

## TARGET SPECIFICATION

### IS62Ux6416 Series 64K x 16 LOW VOLTAGE, LOW POWER CMOS STATIC RAM

#### FEATURES

- Voltage range options
  - 1.6V to 2.0V: **IS62UT6416**
  - 1.8V to 2.2V: **IS62US6416**
  - 2.3V to 2.7V: **IS62UR6416**
  - 2.7V to 3.3V: **IS62UP6416**
- Battery backup (SL/LL version)
  - 1.0V (min.) data retention
- Access times: 55, 70, and 100 ns
- Fully static operation and tri-state outputs
- Industrial temperature available
- Available in 48-ball mini BGA and 44-pin sTSOP (Type II)

#### DESCRIPTION

The *ISSI* IS62Ux6416 series is a low voltage, 65,536 words by 16 bits, CMOS SRAM. It is fabricated using *ISSI*'s low voltage, six transistor (6T), CMOS technology. The series is targeted to satisfy the demands of the state-of-the-art technologies such as cell phones and pagers.

When  $\overline{CE}$  is HIGH (deselected), the device assumes a standby mode at which the power dissipation can be reduced down with CMOS input levels. Additionally, easy memory expansion is provided by using Chip Enable and Output Enable inputs,  $\overline{CE}$  and  $\overline{OE}$ . The active LOW Write Enable ( $\overline{WE}$ ) controls both writing and reading of the memory. A data byte allows Upper Byte ( $\overline{UB}$ ) and Lower Byte ( $\overline{LB}$ ) access.

The IS62Ux6416 series is packaged in the 48-ball mini BGA and the 44-pin sTSOP (Type II).

#### PRODUCT SERIES OVERVIEW

Part No.	Voltage (V)	Speeds (ns)	Active I <sub>cc</sub> (mA)	Standby Current (μA)		Temperature (°C)
				LL	SL	
IS62UP6416	3.0, ±0.3	55, 70, 100	25 @ 70 ns	10	2	0 to 70
IS62UP6416 <sup>(1)</sup>	3.0, ±0.3	55, 70, 100	25 @ 70 ns	10	2	40 to 85
IS62UR6416	2.5, ±0.2	55, 70, 100	15 @ 70 ns	10	2	0 to 70
IS62UR6416 <sup>(1)</sup>	2.5, ±0.2	55, 70, 100	15 @ 70 ns	10	2	40 to 85
IS62US6416	2.0, ±0.2	55, 70, 100	10 @ 70 ns	10	2	0 to 70
IS62US6416 <sup>(1)</sup>	2.0, ±0.2	55, 70, 100	10 @ 70 ns	10	2	40 to 85
IS62UT6416	1.8, ±0.2	55, 70, 100	10 @ 70 ns	10	2	0 to 70
IS62UT6416 <sup>(1)</sup>	1.8, ±0.2	55, 70, 100	10 @ 70 ns	10	2	40 to 85

**Note:**

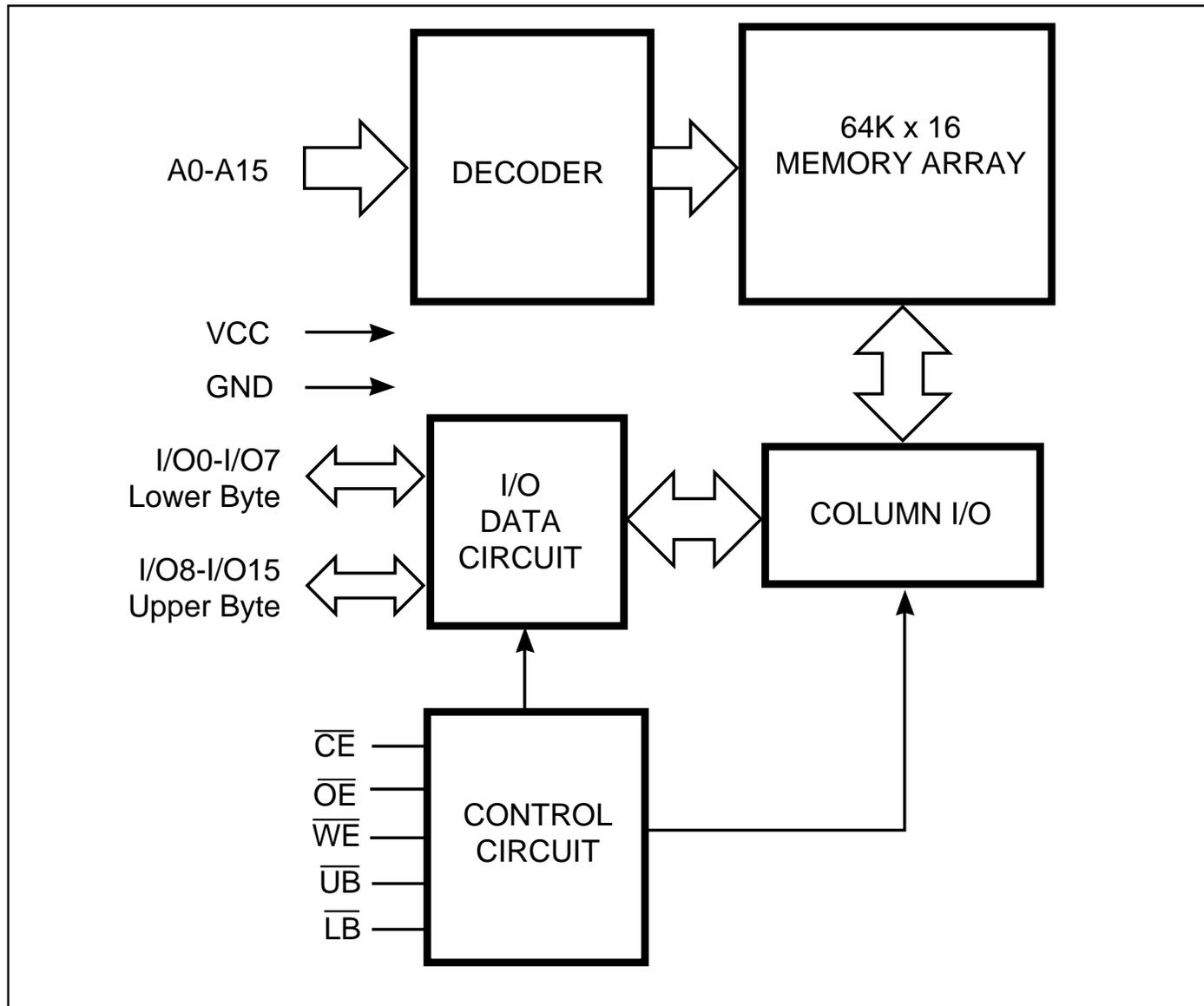
1. Current value is max.

