



INTEGRATED SILICON SOLUTION, INC.



PRODUCT SELECTOR GUIDE JUNE 2009

DRAM SRAM EEPROM Automotive ICSI Products



To our valued customers,

Often times electronic systems are placed in harsh environments that test the limits of device quality and reliability. These harsh environments exist in many Industrial, Automotive, Networking, and Mobile Communication applications. Many of these applications are mission critical, where device failure, resulting in down time, is not acceptable.

Product quality and reliability is an integral part of a device and it must be considered long before out-going QRA tests. At ISSI, product quality and reliability starts with new product definition. Products approved for design and production must be capable of handling these previously mentioned harsh environments. Careful attention is placed on process selection and other key technical decisions to ensure this capability. Project approval occurs only after verification that the proposed product can meet these requirements and that ISSI can deliver a product that will exceed the customers' expectations.

To support harsh system environments, ISSI offers extended temperature ranges of -40°C to +85°C, -40°C to +105°C, and -40°C to +125°C. To further ruggedize our products, ISSI now offers a copper leadframe as a device option. Copper leadframes have better thermal conductivity in addition to expansion and contraction coefficients that match closely with printed circuit boards, resulting in improved reliability.

Many times our customers put their systems through rigorous testing, in harsh environments. This ensures that their system meets the quality and reliability requirements of their customers' mission critical applications. Upon end customer approval, long term support of the system is usually required. A system re-design, due to product obsolescence, is not acceptable. Thus, at ISSI, "long term support" is not just a slogan or an "idea de jour", it is what we have always done, what we currently do, and what we will continue to do.

ISSI is a supplier you can count on to provide high quality, reliable products for a wide range of applications including mission critical systems in harsh environments. And we provide the long term product support our customers often require for these applications.

Ron Kalakuntla,
Vice President of Marketing
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	IS61LPS12832A					PBGA(119),TQFP(100)		
	128Kx36	IS61LPS12836A	3.3V	3.3V/2.5V	250	2.6	BGA(165)	Prod	P,SC
	256Kx18	IS61LPS25618A							
	128Kx36	IS61VPS12836A	2.5V	2.5V	250,200	2.6,3.1	PBGA(119),TQFP(100)	Prod	P,SC
	256Kx18	IS61VPS25618A					BGA(165)		
	128Kx36	IS61LPD12836A	3.3V	2.5V/3.3V	250	2.6	PBGA(119),TQFP(100)	Prod	P,DC
	256Kx18	IS61LPD25618A					BGA(165)		
	128Kx36	IS61VPD12836A	2.5V	2.5V	250	2.6	PBGA(119),TQFP(100)	Prod	P,DC
	256Kx18	IS61VPD25618A					BGA(165)		
	128Kx32	IS61LF12832A					PBGA(119),TQFP(100)		
	128Kx36	IS61LF12836A	3.3V	2.5V/3.3V	133,117	6.5,7.5	BGA(165)	Prod	F
	256Kx18	IS61LF25618A							
8M	128Kx36	IS61VF12836A	2.5V	2.5V	133,117	6.5,7.5	PBGA(119),TQFP(100)	Prod	F
	256Kx18	IS61VF25618A					BGA(165)		
	256Kx32	IS61LPS25632A							
	256Kx36	IS61LPS25636A	3.3V	3.3V/2.5V	250,166	2.6	PBGA(119),TQFP(100)	Prod	P,SC
	512Kx18	IS61LPS51218A					BGA(165)		
	256Kx36	IS61VPS25636A	2.5V	2.5V	250,200	2.6,3.1	PBGA(119),TQFP(100)	Prod	P,SC
	512Kx18	IS61VPS51218A					BGA(165)		
	256Kx36	IS61LPD25636A	3.3V	2.5V/3.3V	250	2.6	PBGA(119),TQFP(100)	Prod	P,DC
	512Kx18	IS61LPD51218A					BGA(165)		
	256Kx36	IS61VPD25636A	2.5V	2.5V	250	2.6	PBGA(119),TQFP(100)	Prod	P,DC
	512Kx18	IS61VPD51218A					BGA(165)		
	18M	256Kx36	IS61LF25636A	3.3V	2.5V/3.3V	133	6.5	PBGA(119),TQFP(100)	Prod
512Kx18		IS61LF51218A					BGA(165)		
256Kx36		IS61VF25636A	2.5V	2.5V	133	6.5	PBGA(119),TQFP(100)	Prod	F
512Kx18		IS61VF51218A					BGA(165)		
256Kx72		IS61LPS25672A	3.3V	3.3V/2.5V	250	2.6	BGA(209)	Prod	P,SC
512Kx36		IS61LPS51236A	3.3V	3.3V/2.5V	250	2.6	PBGA(119),TQFP(100)	Prod	P,SC
1Mx18		IS61LPS102418A					BGA(165)		
256Kx72		IS61VPS25672A	3.3V	3.3V/2.5V	250	2.6	BGA(209)	Prod	P,SC
512Kx36		IS61VPS51236A	2.5V	2.5V	250	2.6	PBGA(119),TQFP(100)	Prod	P,SC
1Mx18		IS61VPS102418A					BGA(165)		
512Kx36		IS61LPD51236A	3.3V	2.5V/3.3V	250	2.6	TQFP(100)	Prod	P, DC
1Mx18		IS61LPD102418A					BGA(165)		
512Kx36		IS61VPD51236A	2.5V	2.5V	250	2.6	TQFP(100)	Prod	P,DC
1Mx18		IS61VPD102418A					BGA(165)		
256Kx72		IS61LF25672A							
512Kx36		IS61LF51236A	3.3V	2.5V/3.3V	133	6.5	PBGA(119),TQFP(100)	Prod	F
1Mx18		IS61LF102418A					BGA(165), BGA(209)		
36M		256Kx72	IS61VF25672A						
	512Kx36	IS61VF51236A	2.5V	2.5V	133	6.5	PBGA(119),TQFP(100)	Prod	F
	1Mx18	IS61VF102418A					BGA(165), BGA(209)		
	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

