



Austin Semiconductor, Inc.

# SRAM MT5C1008

## 128K x 8 SRAM WITH DUAL CHIP ENABLE

### AVAILABLE AS MILITARY SPECIFICATIONS

- SMD 5962-89598
- MIL-STD-883

### FEATURES

- High Speed: 12, 15, 20, 25, 35, 45, 55 and 70 ns
- Battery Backup: 2V data retention
- Low power standby
- High-performance, low-power CMOS process
- Single +5V (+10%) Power Supply
- Easy memory expansion with CE1\, CE2, and OE\ options.
- All inputs and outputs are TTL compatible

### OPTIONS

#### • Timing

|             |                       |
|-------------|-----------------------|
| 12ns access | -12 (contact factory) |
| 15ns access | -15                   |
| 20ns access | -20                   |
| 25ns access | -25                   |
| 35ns access | -35                   |
| 45ns access | -45                   |
| 55ns access | -55*                  |
| 70ns access | -70*                  |

#### • Package(s)•

|                       |     |         |
|-----------------------|-----|---------|
| Ceramic DIP (400 mil) | C   | No. 111 |
| Ceramic DIP (600 mil) | CW  | No. 112 |
| Ceramic LCC           | EC  | No. 207 |
| Ceramic LCC           | ECA | No. 208 |
| Ceramic Flatpack      | F   | No. 303 |
| Ceramic SOJ           | DCJ | No. 501 |
| Ceramic SOJ           | SOJ | No. 507 |

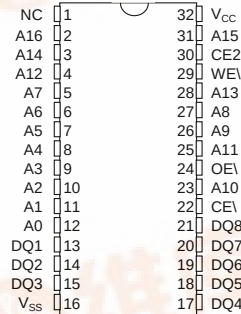
- 2V data retention/low power L

\*Electrical characteristics identical to those provided for the 45ns access devices.

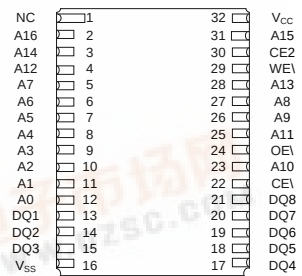
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### PIN ASSIGNMENT (Top View)

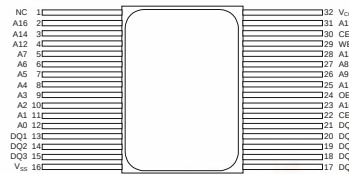
#### 32-Pin DIP (C, CW) 32-Pin CSOJ (SOJ)



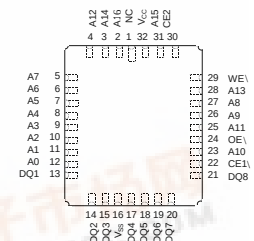
#### 32-Pin LCC (EC) 32-Pin SOJ (DCJ)



#### 32-Pin Flat Pack (F)



#### 32-Pin LCC (ECA)



## GENERAL DESCRIPTION

The MT5C1008 SRAM employs high-speed, low power CMOS designs using a four-transistor memory cell, and are fabricated using double-layer metal, double-layer polysilicon technology.

For design flexibility in high-speed memory applications, this device offers dual chip enables (CE1\, CE2) and output enable (OE\). These control pins can place the outputs in High-Z for additional flexibility in system design. All devices operate from a single +5V power supply and all inputs and outputs are fully TTL compatible.

Writing to these devices is accomplished when write enable (WE\) and CE1\ inputs are both LOW and CE2 is HIGH. Reading is accomplished when WE\ and CE2 remain HIGH and CE1\ and OE\ go LOW. The devices offer a reduced power standby mode when disabled, allowing system designs to achieve low standby power requirements.

The "L" version offers a 2V data retention mode, reducing current consumption to 1mA maximum.