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IS62Ux6416 SERIES

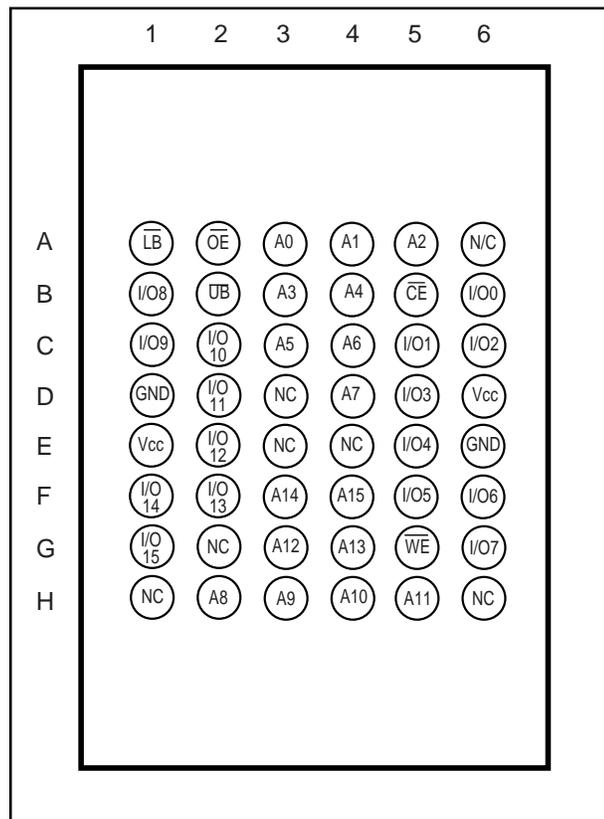
FUNCTIONAL BLOCK DIAGRAM



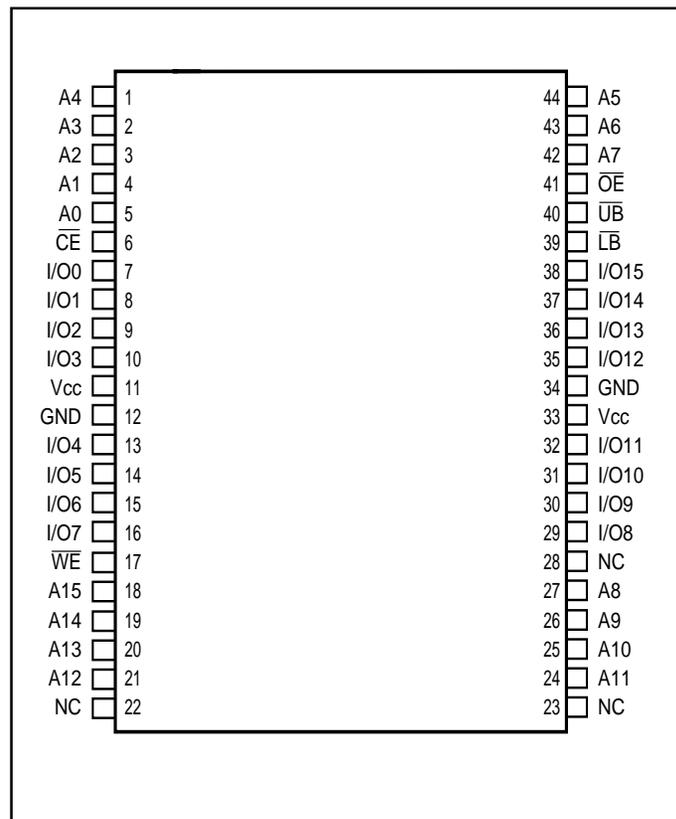
# IS62Ux6416 SERIES

## PIN CONFIGURATIONS

### 48-ball mini BGA (B)



### 44-pin sTSOP (Type II): (H)



## PIN DESCRIPTIONS

A0-A15	Address Inputs
I/O0-I/O15	Data Inputs/Outputs
CE	Chip Enable Input
OE	Output Enable Input
WE	Write Enable Input
LB	Lower-byte Control (I/O0-I/O7)
UB	Upper-byte Control (I/O8-I/O15)
NC	No Connection
Vcc	Power
GND	Ground

IS62Ux6416 SERIES

TRUTH TABLE

Mode	$\overline{WE}$	$\overline{CE}$	$\overline{OE}$	$\overline{LB}$	$\overline{UB}$	I/O PIN		Vcc Current
						I/O0-I/O7	I/O8-I/O15	
Not Selected	X	H	X	X	X	High-Z	High-Z	I <sub>SB</sub> , I <sub>SB1</sub>
	X	X	X	H	H	High-Z	High-Z	
Output Disabled	H	L	H	X	X	High-Z	High-Z	I <sub>CC</sub> , I <sub>CC1</sub>
	X	L	X	H	H	High-Z	High-Z	
Read	H	L	L	L	H	D <sub>OUT</sub>	High-Z	I <sub>CC</sub> , I <sub>CC1</sub>
	H	L	L	H	L	High-Z	D <sub>OUT</sub>	
	H	L	L	L	L	D <sub>OUT</sub>	D <sub>OUT</sub>	
Write	L	L	X	L	H	D <sub>IN</sub>	High-Z	I <sub>CC</sub> , I <sub>CC1</sub>
	L	L	X	H	L	High-Z	D <sub>IN</sub>	
	L	L	X	L	L	D <sub>IN</sub>	D <sub>IN</sub>	

Notes:

- H = V<sub>IH</sub>, L = V<sub>IL</sub>, X = Don't Care.
- $\overline{UB}$ ,  $\overline{LB}$  (Upper, Lower Byte enable).  
These active LOW inputs allow individual bytes to be written or read.  
When  $\overline{LB}$  is LOW, data is written or read to the lower byte, I/O0-I/O7.  
When  $\overline{UB}$  is LOW, data is written or read to the upper byte, I/O8-I/O15.

OPERATING RANGE

Range	Ambient Temperature
Commercial	0°C to +70°C
Industrial	-40°C to +85°C

ABSOLUTE MAXIMUM RATINGS<sup>(1)</sup>

Symbol	Parameter	Value	Unit	
V <sub>CC</sub>	Power Supply Voltage Related to GND	-0.5 to +4.0	V	
V <sub>TERM</sub>	Terminal Voltage with Respect to GND	-0.5 to V <sub>CC</sub> + 0.5	V	
T <sub>STG</sub>	Storage Temperature	-65 to +150	°C	
T <sub>BIAS</sub>	Temperature Under Bias	Com.	-10 to +85	°C
		Ind.	-45 to +90	°C
P <sub>T</sub>	Power Dissipation	2.0	W	
I <sub>OUT</sub>	DC Output Current	±20	mA	

Notes:

- Stress greater than those listed under ABSOLUTE MAXIMUM RATINGS may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect reliability.

CAPACITANCE<sup>(1)</sup>

Symbol	Parameter	Conditions	Max.	Unit
C <sub>IN</sub>	Input Capacitance	V <sub>IN</sub> = 0V	6	pF
C <sub>OUT</sub>	Input/Output Capacitance	V <sub>OUT</sub> = 0V	8	pF

Note:

- Tested initially and after any design or process changes that may affect these parameters.