SYNCHRONOUS SRAM (CONT'D)

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)		
18M	256Kx36	IS61NVF25636A	2.5V	2.5V	133	6.5	TQFP(100)	Prod	F
	512Kx18	IS61NVF51218A					PBGA(119),BGA(165)		
	256Kx72	IS61NVVP25672	1.8V	1.8V	250,200	2.6,3.2	BGA(209)	S=NOW	P
	512Kx36	IS61NVVP51236	1.8V	1.8V	250,200	2.6,3.2	PBGA(119)	S=NOW	P
	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)			
36M	256Kx72	IS61NVF25672							
	512Kx36	IS61NVF51236	2.5V	2.5V	133	6.5	BGA(209),TQFP(100)	Prod	F
	1Mx18	IS61NVF102418					BGA(165)		
	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)			
36M	2Mx18	IS61NVF204818A	2.5V	2.5V	133,117	6.5,7.5	TQFP(100)	Prod	
	1Mx36	IS61NVF102436A					BGA(165)		

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	

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

SYNCHRONOUS SRAM (CONT'D)

QUAD/DDR-II Synchronous SRAM

Family	Den	Org	Part No.	Burst Length	Speed (Mhz)	Pkg (#Pins)	Status ⁽¹⁾⁽²⁾	Comment
QUAD	72Mb	2Mx36	IS61QDB42M36	4	300,250	BGA(165)	S=NOW	
	72Mb	4Mx18	IS61QDB44M18	4	300,250	BGA(165)	S=NOW	
	72Mb	2Mx36	IS61QDB22M36	2	300,250	BGA(165)	S=NOW	
	72Mb	4Mx18	IS61QDB24M18	2	300,250	BGA(165)	S=NOW	
DDR-II	72Mb	2Mx36	IS61DDB42M36	4	300	BGA(165)	S=NOW	
	72Mb	4Mx18	IS61DDB44M18	4	300	BGA(165)	S=NOW	
	72Mb	2Mx36	IS61DDB22M36	2	300	BGA(165)	S=NOW	
	72Mb	4Mx18	IS61DDB24M18	2	300	BGA(165)	S=NOW	

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	512Kx16	IS62C51216AL	5.0V	45,55	TSOP2(44), BGA(48)	Prod	x8 Avail. on req.

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	IS63LV1024/L	3.3V	8,10,12	SOJ(32.3),SOJ(32.4),TSOP2(32), mBGA(36),sTSOP1(32)	Prod	Center Vcc & GND
128Kx8	IS63WV1024BLL	2.5V-3.6V	12		TSOP2(32),mBGA(48) sTSOP1(32),SOJ(32.3)	Prod	
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	
	128Kx8	IS62WV1288DALL/DBLL	1.65V-3.6V	35,45,55	SOP(32), sTSOP1(32), TSOP1(32), mBGA(36)	S=NOW	
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	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)	S=NOW	