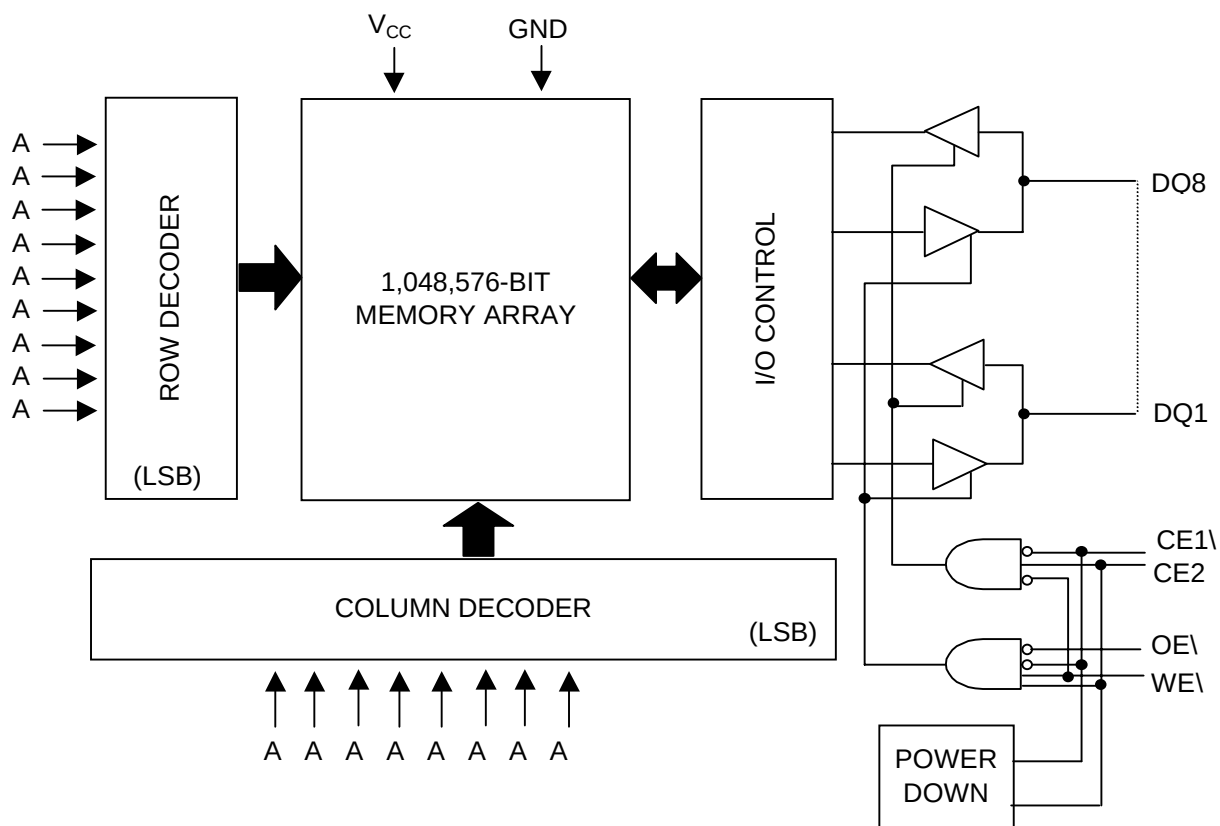




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## FUNCTIONAL BLOCK DIAGRAM



**NOTE:** The two least significant row address bits ( $A_8$  and  $A_6$ ) are encoded using gray code.

## TRUTH TABLE

| MODE    | $OE$ | $CE1$ | $CE2$ | $WE$ | DQ     | POWER   |
|---------|------|-------|-------|------|--------|---------|
| STANDBY | X    | H     | X     | X    | HIGH-Z | STANDBY |
| STANDBY | X    | X     | L     | X    | HIGH-Z | STANDBY |
| READ    | L    | L     | H     | H    | Q      | ACTIVE  |
| READ    | H    | L     | H     | H    | HIGH-Z | ACTIVE  |
| WRITE   | X    | L     | H     | L    | D      | ACTIVE  |



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# SRAM MT5C1008

## ABSOLUTE MAXIMUM RATINGS\*

Supply Voltage Range (V<sub>CC</sub>).....-5V to +6.0V  
Storage Temperature .....-65°C to +150°C  
Short Circuit Output Current (per I/O).....20mA  
Voltage on any Pin Relative to V<sub>SS</sub>.....-5V to V<sub>CC</sub>+1 V  
Max Junction Temperature\*\*.....+150°C  
Power Dissipation .....1 W

\*Stresses at or 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 operation section of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods will affect reliability. Refer to page 17 of this datasheet for a technical note on this subject.