IS62Ux6416 SERIES

AC TEST CONDITIONS (Over Operating Range)

Parameter		Unit
Input Pulse Level <sup>(1)</sup>	IS62UP6416	0.4V to 2.2V
	IS62UR6416	0.4V to 2.2V
	IS62US6416	0.4V to 1.8V
	IS62UT6416	0.4V to 1.6V
Input Rise and Fall Times		5 ns
Input and Output Timing and Reference Level	IS62UP6416	1.5V
	IS62UR6416	1.1V
	IS62US6416	0.9V
	IS62UT6416	0.8V
Output Load (all test parameters except in Note 2) (see Figure 1)		CL1 = 30 pF + 1TTL Load
Output Load <sup>(1)</sup> (all High-Z and Low-Z parameters) (see Figure 1)		CL2 = 5 pF

Notes:

1. Including jig and scope capacitance.
2.  $V_{TM} = 2.8V$  for  $V_{CC} = 3.0V \pm 0.3V$   
 $V_{TM} = 2.3V$  for  $V_{CC} = 2.5V \pm 0.2V$   
 $V_{TM} = 1.8V$  for  $V_{CC} = 2.0V \pm 0.2V$   
 $V_{TM} = 1.6V$  for  $V_{CC} = 1.8V \pm 0.2V$

AC TEST LOADS

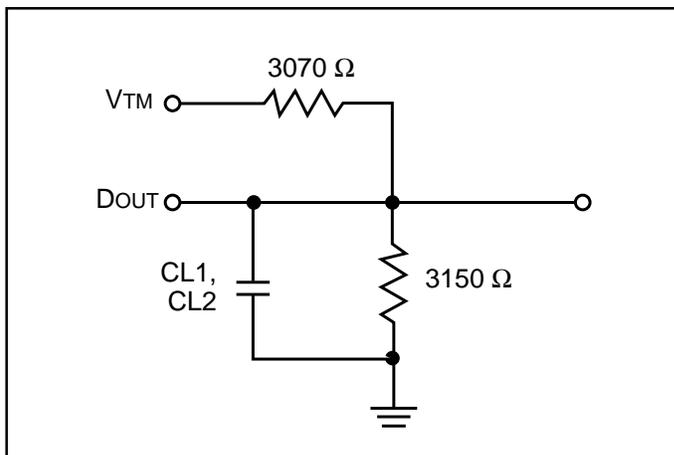


Figure 1

IS62Ux6416 SERIES

DC ELECTRICAL CHARACTERISTICS (Over Operating Range)

Symbol	Parameter	Test Conditions	Min.	Max.	Unit
V <sub>OH</sub>	Output HIGH Voltage	V <sub>CC</sub> = 3.0V ± 0.3V, I <sub>OH</sub> = -2.1 mA	2.2	—	V
		V <sub>CC</sub> = 2.5V ± 0.2V, I <sub>OH</sub> = -0.5 mA	2.0	—	
		V <sub>CC</sub> = 2.0V ± 0.2V, I <sub>OH</sub> = -0.44 mA	1.6	—	
		V <sub>CC</sub> = 1.8V ± 0.2V, I <sub>OH</sub> = -0.44 mA	1.4	—	
V <sub>OL</sub>	Output LOW Voltage	V <sub>CC</sub> = 3.0V ± 0.3V, I <sub>OL</sub> = 2.1 mA	—	0.4	V
		V <sub>CC</sub> = 2.5V ± 0.2V, I <sub>OL</sub> = 0.5 mA	—	—	
		V <sub>CC</sub> = 2.0V ± 0.2V, I <sub>OL</sub> = 0.33 mA	—	—	
		V <sub>CC</sub> = 1.8V ± 0.2V, I <sub>OL</sub> = 0.26 mA	—	—	
V <sub>IH</sub>	Input HIGH Voltage	IS62UP6416	2.2	V <sub>CC</sub> + 0.2	V
		IS62UR6416	2.0	V <sub>CC</sub> + 0.2	
		IS62US6416	1.6	V <sub>CC</sub> + 0.2	
		IS62UT6416	1.4	V <sub>CC</sub> + 0.2	
V <sub>IL</sub> <sup>(1)</sup>	Input LOW Voltage		-0.2	0.4	V
I <sub>LI</sub>	Input Leakage	GND ≤ V <sub>IN</sub> ≤ V <sub>CC</sub>	-1	1	μA
I <sub>LO</sub>	Output Leakage	GND ≤ V <sub>OUT</sub> ≤ V <sub>CC</sub> , $\overline{CE} = V_{IH}$ or $\overline{OE} = V_{IH}$ or $\overline{WE} = V_{IL}$ or $\overline{UB} = V_{IH}$ or $\overline{LB} = V_{IH}$	-1	1	μA

Note:

1. V<sub>IL</sub> (min.) = -0.5V for pulse width less than 10 ns.

POWER SUPPLY CHARACTERISTICS<sup>(1)</sup> (Over Operating Range)

Symbol	Parameter	Test Conditions	Min.	Max.	Unit	
I <sub>CC</sub>	Static Operating Power Supply Current	$\overline{CE} = V_{IL}$ , V <sub>IN</sub> = V <sub>IH</sub> or V <sub>IL</sub> , I <sub>I/O</sub> = 0 mA, f = 0	V <sub>CC</sub> = 3.0V ± 0.3V	—	15	mA
			V <sub>CC</sub> = 2.5V ± 0.2V	—	10	
			V <sub>CC</sub> = 2.0V ± 0.2V	—	8	
			V <sub>CC</sub> = 1.8V ± 0.2V	—	6	
I <sub>CC1</sub>	Dynamic Operating Power Supply Current (IS62UP6416)	V <sub>CC</sub> = 3.0V ± 0.3V, I <sub>OUT</sub> = 0 mA, f = f <sub>MAX</sub>	55 ns	—	35	mA
			70 ns	—	25	
			100 ns	—	20	
I <sub>CC1</sub>	Dynamic Operating Power Supply Current (IS62UR6416)	V <sub>CC</sub> = 2.5V ± 0.2V, I <sub>OUT</sub> = 0 mA, f = f <sub>MAX</sub>	55 ns	—	20	mA
			70 ns	—	15	
			100 ns	—	8	
I <sub>CC1</sub>	Dynamic Operating Power Supply Current (IS62US6416)	V <sub>CC</sub> = 2.0V ± 0.2V, I <sub>OUT</sub> = 0 mA, f = f <sub>MAX</sub>	55 ns	—	12	mA
			70 ns	—	10	
			100 ns	—	7	
I <sub>CC1</sub>	Dynamic Operating Power Supply Current (IS62UT6416)	V <sub>CC</sub> = 1.8V ± 0.2V, I <sub>OUT</sub> = 0 mA, f = f <sub>MAX</sub>	55 ns	—	11	mA
			70 ns	—	9	
			100 ns	—	6	
I <sub>SB</sub>	TTL Standby Current (TTL Inputs)	V <sub>CC</sub> = 3.0V ± 0.3V, $\overline{CE} = V_{IH}$	IS62UP6416	—	0.5	mA
		V <sub>CC</sub> = 2.5V ± 0.2V, $\overline{CE} = V_{IH}$	IS62UR6416	—	0.3	
		V <sub>CC</sub> = 2.0V ± 0.2V, $\overline{CE} = V_{IH}$	IS62US6416	—	0.3	
		V <sub>CC</sub> = 1.8V ± 0.2V, $\overline{CE} = V_{IH}$	IS62UT6416	—	0.3	
I <sub>SB1</sub>	CMOS Standby	$\overline{CE} \geq V_{CC} - 0.2V$	LL Versions	—	10	μA
			SL Versions	—	2	

Note:

1. At f = f<sub>MAX</sub>, address and data inputs are cycling at the maximum frequency, f = 0 means no input lines change.