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

*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	166,143	TSOP2(50), BGA(60)	Prod	KGD available
64M	4Mx16	SDR	IS42S16400E	3.3V	4K	166,143	TSOP2(54)	Prod	
	4Mx16	SDR	IS42S16400F	3.3V	4K	166,143	TSOP2(54), BGA(54)	Prod	KGD available
	2Mx32	SDR	IS42S32200E	3.3V	4K	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	TSOP2(86), BGA(90)	Prod	KGD available
256M	32Mx8	SDR	IS42S83200D	3.3V	8K	166,143	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	TSOP2(54)	Prod	KGD available
	32Mx16	SDR	IS42S16320B	3.3V	8K	166,143	TSOP2(54) BGA(54)	Prod	KGD available
	16Mx32	SDR	IS42S32160B	3.3V	8K	166,143	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 available
	1Mx16	SDR	IS42VS16100E	1.8V	2K	133,100,83	TSOP2(50),BGA(60)	Prod	KGD available
64M	4Mx16	SDR	IS42VS16400E	1.8V	4K	133	TSOP2(54),BGA(54)	Prod	
	2Mx32	SDR	IS42VS32200E	1.8V	4K	133,100	TSOP2(86),BGA(90)	Prod	
128M	8Mx16	SDR	IS42R16800E	2.5V	4K	133	TSOP2(54),BGA(54)	S=NOW	
	8Mx16	SDR	IS42VS16800E	1.8V	4K	133	TSOP2(54),BGA(54)	S=NOW	
256M	16Mx16	SDR	IS42R16160D	2.5V	8K	143	TSOP2(54),BGA(54)	S=NOW	
	16Mx16	SDR	IS42VS16160D	1.8V	8K	143	TSOP2(54),BGA(54)	S=NOW	

PowerSaver™ / Mobile SDR Synchronous DRAM

Den	Org	Type	Part No.	Vcc	Refsh	Speed (Mhz)	Pkg (#Pins)	Status ^(1,2)	Comment ⁽³⁾
32M	2Mx16	LPSDR	IS42VM16200C	1.8V	4K	166,133	BGA(54)	S=Q4/09	KGD available
	1Mx32	LPSDR	IS42VM32100C	1.8V	4K	166,133	BGA(90)	S=Q4/09	KGD available
64M	4Mx16	LPSDR	IS42VM16400G	1.8V	4K	166,133	TSOP2(54),BGA(54)	S=NOW	KGD available
	2Mx32	LPSDR	IS42VM32200G	1.8V	4K	166,133	BGA(90)	S=NOW	KGD available
128M	8Mx16	LPSDR	IS42SM16800F	3.3V	4K	166,133	BGA(54)	S=NOW	KGD available
	8Mx16	LPSDR	IS42RM16800F	2.5V	4K	166,133	BGA(54)	S=NOW	KGD available

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

DYNAMIC RAM (CONT'D)

PowerSaver™ / Mobile SDR Synchronous DRAM

Den	Org	Type	Part No.	Vcc	Refsh	Speed (Mhz)	Pkg (#Pins)	Status ^(1,2)	Comment ^(3,4)
128M	8Mx16	LPSDR	IS42VM16800F	1.8V	4K	133	BGA(54)	S=NOW	KGD available
	4Mx32	LPSDR	IS42SM32400F	3.3V	4K	166,133	BGA(90)	S=NOW	KGD available
	4Mx32	LPSDR	IS42RM32400F	2.5V	4K	166,133	BGA(90)	S=NOW	KGD available
	4Mx32	LPSDR	IS42VM32400F	1.8V	4K	133	BGA(90)	S=NOW	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
	16Mx16	LPSDR	IS42SM16160D	3.3V	8K	143	TSOP2(54),BGA(54)	S=NOW	KGD available
	16Mx16	LPSDR	IS42RM16160D	2.5V	8K	143	TSOP2(54),BGA(54)	S=NOW	KGD available
	16Mx16	LPSDR	IS42VM16160D	1.8V	8K	133	TSOP2(54),BGA(54)	S=NOW	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	133	TSOP2(86),BGA(90)	S=Q3/09	KGD available
512M	16Mx32	LPSDR	IS42SM32160C	3.3V	8K	143,133	BGA(90)	S=Q3/09	8x13mm BGA
	16Mx32	LPSDR	IS42RM32160C	2.5V	8K	133	BGA(90)	S=Q3/09	8x13mm BGA
	16Mx32	LPSDR	IS42VM32160C	1.8V	8K	133	BGA(90)	S=Q3/09	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=Q4/09	KGD available
	2Mx32	DDR	IS43R32200A	2.5V	2K	200,166	BGA(144)	S=Q4/09	KGD available
128M	8Mx16	DDR	IS43R16800CC	2.5V	4K	200,166	TSOP2(66)	Prod	
	8Mx16	DDR	IS43R16800D	2.5V	4K	200,166	BGA(60)	S=NOW	
	4Mx32	DDR	IS43R32400D	2.5V	4K	250,200,166	BGA(144)	S=NOW	
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)	S=Q4/09	
	32Mx16	DDR	IS43R16320D	2.5V	8K	250,200,166	TSOP2(66)	S=Q4/09	KGD available
	16Mx32	DDR	IS43R32160D	2.5V	8K	200,166	BGA(144)	S=Q4/09	

