	256Kx36	IS64LF25636A	3.3V	2.5V/3.3V	117	7.5	TQFP(100), PBGA(165)	Prod	F, copper[9]
	256Kx36	IS64LPS25636A	3.3V	2.5V/3.3V	166	2.6	TQFP(100)	Prod	P/SC, copper[9]

Automotive Asynchronous SRAM

Den	Org	Part No.	Vcc	Speeds (ns)	Pkg (#Pins)	Status[1][2]	Comment[6]
256K	32Kx8	IS65C256AL	5V	25,45	SOP(28),TSOP1(28)	Prod	
	32Kx8	IS65LV256AL	3.3V	45	SOP(28),TSOP1(28)	Prod	
512K	32Kx16	IS64WV3216BLL	2.5V-3.6V	15	TSOP2(44), mBGA(48)	Prod	
1M	64Kx16	IS64C6416AL	4.5V-5.5V	**15**	SOJ(44),TSOP2(44)	Prod	
	64Kx16	IS64WV6416BLL	2.5V-3.6V	15	TSOP2(44),mBGA(48)	Prod	
	128Kx8	IS64C1024AL	5.0V	15	SOJ(32.4),TSOP1(32)	Prod	
	128Kx8	IS64WV1024BLL	2.5V-3.6V	15	TSOP2(32),mBGA(48),sTSOP1(32)	Prod	
	128Kx8	IS65WV1288BLL	2.5V-3.6V	55	TSOP1(32),sTSOP1(32)	Prod	
	128Kx8	IS65C1024AL	5.0V	45	SOP(32),TSOP1(32)	Prod	
2M	128Kx16	IS65WV12816ALL/BLL	1.65V-3.6V	55,**70**	TSOP2(44),mBGA(48)	Prod	
	128Kx16	IS64WV12816DBLL	2.4V-3.6V	12	TSOP2(44),mBGA(48)	Prod	
4M	512Kx8	IS64WV5128BLL/BLS	2.4V-3.6V	**10**	TSOP2(44),mBGA(36)	Prod	
	256Kx16	IS64WV25616BLL/BLS	2.4V-3.6V	**10**	TSOP2(44),mBGA(48)	Prod	
	256Kx16	IS65WV25616ALL/BLL	1.65V-3.3V	55,**70**	TSOP2(44),mBGA(48)	Prod	
8M	512Kx16	IS64WV51216BLL	2.4V-3.3V	**10**	TSOP2(44),mBGA(48)	Prod	
16M	1Mx16	IS64WV102416BLL	2.4V-3.6V	10	TSOP1(48),mBGA(48)	Prod	
	2Mx8	IS64WV20488	2.4V-3.6V	10	TSOP2(44),mBGA(48)	Prod	

3.3V Synchronous Automotive DRAM

Den	Org	Part No.	Vcc	Refsh	Speed (MHz)	Pkg (#Pins)	Status[1,2]	Comment
16M	1Mx16	IS45S16100E	3.3V	2K	166,143	TSOP2(50), BGA(60)	Prod	A2[8]
64M	4Mx16	IS45S16400E	3.3V	4K	166,143	TSOP2(54)	Prod	A2[8]
	4Mx16	IS45S16400F	3.3V	4K	166,143	TSOP2(54), BGA(54)	Prod	A2[8], copper[9]
	2Mx32	IS45S32200E	3.3V	4K	166,143	TSOP2(86), BGA(90)	Prod	A2[8]

Notes: 1. S = Samples 2. Prod = Production 3. P = Pipeline 4. F = Flow Through 5. SC = Single Cycle Deselect
6. Available in automotive temperature grade of -40°C to +125°C 7. NR = Not recommended for new design 8. Available in automotive temperature grade of -40°C to +105°C 9. Available in copper leadframe