IS62Ux6416 SERIES

READ CYCLE SWITCHING CHARACTERISTICS<sup>(1)</sup> (Over Operating Range)

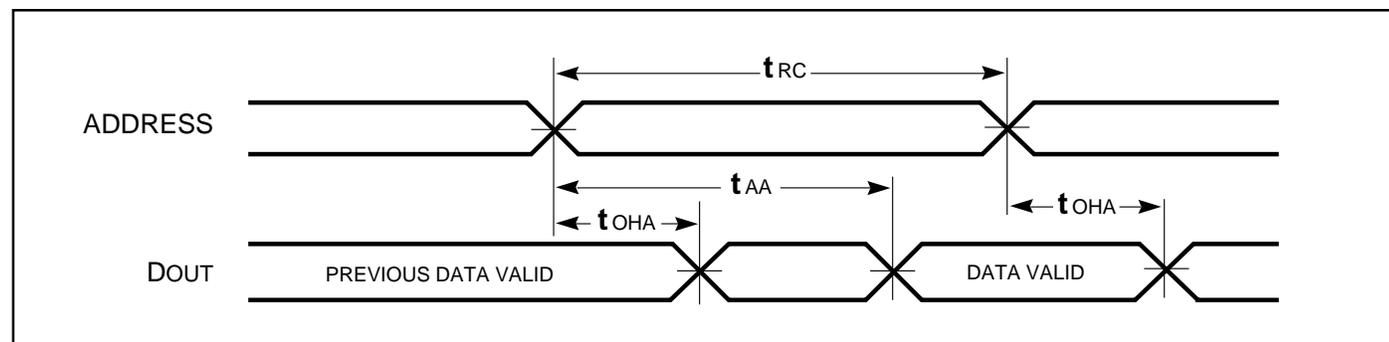
Symbol	Parameter	-55		-70		-100		Unit
		Min.	Max.	Min.	Max.	Min.	Max.	
t <sub>RC</sub>	Read Cycle Time	55	—	70	—	100	—	ns
t <sub>AA</sub>	Address Access Time	—	55	—	70	—	100	ns
t <sub>OHA</sub>	Output Hold Time	10	—	10	—	10	—	ns
t <sub>ACE</sub>	$\overline{CE}$ Access Time	—	55	—	70	—	100	ns
t <sub>DOE</sub>	$\overline{OE}$ Access Time	—	30	—	35	—	50	ns
t <sub>HZOE</sub> <sup>(2)</sup>	$\overline{OE}$ to High-Z Output	—	20	—	25	—	30	ns
t <sub>LZOE</sub> <sup>(2)</sup>	$\overline{OE}$ to Low-Z Output	5	—	5	—	5	—	ns
t <sub>HZCE</sub> <sup>(2)</sup>	$\overline{CE}$ to High-Z Output	0	20	0	25	0	30	ns
t <sub>LZCE</sub> <sup>(2)</sup>	$\overline{CE}$ to Low-Z Output	10	—	10	—	10	—	ns
t <sub>BA</sub>	$\overline{LB}$ , $\overline{UB}$ Access Time	—	55	—	70	—	100	ns
t <sub>HZB</sub>	$\overline{LB}$ , $\overline{UB}$ to High-Z Output	0	20	0	25	0	35	ns
t <sub>LZB</sub>	$\overline{LB}$ , $\overline{UB}$ to Low-Z Output	5	—	5	—	5	—	ns

Notes:

1. Test conditions assume signal transition times of 5 ns or less, timing reference levels of 1.5V, input pulse levels of 0.4 to 2.2V and output loading specified in Figure 1.
2. Tested with the load in Figure 2. Transition is measured ±500 mV from steady-state voltage. Not 100% tested.

AC WAVEFORMS

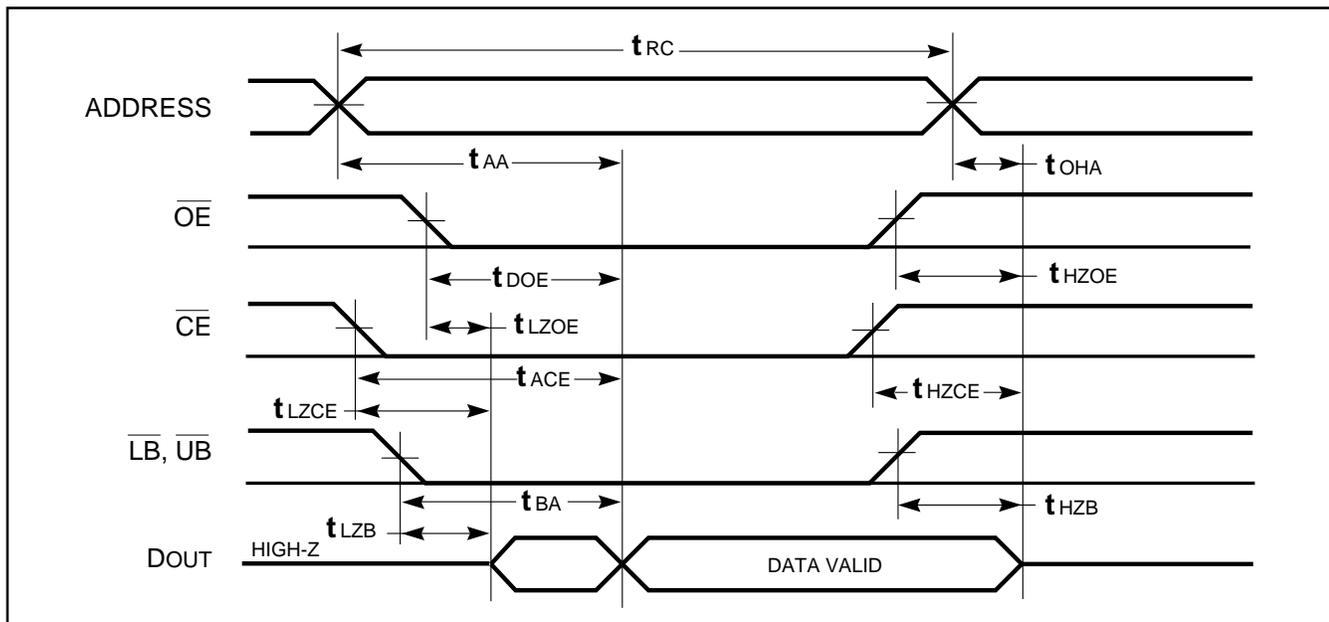
READ CYCLE NO. 1<sup>(1,2)</sup> (Address Controlled) ( $\overline{CE} = \overline{OE} = V_{IL}$ ,  $\overline{UB}$  or  $\overline{LB} = V_{IL}$ )



IS62Ux6416 SERIES

AC WAVEFORMS

READ CYCLE NO. 2<sup>(1,3)</sup>



Notes:

1.  $\overline{WE}$  is HIGH for a Read Cycle.
2. The device is continuously selected.  $\overline{OE}$ ,  $\overline{CE}$ ,  $\overline{UB}$ , or  $\overline{LB}$  =  $V_{IL}$ .
3. Address is valid prior to or coincident with  $\overline{CE}$  LOW transition.