1.8V Mobile DDR Synchronous DRAM

Den	Org	Type	Part No.	Vcc	Refsh	Speed (Mhz)	Pkg (#Pins)	Status ^(1,2)	Comment ⁽³⁾
32M	2Mx16	LPDDR	IS43LR16200C	1.8V	4K	166,133	BGA(60)	S=Q4/09	KGD available
	1Mx32	LPDDR	IS43LR32100C	1.8V	4K	166,133	BGA(90)	S=Q4/09	KGD available
128M	8Mx16	LPDDR	IS43LR16800E	1.8V	4K	166,133	BGA(60)	S=NOW	KGD available
	4Mx32	LPDDR	IS43LR32400E	1.8V	4K	166,133	BGA(90)	S=NOW	KGD available
256M	16Mx16	LPDDR	IS43LR16160D	1.8V	8K	166,133	BGA(60)	S=Q3/09	KGD available
	8Mx32	LPDDR	IS43LR32800D	1.8V	8K	166,133	BGA(90)	S=Q3/09	KGD available

1.8V DDR2 Synchronous DRAM

Den	Org	Type	Part No.	Vcc	Refsh	Speed (Mhz)	Pkg (#Pins)	Status ⁽¹⁾⁽²⁾	Comment ⁽³⁾
256M	16Mx16	DDR2	IS43DR16160A	1.8V	8K	800,667,533,400	BGA(84)	S=Q3/09	
	8Mx32	DDR2	IS43DR32800A	1.8V	4K	533,400	BGA(126)	S=NOW	Standard Page
	8Mx32	DDR2	IS43DR32801A	1.8V	8K	533,400	BGA(126)	S=NOW	Reduced Page
512M	16Mx32	DDR2	IS43DR32160A	1.8V	8K	533,400	BGA(128)	S=Q4/09	

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

SMART CARDS

Two-Wire Serial EEPROM

Den	Org	Part No.	Vcc	Speed (KHz)	Pkg	Status ⁽¹⁾⁽²⁾	Comment
1K	128x8	IS24C01B	2.5V-5.5V	400	wafer, module	Prod	
2K	256x8	IS24C02B	2.5V-5.5V	400	wafer, module	Prod	
4K	512x8	IS24C04A	2.5V-5.5V	400	wafer, module	Prod	
8K	1024x8	IS24C08A	2.5V-5.8V	400	wafer, module	Prod	
16K	2Kx8	IS24C16A	2.5V-5.9V	400	wafer, module	Prod	
32K	4Kx8	IS24C32A	2.5V-5.5V	400	wafer, module	Prod	
64K	8Kx8	IS24C64A	2.5V-5.5V	400	wafer, module	Prod	
128K	16Kx8	IS24C128	2.5V-5.5V	400	wafer, module	Prod	
	16Kx8	IS24C128B	2.5V-5.5V	400	wafer, module	Prod	
256K	32Kx8	IS24C256B	2.5V-5.5V	400	wafer, module	S=Q3/09	

Secure Serial Smart Card

Den	Org	Part No.	Vcc	Speed (MHz)	Pkg	Status ⁽¹⁾⁽²⁾	Comment
2K	256x8 EEPROM	IS23SC4442	2.7V-5.5V	Up to 5	wafer, module	Prod	
8K	1Kx8 EEPROM	IS23SC4428	2.7V-5.5V	Up to 5	wafer, module	Prod	
16K	2Kx8 EEPROM	IS23SC1604	2.7V-5.5V	Up to 5	wafer, module	Prod	

Contact CPU Based Smart Card

Den	Org	Part No.	Vcc	Speed (MHz)	Pkg	Status ⁽¹⁾⁽²⁾	Comment
8K	8K byte EEPROM	IS23SC4408	2.7V-5.5V	Up to 5	wafer, module	Prod	16KB ROM
16K	16K byte EEPROM	IS23SC4416	2.7V-5.5V	Up to 5	wafer, module	Prod	48KB ROM
64K	64K byte EEPROM	IS23SC4464	2.7V-5.5V	Up to 5	wafer, module	S=Q4/09	64KB OTP ROM

Contactless CPU Card

Prog.Den	Data Den	Part No.	Vcc	Baudrate (Kbitps)	Pkg	Status ⁽¹⁾⁽²⁾	Comment
32K ROM	8K byte EEPROM	IS23SC4456	N/A	Up to 847	wafer, module	Prod	User ROM can be replaced w/EEPROM

Contactless Logic Card

Den	Org	Part No.	Vcc	Baudrate (Kbitps)	Pkg	Status ⁽¹⁾⁽²⁾	Comment
1K	1K byte EEPROM	IS23SC4439	N/A	106	wafer, module	Prod	ISO/IEC14443A
4K	4K byte EEPROM	IS23SC4469	N/A	106	wafer, module	Prod	ISO/IEC14443A