\*\* Junction temperature depends upon package type, cycle time, loading, ambient temperature and airflow, and humidity.

## ELECTRICAL CHARACTERISTICS AND RECOMMENDED DC OPERATING CONDITIONS

(-55°C ≤ T<sub>C</sub> ≤ 125°C & -45°C to +85°C; V<sub>CC</sub> = 5.0V ±10%)

| DESCRIPTION                  | CONDITIONS                                                    | SYM             | MIN  | MAX                  | UNITS | NOTES |
|------------------------------|---------------------------------------------------------------|-----------------|------|----------------------|-------|-------|
| Input High (Logic 1) Voltage |                                                               | V <sub>IH</sub> | 2.2  | V <sub>CC</sub> +0.5 | V     | 1     |
| Input Low (Logic 0) Voltage  |                                                               | V <sub>IL</sub> | -0.5 | 0.8                  | V     | 1, 2  |
| Input Leakage Current        | 0V ≤ V <sub>IN</sub> ≤ V <sub>CC</sub>                        | I <sub>LI</sub> | -10  | 10                   | μA    |       |
| Output Leakage Current       | Output(s) disabled<br>0V ≤ V <sub>OUT</sub> ≤ V <sub>CC</sub> | I <sub>LO</sub> | -10  | 10                   | μA    |       |
| Output High Voltage          | I <sub>OH</sub> = -4.0mA                                      | V <sub>OH</sub> | 2.4  |                      | V     | 1     |
| Output Low Voltage           | I <sub>OL</sub> = 8.0mA                                       | V <sub>OL</sub> |      | 0.4                  | V     | 1     |

| PARAMETER                       | CONDITIONS                                                                                                                                                | SYM                 | MAX |     |     |     |     |     | UNITS | NOTES |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----|-----|-----|-----|-----|-----|-------|-------|
|                                 |                                                                                                                                                           |                     | -12 | -15 | -20 | -25 | -35 | -45 |       |       |
| Power Supply Current: Operating | CE\ ≤ V <sub>IL</sub> ; OE\, WE\, and CE2 ≥ V <sub>IH</sub><br>V <sub>CC</sub> = MAX, f = MAX = 1/t <sub>RC</sub> (MIN)<br>Output Open<br>*L version only | I <sub>CCSP</sub>   | 250 | 180 | 150 | 140 | 135 | 125 | mA    | 3     |
|                                 |                                                                                                                                                           | I <sub>CCLP</sub> * | 250 | 180 | 140 | 130 | 125 | 115 | mA    |       |
| Power Supply Current: Standby   | CE\ = V <sub>IH</sub> , CE2 = V <sub>IL</sub> ; Other Inputs at<br>≤ V <sub>IL</sub> , ≥ V <sub>IH</sub> , V <sub>CC</sub> = MAX<br>f = 0 Hz              | I <sub>SBT</sub>    | 25  | 25  | 25  | 25  | 25  | 25  | mA    |       |
|                                 | CE\ ≥ V <sub>CC</sub> - 0.2V; V <sub>CC</sub> = MAX<br>V <sub>IL</sub> ≤ V <sub>SS</sub> - 0.2V<br>V <sub>IH</sub> ≥ V <sub>CC</sub> - 0.2V; F = 0 Hz     | I <sub>SBC</sub>    | 10  | 10  | 10  | 10  | 10  | 10  | mA    |       |