WRITE CYCLE SWITCHING CHARACTERISTICS<sup>(1,2)</sup> (Over Operating Range)

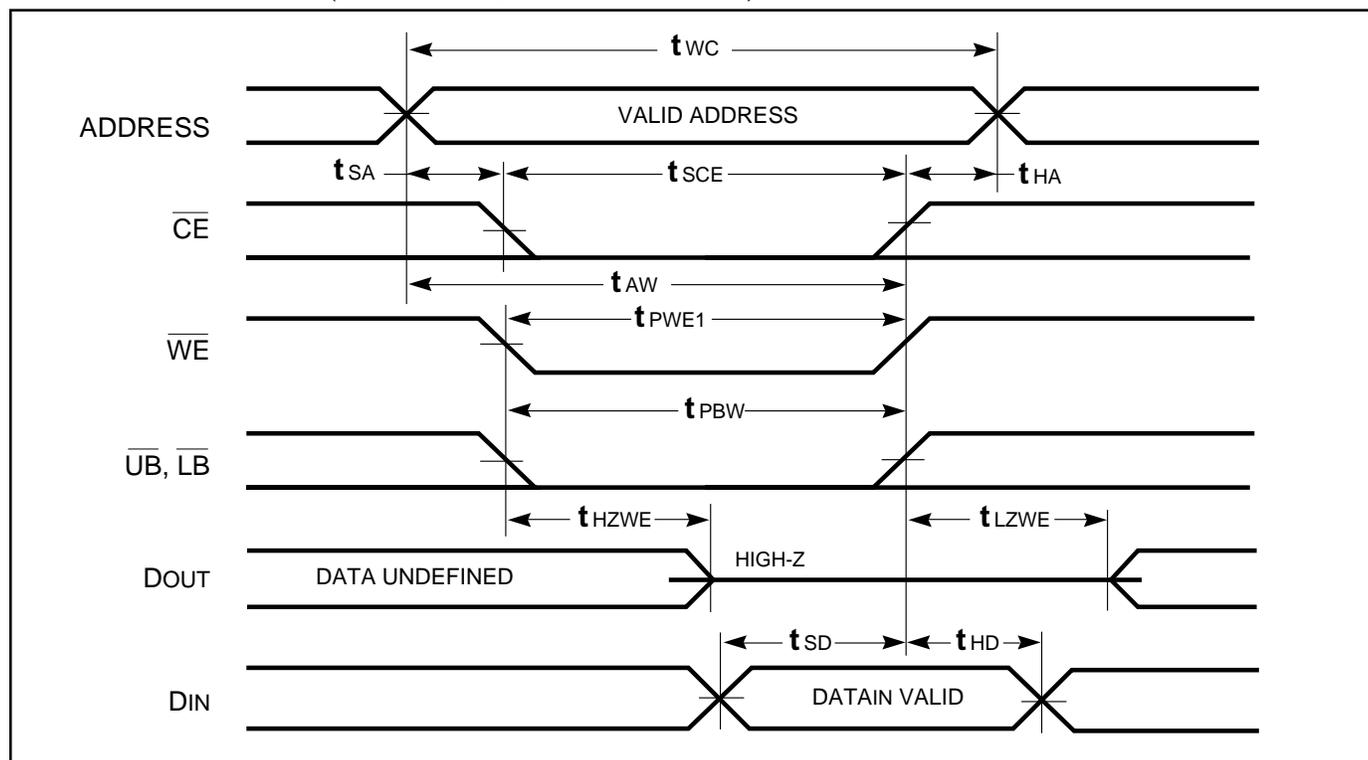
Symbol	Parameter	-55		-70		-100		Unit
		Min.	Max.	Min.	Max.	Min.	Max.	
t <sub>WC</sub>	Write Cycle Time	55	—	70	—	100	—	ns
t <sub>SCE</sub>	$\overline{CE}$ to Write End	45	—	60	—	80	—	ns
t <sub>AW</sub>	Address Setup Time to Write End	45	—	60	—	80	—	ns
t <sub>HA</sub>	Address Hold from Write End	0	—	0	—	0	—	ns
t <sub>SA</sub>	Address Setup Time	0	—	0	—	0	—	ns
t <sub>PWB</sub>	$\overline{LB}$ , $\overline{UB}$ Valid to End of Write	45	—	60	—	80	—	ns
t <sub>PWE1</sub>	$\overline{WE}$ Pulse Width	45	—	60	—	80	—	ns
t <sub>PWE2</sub>	$\overline{WE}$ Pulse Width	45	—	60	—	80	—	ns
t <sub>SD</sub>	Data Setup to Write End	25	—	30	—	40	—	ns
t <sub>HD</sub>	Data Hold from Write End	0	—	0	—	0	—	ns
t <sub>HZWE</sub> <sup>(3)</sup>	$\overline{WE}$ LOW to High-Z Output	—	30	—	30	—	40	ns
t <sub>LZWE</sub> <sup>(3)</sup>	$\overline{WE}$ HIGH to Low-Z Output	5	—	5	—	5	—	ns

Notes:

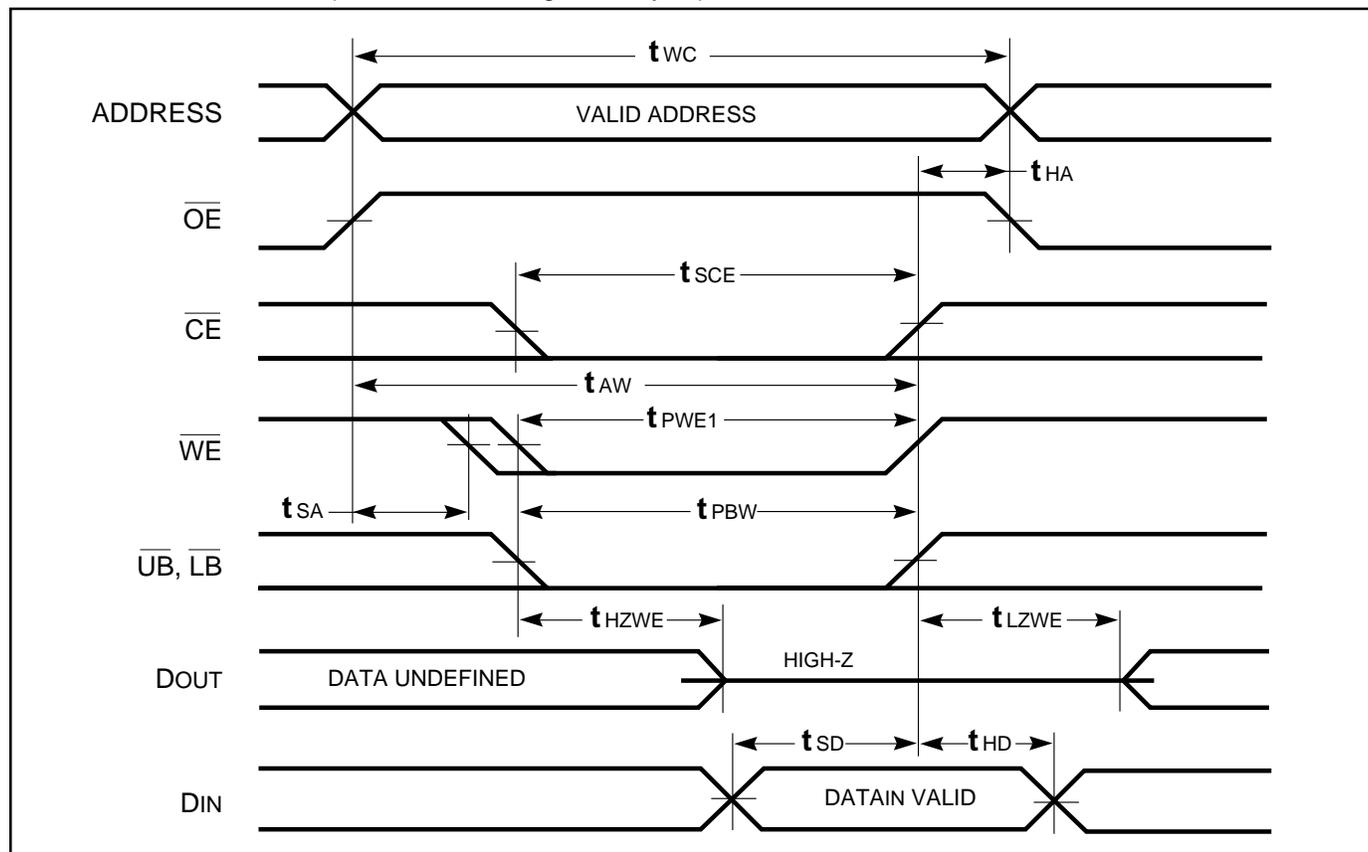
1. Test conditions assume signal transition times of 3 ns or less, timing reference levels of 1.5V, input pulse levels of 0.4V to 2.2V and output loading specified in Figure 1.
2. The internal write time is defined by the overlap of  $\overline{CE}$  LOW and  $\overline{UB}$  or  $\overline{LB}$ , and  $\overline{WE}$  LOW. All signals must be in valid states to initiate a Write, but any one can go inactive to terminate the Write. The Data Input Setup and Hold timing are referenced to the rising or falling edge of the signal that terminates the write.
3. Tested with the load in Figure 1. Transition is measured  $\pm 200$  mV from steady-state voltage. Not 100% tested.

IS62Ux6416 SERIES

WRITE CYCLE NO. 1 ( $\overline{CE}$  Controlled,  $\overline{OE}$  is HIGH or LOW) <sup>(1)</sup>

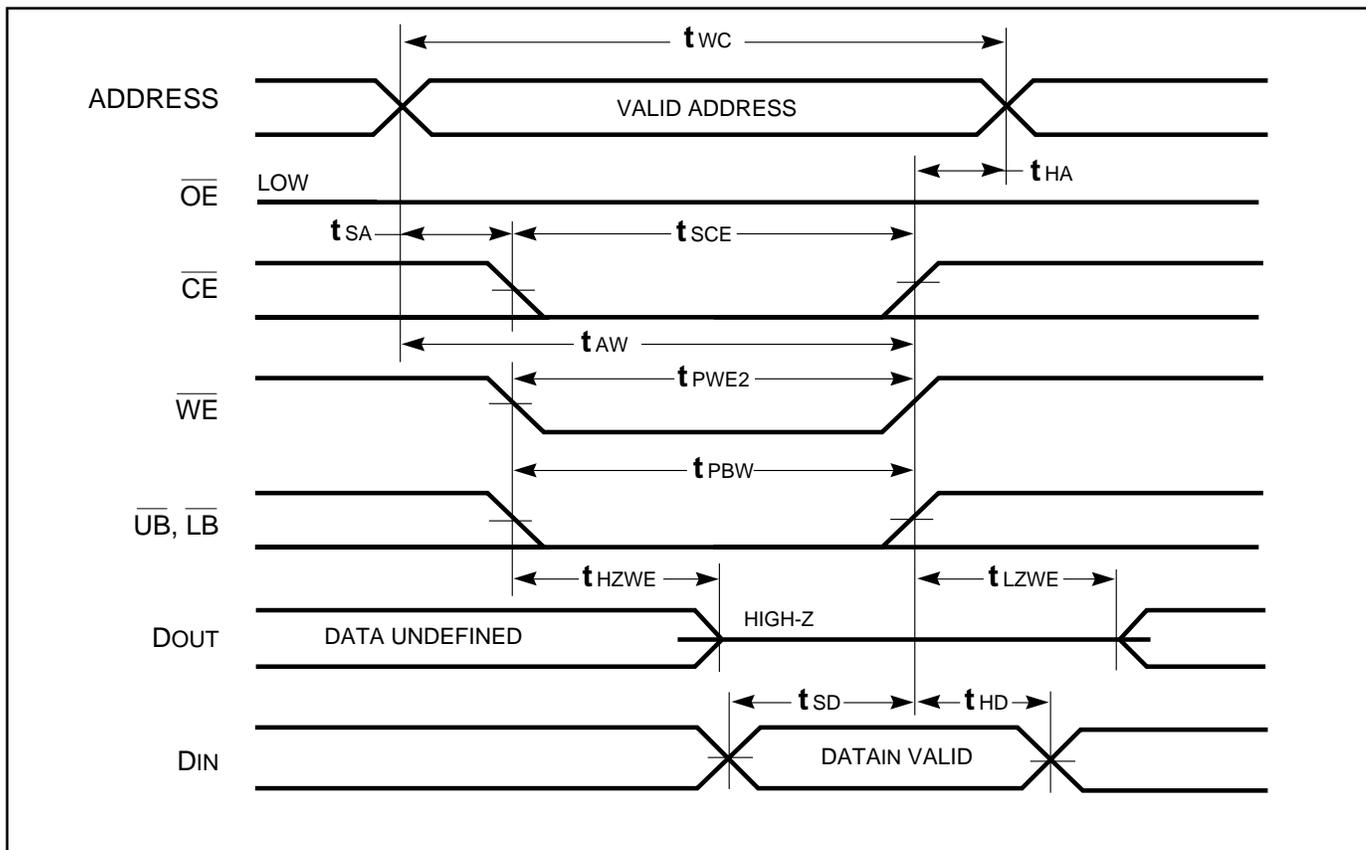


WRITE CYCLE NO. 2 ( $\overline{OE}$  is HIGH During Write Cycle) <sup>(1,2)</sup>