Multi I/O Secure Flash Card (Support SIM application)

Den	Org	Part No.	Vcc	Speed (MHz)	Pkg	Status ⁽¹⁾⁽²⁾	Comment
160K	160K byte Flash	IS23SC55160	2.7V-5.5V	30	wafer, module	Prod	

Notes: 1. S = Sample 2. Prod = Production

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

EEPROM

Two-Wire Serial EEPROM

Den	Org	Part No.	Vcc	Speed (Khz)	Pkg (8 Pins) ⁽¹⁾	Status ⁽²⁾⁽³⁾	Comment ^(4,5,6)
1K	128x8	IS24C01B	1.8V-5.5V	1000	SOIC, TSSOP, CSP	Prod	
2K	256x8	IS24C02B	1.8V-5.5V	1000	SOIC, TSSOP, DFN, CSP	Prod	8-byte
	256x8	IS24C02D	1.8V-5.5V	1000	SOIC, TSSOP	Prod	16-byte, PWP
4K	512x8	IS24C04A	1.8V-5.5V	1000	SOIC, TSSOP, DFN	Prod	
8K	1024x8	IS24C08A	1.8V-5.5V	1000	SOIC, TSSOP, DFN, CSP	Prod	
16K	2Kx8	IS24C16A	1.8V-5.5V	1000	SOIC, TSSOP, DFN, CSP	Prod	
32K	4Kx8	IS24C32C	1.8V-5.5V	1000	SOIC, TSSOP	Prod	
	4Kx8	IS24C32A	1.8V-5.5V	1000	SOIC, TSSOP, MSOP, DFN	Prod	NR
64K	8Kx8	IS24C64A	1.8V-5.5V	1000	SOIC, TSSOP, MSOP	Prod	
128K	16Kx8	IS24C128B	1.8V-5.5V	1000	SOIC, TSSOP	Prod	
	16Kx8	IS24C128	2.5V-5.5V	1000	SOIC	Prod	NR
256K	32Kx8	IS24C256B	1.8V-5.5V	400	SOIC, TSSOP	S=Q3/09	

SPI (Serial Peripheral Interface) EEPROM

Den	Org	Part No.	Vcc	Speed(Mhz)	Pkg (8 Pins) ⁽¹⁾	Status ⁽²⁾⁽³⁾	Comment
1K	128x8	IS25C01	1.8V-5.5V	10	SOIC, TSSOP	Prod	
2K	256x8	IS25C02	1.8V-5.5V	10	SOIC, TSSOP	Prod	
4K	512x8	IS25C04	1.8V-5.5V	10	SOIC, TSSOP	Prod	
8K	1Kx8	IS25C08	1.8V-5.5V	10	SOIC, TSSOP, DFN	Prod	
16K	2Kx8	IS25C16	1.8V-5.5V	10	SOIC, TSSOP, DFN	Prod	
32K	4Kx8	IS25C32B	1.8V-5.5V	10	SOIC, TSSOP, DFN	Prod	
64K	8Kx8	IS25C64B	1.8V-5.5V	10	SOIC, TSSOP	S=Q3/10	
128K	16Kx8	IS25C128A	1.8V-5.5V	10	SOIC, TSSOP	Prod	
256K	32Kx8	IS25C256A	1.8V-5.5V	10	SOIC, TSSOP	S=Q3/09	

Microwire Serial EEPROM

Den	Org	Part No.	Vcc	Speed (Mhz)	Pkg (8 Pins) ⁽¹⁾	Status ⁽²⁾⁽³⁾	Comment
1K	128x8/64x16	IS93C46D	1.8V-5.5V	3	SOIC, TSSOP, DFN	Prod	
2K	256x8/128x16	IS93C56A	1.8V-5.5V	3	SOIC, TSSOP, DFN	Prod	
4K	512x8/256x16	IS93C66A	1.8V-5.5V	3	SOIC, TSSOP, DFN	Prod	
8K	1Kx8/512x16	IS93C76A	1.8V-5.5V	3	SOIC, TSSOP	Prod	
16K	2Kx8/1Kx16	IS93C86A	1.8V-5.5V	3	SOIC, TSSOP	Prod	

Application Specific EEPROM

Den	Org	Part No.	Vcc	Speed(KHz)	Pkg (8 Pins) ⁽¹⁾	Status ⁽²⁾⁽³⁾	Comment ⁽⁵⁾
2K	256x8	IS34C02B	1.7V-3.6V	400	TSSOP, DFN	Prod	RSWP

Notes:

1. Contact factory for MSOP and PDIP availability.
2. S = Sample
3. Prod = Production
4. PWP = Permanent Write-Protection
5. RSWP = Reversible Software Write Protection
6. NR = Not recommended for new design

Available in Industrial (-40°C to +85°C) temperature option.