3.3V Synchronous Automotive DRAM

Den	Org	Part No.	Vcc	Refsh	Speed (MHz)	Pkg (#Pins)	Status[1,2]	Comment
128M	16Mx8	IS45S81600E	3.3V	4K	166,143	TSOP2(54)	Prod	A2[8], copper[9]
	8Mx16	IS45S16800E	3.3V	4K	166,143	TSOP2(54), BGA(54)	Prod	A2[8], copper[9]
	4Mx32	IS45S32400E	3.3V	4K	166,143	TSOP2(86), BGA(90)	Prod	A2[8]
256M	32Mx8	IS45S83200D	3.3V	8K	166,143	TSOP2(54)	Prod	A2[8], copper[9]
	16Mx16	IS45S16160D	3.3V	8K	166,143	TSOP2(54),BGA(54)	Prod	A2[8], copper[9]
	8Mx32	IS45S32800D	3.3V	4K	166,143	TSOP2(86),BGA(90)	Prod	A2[8]
512M	32Mx16	IS45S16320B	3.3V	8K	143	TSOP2(54),BGA(54)	Prod	copper[9]
	16Mx32	IS45S32160B	3.3V	8K	143	TSOP2(86),BGA(90)	Prod	

PowerSaver™ Low Voltage SDR Synchronous DRAM

Den	Org	Part No.	Vcc	Refsh	Speed (Mhz)	Pkg (#Pins)	Status [1,2]	Comment [9]
16M	1Mx16	IS45R16100E	2.5V	2K	143,100	TSOP2(50)	S=NOW	
	1Mx16	IS45VS16100E	1.8V	2K	133,100	TSOP2(50),BGA(60)	S=NOW	
64M	4Mx16	IS45VS16400E	1.8V	4K	133	TSOP2(54),BGA(54)	S=NOW	KGD available
	2Mx32	IS45VS32200E	1.8V	4K	133,100	TSOP2(86),BGA(90)	S=NOW	KGD available
128M	8Mx16	IS45RM16800E	2.5V	4K	143	TSOP2(54),BGA(54)	Contact ISSI	KGD available
	8Mx16	IS45VM16800E	1.8V	4K	133	TSOP2(54),BGA(54)	S=NOW	KGD available
256M	16Mx16	IS45R16160D	2.5V	8K	133	TSOP2(54),BGA(54)	S=NOW	KGD available
	16Mx16	IS45VS16160D	1.8V	8K	133	TSOP2(54),BGA(54)	S=NOW	KGD available

2.5V DDR (Double Data Rate) Synchronous Automotive DRAM

Den	Org	Part No.	Vcc	Refsh	Speed (Mhz)	Pkg (#Pins)	Status [1,2]	Comment
128M	4Mx32	IS46R32400D	2.5V	4K	200,166	BGA(144)	S=NOW	
256M	32Mx8	IS46R83200B	2.5V	8K	166	TSOP2(66)	Prod	
	16Mx16	IS46R16160B	2.5V	8K	200,166	TSOP2(66), BGA(60)	Prod	
	8Mx32	IS46R32800B	2.5V	4K	200,166	BGA(144)	Prod	
512M	64Mx8	IS46R86400D	2.5V	8K	200,166	TSOP2(66)	S=NOW	
	32Mx16	IS46R16320D	2.5V	8K	200,166	TSOP2(66), BGA(60)	S=NOW	
	16Mx32	IS46R32160D	2.5V	8K	200,166	BGA(144)	S=Q3/10	

1.8V Mobile DDR (Double Data Rate) Synchronous Automotive DRAM

Den	Org	Part No.	Vcc	Refsh	Speed (Mhz)	Pkg (#Pins)	Status [1,2]	Comment
32M	2Mx16	IS46LR16200C	1.8V	4K	166,133	BGA(60)	S=NOW	
	1Mx32	IS46LR32100C	1.8V	4K	166,133	BGA(90)	S=NOW	
128M	8Mx16	IS46LR16800E	1.8V	4K	166,133	BGA(60)	Prod	
	4Mx32	IS46LR32400E	1.8V	4K	166,133	BGA(90)	Prod	
512M	32Mx16	IS46LR16320B	1.8V	8K	166,133	BGA(60)	S=NOW	
	16Mx32	IS46LR32160B	1.8V	8K	166,133	BGA(90)	S=NOW	