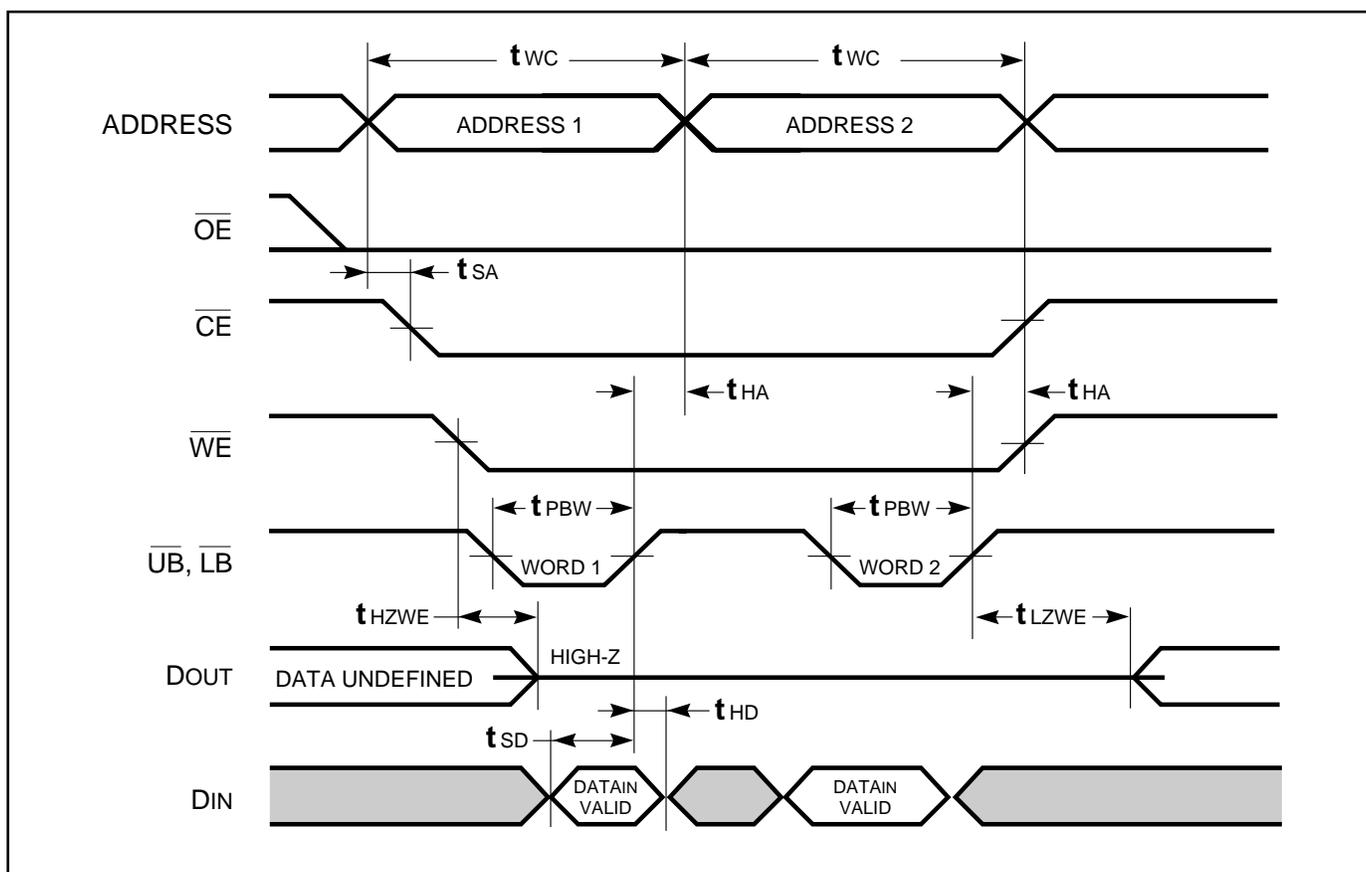
IS62Ux6416 SERIES

WRITE CYCLE NO. 3 ( $\overline{OE}$  is LOW During Write Cycle) <sup>(1)</sup>



IS62Ux6416 SERIES

WRITE CYCLE NO. 4 ( $\overline{\text{LB}}$ ,  $\overline{\text{UB}}$  Controlled, Back-to-Back Write) <sup>(1,3)</sup>



Notes:

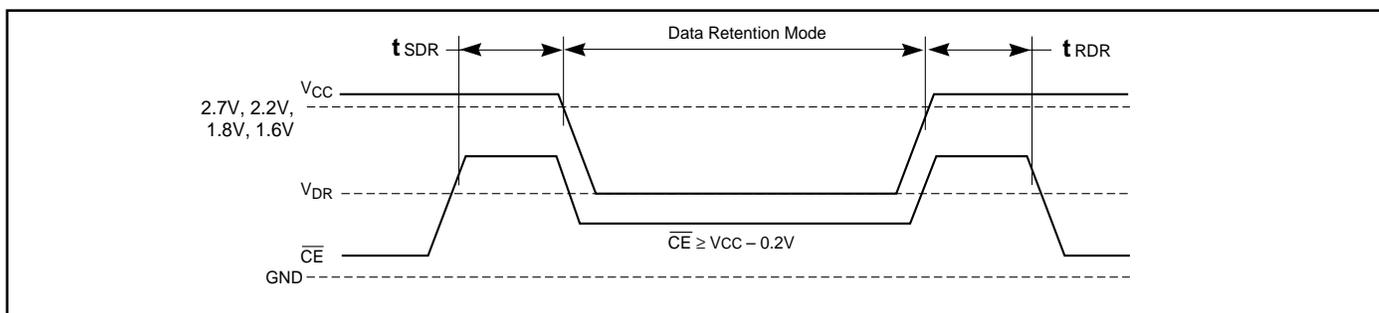
1. The internal Write time is defined by the overlap of  $\overline{\text{CE}} = \text{LOW}$ ,  $\overline{\text{UB}}$  and/or  $\overline{\text{LB}} = \text{LOW}$ , and  $\overline{\text{WE}} = \text{LOW}$ . All signals must be in valid states to initiate a Write, but any can be deasserted to terminate the Write. The  $t_{\text{SA}}$ ,  $t_{\text{HA}}$ ,  $t_{\text{SD}}$ , and  $t_{\text{HD}}$  timing is referenced to the rising or falling edge of the signal that terminates the Write.
2. Tested with  $\overline{\text{OE}}$  HIGH for a minimum of 4 ns before  $\overline{\text{WE}} = \text{LOW}$  to place the I/O in a HIGH-Z state.
3.  $\overline{\text{WE}}$  may be held LOW across many address cycles and the  $\overline{\text{LB}}$ ,  $\overline{\text{UB}}$  pins can be used to control the Write function.