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	
8M	256Kx36	IS64LPS25636A	3.3V	3.3V/2.5V	166	2.6	TQFP(100)	Prod	

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⁾ , copper ⁽⁹⁾
	4Mx16	IS45S16400F	3.3V	4K	166,143	TSOP2(54), BGA(54)	Prod	A2 ⁽⁸⁾
	2Mx32	IS45S32200E	3.3V	4K	166,143	TSOP2(86), BGA(90)	Prod	A2 ⁽⁸⁾
128M	16Mx8	IS45S81600E	3.3V	4K	166,143,133	TSOP2(54)	Prod	A2 ⁽⁸⁾ , copper ⁽⁹⁾
	8Mx16	IS45S16800E	3.3V	4K	166, 143, 133	TSOP2(54), BGA(54)	Prod	A2 ⁽⁸⁾ , copper ⁽⁹⁾
	4Mx32	IS45S32400E	3.3V	4K	166, 143, 133	TSOP2(86), BGA(90)	Prod	A2 ⁽⁸⁾
256M	32Mx8	IS45S83200D	3.3V	8K	166,143	TSOP2(54)	Prod	A2 ⁽⁸⁾
	16Mx16	IS45S16160D	3.3V	8K	166,143,133	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	

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

AUTOMOTIVE MEMORY PRODUCTS (CONT'D)

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	133,100,83	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	IS45R16800E	2.5V	4K	133,100	TSOP2(54),BGA(54)	S=NOW	KGD available
	8Mx16	IS45VS16800E	1.8V	4K	133,100	TSOP2(54),BGA(54)	S=NOW	KGD available
256M	16Mx16	IS45R16160D	2.5V	8K	133,100	TSOP2(54),BGA(54)	S=NOW	KGD available
	16Mx16	IS45VS16160D	1.8V	8K	133,100	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	8Mx16	IS46R16800D	2.5V	4K	200,166	BGA(60)	S=Q3/09	
	4Mx32	IS46R32400D	2.5V	4K	200,166	BGA(144)	S=NOW	
256M	16Mx16	IS46R16160B	2.5V	8K	200,166	TSOP2(66), BGA(60)	Prod	
	8Mx32	IS46R32800B	2.5V	4K	200,166	BGA(144)	Prod	

1.8V Mobile DDR Synchronous Automotive DRAM

Den	Org	Part No.	Vcc	Refsh	Speed (Mhz)	Pkg (#Pins)	Status ^(1,2)	Comment
128M	8Mx16	IS46LR16800E	1.8V	4K	166,133	BGA(60)	S=Q3/09	
	4Mx32	IS46LR32400E	1.8V	4K	166,133	BGA(90)	S=Q3/09	
256M	16Mx16	IS46LR16160D	1.8V	8K	166,133	BGA(60)	S=Q3/09	
	8Mx32	IS46LR32800D	1.8V	8K	166,133	BGA(90)	S=Q3/09	

1.8V DDR2 (Double Data Rate) Synchronous Automotive DRAM

Den	Org	Part No.	Vcc	Refsh	Speed (Mhz)	Pkg (#Pins)	Status ^(1,2)	Comment
256M	16Mx16	IS46DR16160A	1.8V	8K	800,667,533,400	BGA(84)	S=Q4/09	
	8Mx32	IS46DR32801A	1.8V	8K	400	BGA(126)	S=NOW	
512M	16Mx32	IS46DR32160A	1.8V	8K	533,400	BGA(128)	S=Q4/09	