## CAPACITANCE

| DESCRIPTION                       | CONDITIONS                                              | SYM            | MAX | UNITS | NOTES |
|-----------------------------------|---------------------------------------------------------|----------------|-----|-------|-------|
| Input Capacitance (A0-A16)        | T <sub>A</sub> = 25°C, f = 1MHz<br>V <sub>CC</sub> = 5V | C <sub>I</sub> | 12  | pF    | 4     |
| Output Capacitance                |                                                         | C <sub>O</sub> | 14  | pF    | 4     |
| Input Capacitance (CE\, WE\, OE\) |                                                         | C <sub>I</sub> | 20  | pF    | 4     |



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## ELECTRICAL CHARACTERISTICS AND RECOMMENDED AC OPERATING CONDITIONS

(Note 5)  $(-55^{\circ}\text{C} \leq T_c \leq 125^{\circ}\text{C} \text{ \& } -40^{\circ}\text{C} \text{ to } +85^{\circ}\text{C}; V_{CC} = 5.0\text{V} \pm 10\%)$

| DESCRIPTION                        | SYMBOL            | -12 |     | -15 |     | -20 |     | -25 |     | -35 |     | -45 |     | UNITS | NOTES   |
|------------------------------------|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|---------|
|                                    |                   | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX |       |         |
| READ CYCLE                         |                   |     |     |     |     |     |     |     |     |     |     |     |     |       |         |
| READ cycle time                    | t <sub>RC</sub>   | 12  |     | 15  |     | 20  |     | 25  |     | 35  |     | 45  |     | ns    |         |
| Address access time                | t <sub>AA</sub>   |     | 12  |     | 15  |     | 20  |     | 25  |     | 35  |     | 45  | ns    |         |
| Chip Enable access time            | t <sub>ACE</sub>  |     | 12  |     | 15  |     | 20  |     | 25  |     | 35  |     | 45  | ns    |         |
| Output hold from address change    | t <sub>OH</sub>   | 3   |     | 3   |     | 3   |     | 3   |     | 3   |     | 3   |     | ns    |         |
| Chip Enable to output in Low-Z     | t <sub>LZCE</sub> | 3   |     | 3   |     | 3   |     | 3   |     | 3   |     | 3   |     | ns    | 4, 6, 7 |
| Chip disable to output in High-Z   | t <sub>HZCE</sub> |     | 7   |     | 7   |     | 8   |     | 10  |     | 15  |     | 20  | ns    | 4, 6, 7 |
| Output Enable access time          | t <sub>AOE</sub>  |     | 7   |     | 7   |     | 7   |     | 10  |     | 15  |     | 20  | ns    | 4, 6, 7 |
| Output Enable to output in Low-Z   | t <sub>LZOE</sub> | 0   |     | 0   |     | 0   |     | 0   |     | 0   |     | 0   |     | ns    |         |
| Output disable to output in High-Z | t <sub>HZOE</sub> |     | 7   |     | 7   |     | 8   |     | 10  |     | 15  |     | 20  | ns    | 4, 6, 7 |
| WRITE CYCLE                        |                   |     |     |     |     |     |     |     |     |     |     |     |     |       |         |
| WRITE cycle time                   | t <sub>WC</sub>   | 12  |     | 15  |     | 20  |     | 25  |     | 35  |     | 45  |     | ns    |         |
| Chip Enable to end of write        | t <sub>CW</sub>   | 11  |     | 12  |     | 15  |     | 20  |     | 25  |     | 35  |     | ns    |         |
| Address valid to end of write      | t <sub>AW</sub>   | 11  |     | 12  |     | 15  |     | 20  |     | 25  |     | 35  |     | ns    |         |
| Address setup time                 | t <sub>AS</sub>   | 0   |     | 0   |     | 0   |     | 0   |     | 0   |     | 0   |     | ns    |         |
| Address hold from end of write     | t <sub>AH</sub>   | 0   |     | 0   |     | 0   |     | 0   |     | 0   |     | 5   |     | ns    |         |
| WRITE pulse width                  | t <sub>WP</sub>   | 11  |     | 12  |     | 15  |     | 20  |     | 25  |     | 35  |     | ns    |         |
| Data setup time                    | t <sub>DS</sub>   | 8   |     | 8   |     | 10  |     | 15  |     | 20  |     | 20  |     | ns    |         |
| Data hold time                     | t <sub>DH</sub>   | 0   |     | 0   |     | 0   |     | 0   |     | 0   |     | 0   |     | ns    |         |
| Write disable to output in Low-Z   | t <sub>LZWE</sub> | 5   |     | 5   |     | 5   |     | 5   |     | 5   |     | 5   |     | ns    | 4, 6, 7 |
| Write Enable to output in High-Z   | t <sub>HZWE</sub> |     | 7   |     | 7   |     | 9   |     | 10  |     | 15  |     | 20  | ns    | 4, 6, 7 |