IS62Ux6416 SERIES

DATA RETENTION SWITCHING CHARACTERISTICS

Symbol	Parameter	Test Condition	Min.	Max.	Unit	
V <sub>DR</sub>	V <sub>CC</sub> for Data Retention	See Data Retention Waveform	1.0	3.3	V	
I <sub>DR</sub>	Data Retention Current	V <sub>CC</sub> = 1.0V, $\overline{CE} \geq V_{CC} - 0.2V$ , V <sub>IN</sub> ≥ V <sub>CC</sub> - 0.2V or V <sub>IN</sub> ≤ 0.2V. No input may exceed V <sub>CC</sub> +0.2V	—	2 1	μA	(For -LL version) (For -SL version)
t <sub>SDR</sub>	Data Retention Setup Time	See Data Retention Waveform	0	—	ns	
t <sub>RDR</sub>	Recovery Time	See Data Retention Waveform	t <sub>rc</sub>	—	ns	

DATA RETENTION WAVEFORM ( $\overline{CE}$  Controlled)



Note:

1. 2.7V: IS62UP6416; 2.2V: IS62UR6416; 1.8V: IS62US6416; 1.6V: IS62UT6416.

ORDERING INFORMATION — SL SERIES

Commercial Range: 0°C to +70°C

Speed (ns)	Order Part No.	Package
55	IS62UP6416SL-55H	sTSOP (II)
	IS62UP6416SL-55B	Mini BGA
	IS62UR6416SL-55H	sTSOP (II)
	IS62UR6416SL-55B	Mini BGA
	IS62US6416SL-55H	sTSOP (II)
	IS62US6416SL-55B	Mini BGA
	IS62UT6416SL-55H	sTSOP (II)
	IS62UT6416SL-55B	Mini BGA
70	IS62UP6416SL-70H	sTSOP (II)
	IS62UP6416SL-70B	Mini BGA
	IS62UR6416SL-70H	sTSOP (II)
	IS62UR6416SL-70B	Mini BGA
	IS62US6416SL-70H	sTSOP (II)
	IS62US6416SL-70B	Mini BGA
	IS62UT6416SL-70H	sTSOP (II)
	IS62UT6416SL-70B	Mini BGA
100	IS62UP6416SL-100H	sTSOP (II)
	IS62UP6416SL-100B	Mini BGA
	IS62UR6416SL-100H	sTSOP (II)
	IS62UR6416SL-100B	Mini BGA
	IS62US6416SL-100H	sTSOP (II)
	IS62US6416SL-100B	Mini BGA
	IS62UT6416SL-100H	sTSOP (II)
	IS62UT6416SL-100B	Mini BGA

Industrial Range: -40°C to +85°C

Speed (ns)	Order Part No.	Package
55	IS62UP6416SL-55HI	sTSOP (II)
	IS62UP6416SL-55BI	Mini BGA
	IS62UR6416SL-55HI	sTSOP (II)
	IS62UR6416SL-55BI	Mini BGA
	IS62US6416SL-55HI	sTSOP (II)
	IS62US6416SL-55BI	Mini BGA
	IS62UT6416SL-55HI	sTSOP (II)
	IS62UT6416SL-55BI	Mini BGA
70	IS62UP6416SL-70HI	sTSOP (II)
	IS62UP6416SL-70BI	Mini BGA
	IS62UR6416SL-70HI	sTSOP (II)
	IS62UR6416SL-70BI	Mini BGA
	IS62US6416SL-70HI	sTSOP (II)
	IS62US6416SL-70BI	Mini BGA
	IS62UT6416SL-70HI	sTSOP (II)
	IS62UT6416SL-70BI	Mini BGA
100	IS62UP6416SL-100HI	sTSOP (II)
	IS62UP6416SL-100BI	Mini BGA
	IS62UR6416SL-100HI	sTSOP (II)
	IS62UR6416SL-100BI	Mini BGA
	IS62US6416SL-100HI	sTSOP (II)
	IS62US6416SL-100BI	Mini BGA
	IS62UT6416SL-100HI	sTSOP (II)
	IS62UT6416SL-100BI	Mini BGA

**IS62Ux6416 SERIES**

**ORDERING INFORMATION — SL L L RIES**

**Commercial Range: 0°C to +70°C**

Speed (ns)	Order Part No.	Package
55	IS62UP6416LL-55H	sTSOP (II)
	IS62UP6416LL-55B	Mini BGA
	IS62UR6416LL-55H	sTSOP (II)
	IS62UR6416LL-55B	Mini BGA
	IS62US6416LL-55H	sTSOP (II)
	IS62US6416LL-55B	Mini BGA
	IS62UT6416LL-55H	sTSOP (II)
	IS62UT6416LL-55B	Mini BGA
70	IS62UP6416LL-70H	sTSOP (II)
	IS62UP6416LL-70B	Mini BGA
	IS62UR6416LL-70H	sTSOP (II)
	IS62UR6416LL-70B	Mini BGA
	IS62US6416LL-70H	sTSOP (II)
	IS62US6416LL-70B	Mini BGA
	IS62UT6416LL-70H	sTSOP (II)
	IS62UT6416LL-70B	Mini BGA
100	IS62UP6416LL-100H	sTSOP (II)
	IS62UP6416LL-100B	Mini BGA
	IS62UR6416LL-100H	sTSOP (II)
	IS62UR6416LL-100B	Mini BGA
	IS62US6416LL-100H	sTSOP (II)
	IS62US6416LL-100B	Mini BGA
	IS62UT6416LL-100H	sTSOP (II)
	IS62UT6416LL-100B	Mini BGA

**Industrial Range: -40°C to +85°C**

Speed (ns)	Order Part No.	Package
55	IS62UP6416LL-55HI	sTSOP (II)
	IS62UP6416LL-55BI	Mini BGA
	IS62UR6416LL-55HI	sTSOP (II)
	IS62UR6416LL-55BI	Mini BGA
	IS62US6416LL-55HI	sTSOP (II)
	IS62US6416LL-55BI	Mini BGA
	IS62UT6416SL-55HI	sTSOP (II)
	IS62UT6416LL-55BI	Mini BGA
70	IS62UP6416LL-70HI	sTSOP (II)
	IS62UP6416LL-70BI	Mini BGA
	IS62UR6416LL-70HI	sTSOP (II)
	IS62UR6416LL-70BI	Mini BGA
	IS62US6416LL-70HI	sTSOP (II)
	IS62US6416LL-70BI	Mini BGA
	IS62UT6416LL-70HI	sTSOP (II)
	IS62UT6416LL-70BI	Mini BGA
100	IS62UP6416LL-100HI	sTSOP (II)
	IS62UP6416LL-100BI	Mini BGA
	IS62UR6416LL-100HI	sTSOP (II)
	IS62UR6416LL-100BI	Mini BGA
	IS62US6416LL-100HI	sTSOP (II)
	IS62US6416LL-100BI	Mini BGA
	IS62UT6416LL-100HI	sTSOP (II)
	IS62UT6416LL-100BI	Mini BGA