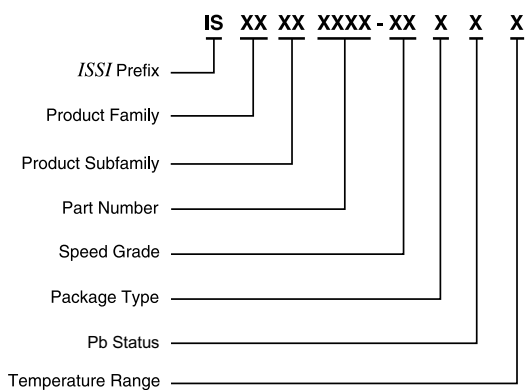
Automotive Serial EEPROM

Den	Org	Type	Part No.	Vcc	Speed	Pkg (8 Pins)	Status ⁽¹⁾⁽²⁾	Comment ⁽⁶⁾
1K	128x8/64x16	Microwire	IS93C46D	2.5V-5.5V	3 MHz	SOIC, TSSOP	Prod	
2K	256x8	I ² C	IS24C02D	2.5V-5.5V	400 KHz	SOIC, TSSOP	Prod	
8K	1Kx8	I ² C	IS24C08A	2.5V-5.5V	400 KHz	SOIC, TSSOP	Prod	
		SPI	IS25C08	2.5V-5.5V	10 MHz	SOIC, TSSOP	Prod	
	1Kx8/512x16	Microwire	IS93C76A	2.5V-5.5V	3 MHz	SOIC, TSSOP	Prod	
16K	2Kx8	I ² C	IS24C16A	2.5V-5.5V	400 KHz	SOIC, TSSOP	Prod	
		SPI	IS25C16	2.5V-5.5V	10 MHz	SOIC, TSSOP	Prod	
	2Kx8/1Kx16	Microwire	IS93C86A	2.5V-5.5V	3 MHz	SOIC, TSSOP	Prod	
32K	4Kx8	I ² C	IS24C32A	2.5V-5.5V	400 KHz	SOIC, TSSOP	Prod	
		SPI	IS25C32B	2.5V-5.5V	10 MHz	SOIC, TSSOP	Prod	
64K	8Kx8	I ² C	IS24C64A	2.5V-5.5V	400 KHz	SOIC, TSSOP	Prod	
		SPI	IS25C64B	2.5V-5.5V	10 MHz	SOIC, TSSOP	S=Q3/10	
128K	16Kx8	I ² C	IS24C128	2.5V-5.5V	400 KHz	SOIC, TSSOP	Prod	

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 DEVICES



Product Family:

- 2X** = Secure Serial EEPROM/ Smart Card IC's
- 4X** = DRAM
- 5X** = Search Processor
- 6X** = SRAM
- 9X** = Microwire EEPROM

Pb Status:

- Blank** = Normal
- L** = Pb Free

Temperature Range:

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

Package Type:

- | | | | |
|---------------------------------|---|-------------------------|--------------------------------|
| A = mBGA | K = 400-mil Plastic SOJ | PQ = PQFP | U = 330-mil Plastic SOP |
| B = PBGA or mBGA | LQ = LQFP | Q = 450-mil SOP | V = TSPOP |
| D = DFN | M = μ BGA (6x8mm, 7.2x8.7mm or 9mm x 11mm) | QF = QFN | X = Unpackaged Die |
| G = JEDEC SOIC (Rotated) | P = 300-mil Plastic DIP (8-pin) | S = 120-mil MSOP | Z = TSSOP |
| GR = JEDEC SOIC | PL = PLCC | T = TSOP | |
| H = STSOP | | TQ = TQFP | |
| J = 300-mil Plastic SOJ | | | |



ICSI ASYNCHRONOUS SRAM

Low-Speed Asynchronous SRAM

Den	Org	Part No.	Vcc(VccQ)	Speeds (ns)	Pkg (#Pins)	Status ⁽³⁾	Comment
1M	128K x 8	IC62C1024	5V	45,70	T (32)	EOL	
1M	128K x 8	IC62C1024A	5V	45,55,70	Q,T (32)	EOL	
1M	128K x 8	IC62C1024AL	5V	45,55,70	Q,T (32)	EOL	
1M	128K x 8	IC62C1024L	5V	45,55,70	Q,T (32)	EOL	

High Speed Asynchronous SRAM

Den	Org	Part No.	Vcc(VccQ)	Speeds (ns)	Pkg (#Pins)	Status ^(1,2,3)	Comment
1M	128K x 8	IC61C1024	5V	12, 15, 20	K,T, (32)	EOL	
1M	128K x 8	IC61C1024L	5V	15, 20	K,T (32)	EOL	
1M	128K x 8	IC63LV1024	3.3V	8, 10, 12, 15	J,K,KG,T,TG (32)	Prod	
2M	128K x 16	IC61LV12816	3.3V	10, 12, 15	T,TG (44)	Prod	

ICSI DRAM

SDRAM

Den	Org	Part No.	Vcc(VccQ)	Speeds (ns)	Pkg (#Pins)	Status ^(1,2,3)	Comment
16M	1MX16	IC42S16100	3.3V	5,6,7	T/TG(50),B/BG(60)	EOL	
64M	2MX32	IC42S32200	3.3V	6,7	T/TG(86),B/BG(90)	EOL	
64M	4MX16	IC42S16400	3.3V	6,7	T/ TG(54),B/BG(60)	EOL	
64M	4MX16	IC42S16400A	3.3V	6,7	T/ TG(54)	EOL	
128M	4MX32	IC42S32400	3.3V	6,7	T/TG(86),B/BG(90)	Prod	
128M	8MX16	IC42S16800	3.3V	6,7	T/TG(54)	EOL	
128M	16MX8	IC42S81600	3.3V	6,7	T/TG(54)	EOL	