1.8V DDR2 (Double Data Rate) Synchronous Automotive DRAM

Den	Org	Part No.	Vcc	Refsh	Speed (MTS)	Pkg (#Pins)	Status[1,2]	Comment
256M	32Mx8	IS46DR83200A	1.8V	8K	800,667,533,400	BGA(60)	S=Q3/10	
	16Mx16	IS46DR16160A	1.8V	8K	800,667,533,400	BGA(84)	Prod	
	8Mx32	IS46DR32801A	1.8V	8K	400	BGA(126)	Prod	
512M	64Mx8	IS46DR86400B	1.8V	8K	800,667,533,400	BGA(60)	Prod	
	32Mx16	IS46DR16320B	1.8V	8K	800,667,533,400	BGA(84)	Prod	
1G	128Mx8	IS46DR81280A	1.8V	8K	800,667,533,400	BGA(60)	S=NOW	
	64Mx16	IS46DR16640A	1.8V	8K	800,667,533,400	BGA(84)	S=NOW	

Notes: 1. S = Samples 2. Prod = Production 3. P = Pipeline 4. F = Flow Through 5. SC = Single Cycle Deselect
6. Available in automotive temperature grade of -40°C to +125°C 7. NR = Not recommended for new design 8. Available in automotive temperature grade of -40°C to +105°C 9. Do not support mobile features

Ordering Information for ISSI DRAM Devices

IS 45 S 16 160 D – 7 B L A2 – TR

- IS: ISSI prefix
- 45: Product Family
- S: Operating Voltage Range/Product Type
- 16: Bus Width
- 160: No. of Words
- D: Die rev.
- 7: Speed
- B: Package Code
- L: Solder type
- A2: Temperature Grade
- TR: Packing option

DRAM Product Family

41 = Asynchronous
42 = SDR Commercial/Industrial grade
43 = DDR & DDR2 Commercial/Industrial grade
45 = SDR Automotive grade
46 = DDR & DDR2 Automotive grade

Operating Voltage Range/Product Type

Asynchronous: Fast Page and EDO
C = 5V
LV = 3.3V

Synchronous
S = 3.3V SDR
SM = 3.3V mobile SDR
RM = 2.5V mobile SDR
VM = 1.8V mobile SDR
VS = 1.8V SDR
R = 2.5V DDR or 2.5V SDR
LR =1.8V mobile DDR
DR =1.8V DDR2

Bus Width

8 = x8
16 = x16
32 = x32

Number of Words

100 = 1M
200 = 2M
…
160 = 16M
320 = 32M

Die revision

Blank-Z

Package Code

B = BGA
CT = Copper TSOP
T = TSOP

Speed (clock cycle time)

-4 = Up to 250Mhz
-5 = Up to 200Mhz
-6 = Up to 166Mhz
-7 = Up to 143Mhz
-75E = Up to 133Mhz @ CL = 2

DDR2 only

-5B = DDR2-400B (up to 200Mhz @ CL = 3)
-37C = DDR2-533C (up to 266Mhz @ CL = 4)
-3D = DDR2-667D (up to 333Mhz @ CL = 5)
-25E = DDR2-800E (up to 400Mhz @ CL = 6)
-25D = DDR2-800D (up to 400Mhz @ CL = 5)
-19F = DDR2-1066F (up to 533Mhz @ CL = 7)

Packing Option

Blank = trays
TR = Tape & Reel

Solder Type

Blank = SnPb
N = NiPdAu plating (RoHS Compliant)
L = 100% matte Sn for non-BGA (RoHS Compliant)
L = SnAgCu for BGA (RoHS Compliant)

Temperature Grade

Blank = Commercial (0°C to +70°C)
I = Industrial (-40°C to +85°C)
A1 = Automotive (-40°C to +85°C)
A2 = Automotive (-40°C to +105°C)

Ordering Information for ISSI SRAM Devices

IS 61 WV 12816 DBLL – 10 T L I – TR

- **ISSI prefix**
- **Product Family**
- **Operating Voltage Range/Product Type**
- **Density/Configuration**
- **Die Rev/Voltage Range**
- **Speed (ns or MHz)**
- **Package Code**
- **Solder Type**
- **Temperature Grade**
- **Packing Option**

SRAM Product Family
61/63 = High Speed
62 = Low Power
64 = Automotive High Speed
65 = Automotive Low Power
66 = Pseudo SRAM

Density/Configuration
Example:
25636 = 256Kx36
51216 = 512Kx16
1M36 = 1Mx36

Die Rev/Voltage Range
Die Rev
Blank-Z

Voltage Range (WV)
ALL = 1.65V to 2.2V
BLL = 2.5V to 3.6V

Operating Voltage Range/ Product Type
Asynchronous SRAM
C = 5V
LV = 3.3V
WV = Wide Voltage Range