EDO DRAM

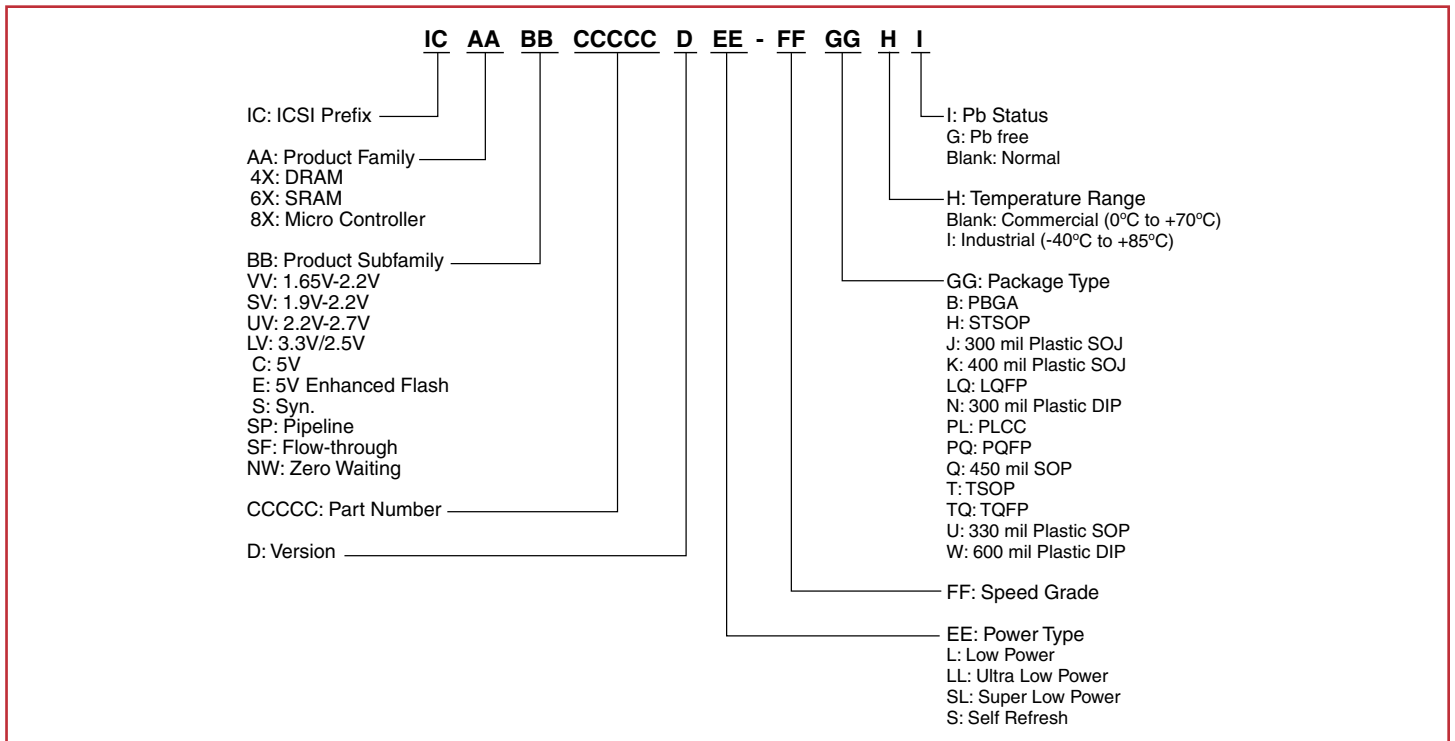
Den	Org	Part No.	Vcc(VccQ)	Speeds (ns)	Pkg (#Pins)	Status ^(2,4)	Comment
4M	256KX16	IC41LV16256	3.3V	35,50	T/TG(40/44), K/KG(40)	EOL	
16M	1MX16	IC41LV16100S	3.3V	50	K/KG(42),T/TG(44/50)	Prod	
16M	4MX4	IC41LV44002	3.3V	50	TG(24/26)	Prod	
16M	4MX4	IC41LV44004	3.3V	50	TG(24/26)	Prod	

FPM DRAM

Den	Org	Part No.	Vcc(VccQ)	Speeds (ns)	Pkg (#Pins)	Status ^(2,4)	Comment
4M	256KX16	IC41LV16257	3.3V	35,50	T/TG(40/44), K/KG(40)	EOL	
16M	1MX16	IC41LV16105	3.3V	50	K/KG(42), T/TG(44//50)	Prod	
16M	1MX16	IC41LV16105S	3.3V	50	K/KG(42), T/TG(44//50)	Prod	
16M	4MX4	IC41LV44052	3.3V	50	TG(24/26)	Prod	
16M	4MX4	IC41LV44054	3.3V	50	TG(24/26)	Prod	

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

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