Synchronous SRAM
P = Pipeline, F = Flowthrough
NLP/NLF/NVP/NVF = No-Wait Option
LP/LF: Vcc = 3.3V, VccQ = 3.3V/2.5V
VP/VF: Vcc = 2.5V, VccQ = 2.5V
QD = QUAD, DD = DDR-II Common I/O: Vcc = 1.8V , VccQ = 1.8V/1.5V

Packing Option
Blank = Tray or Tube
TR = Tape & Reel

Temperature Grade
Blank = Commercial (0°C to 70°C)
I = Industrial (-40°C to 85°C)
A1 = Automotive (-40°C to 85°C)
A2 = Automotive (-40°C to 105°C)
A3 = Automotive (-40°C to 125°C)

Solder Type
Blank = SnPb
L = Lead-free (RoHS Compliant)

Package Code
B, B1, B2, B3 = BGA
CT = Copper TSOP
H = sTSOP
J = 300-mil SOJ
K = 400-mil SOJ
LQ = LQFP
M, M3, = BGA
Q = SOP
T/T2 = TSOP
TQ = TQFP
U = SOP

Speed (ns or MHz)
Example:
8 = 8ns
200 = 200MHz

DRAM

Synchronous DRAM

Den	Org	Part No.	Vcc	Refsh	Speed (Mhz)	Pkg (#Pins)	Status (1,2)	Comment
16M	1Mx16	IC42S16100	3.3V	2K	166,143	T/TG(50), B/BG(60)	EOL	
	1Mx16	IC42S16100F	3.3V	2K	166,143	T(50)	Prod	
64M	4Mx16	IC42S16400	3.3V	4K	166,143	T/TG(54), B/BG(60)	EOL	
	4Mx16	IC42S16400A	3.3V	4K	166,143	T/TG(54)	EOL	
	4Mx16	IC42S16400D	3.3V	4K	166,143	T(54)	Prod	
	4Mx16	IC42S16400F	3.3V	4K	166,143	T(54)	Prod	
128M	8Mx16	IC42S16800	3.3V	4K	166,143	T/TG(54)	EOL	
	8Mx16	IC42S16800D	3.3V	4K	166,143	T(54)	Prod	
	8Mx16	IC42S16800E	3.3V	4K	166,143	T(54)	Prod	
256M	16Mx16	IC42S16160C	3.3V	8K	166,143	T(54)	Prod	

DDR (Double Data Rate) Synchronous DRAM

Den	Org	Part No.	Vcc	Refsh	Speed (Mhz)	Pkg (#Pins)	Status (1,2)	Comment
512M	32Mx16	IC43R16320C	2.5V	8K	200	T(66)	Prod	

DDR2 (Double Data Rate) Synchronous DRAM

Den	Org	Part No.	Vcc	Refsh	Speed (MTS)	Pkg (#Pins)	Status (1,2)	Comment
512M	32Mx16	IC43DR16320B	1.8V	8K	800,667	BG(84)	Prod	

Notes: 1. S = Samples 2. Prod = Production 3. EOL = End of Life

Ordering Information

IC AA BB CCCCC D EE - FF GG H I

IC: ICSI Prefix

AA: Product Family
4X: DRAM
6X: SRAM
8X: Micro Controller

BB: Product Subfamily
VV: 1.65V-2.2V
SV: 1.9V-2.2V
UV: 2.2V-2.7V
LV: 3.3V/2.5V
C: 5V
E: 5V Enhanced Flash
S: Syn.
SP: Pipeline
SF: Flow-through
NW: Zero Waiting

CCCCC: Part Number

D: Version

EE: Power Type
L: Low Power
LL: Ultra Low Power
SL: Super Low Power
S: Self Refresh

FF: Speed Grade

GG: Package Type
B: PBGA
H: STSOP
J: 300 mil Plastic SOJ
K: 400 mil Plastic SOJ
LQ: LQFP
N: 300 mil Plastic DIP
PL: PLCC
PQ: PQFP
Q: 450 mil SOP
T: TSOP
TQ: TQFP
U: 330 mil Plastic SOP
W: 600 mil Plastic DIP

H: Temperature Range
Blank: Commercial (0°C to +70°C)
I: Industrial (-40°C to +85°C)

I: Pb Status
G: Pb free
Blank: Normal

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