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# SRAM MT5C1008

## ACTEST CONDITIONS

|                                     |                         |
|-------------------------------------|-------------------------|
| Input pulse levels .....            | V <sub>SS</sub> to 3.0V |
| Input rise and fall times .....     | 5ns                     |
| Input timing reference levels ..... | 1.5V                    |
| Output reference levels .....       | 1.5V                    |
| Output load .....                   | See Figures 1 and 2     |

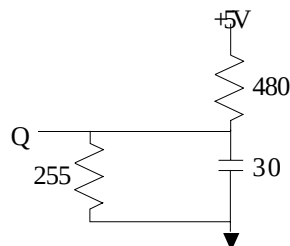


Fig. 1 Output Load Equivalent

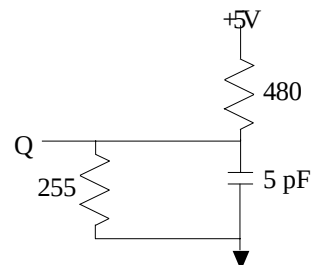


Fig. 2 Output Load Equivalent

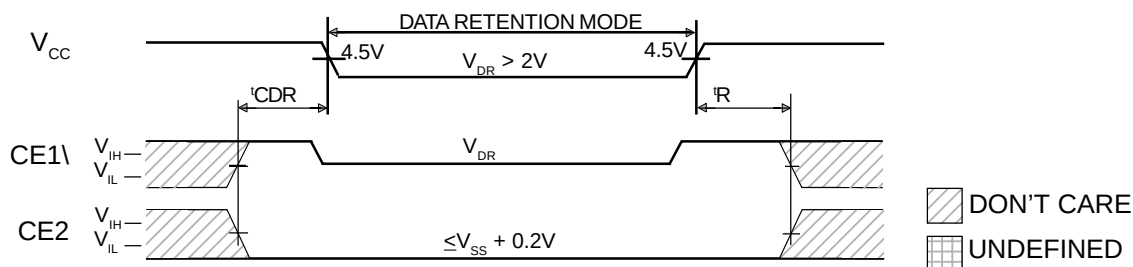
## NOTES

- All voltages referenced to V<sub>SS</sub> (GND).
- 2V for pulse width < 20ns
- I<sub>CC</sub> is dependent on output loading and cycle rates. The specified value applies with the outputs unloaded, and f = 1 Hz.  
'RC (MIN)
- This parameter is guaranteed but not tested.
- Test conditions as specified with the output loading as shown in Fig. 1 unless otherwise noted.
- 'LZCE, 'LZWE, 'LZOE, 'HZCE, 'HZOE and 'HZWE are specified with CL = 5pF as in Fig. 2. Transition is measured ±200mV typical from steady state voltage, allowing for actual tester RC time constant.
- At any given temperature and voltage condition, 'HZCE is less than 'LZCE, and 'HZWE is less than 'LZWE and 'HZOE is less than 'LZOE.
- WE\ is HIGH for READ cycle.
- Device is continuously selected. Chip enables and output enables are held in their active state.
- Address valid prior to, or coincident with, latest occurring chip enable.
- 'RC = Read Cycle Time.
- CE2 timing is the same as CE1\ timing. The waveform is inverted.
- Chip enable (CE1\, CE2) and write enable (WE\ ) can initiate and terminate a WRITE cycle.

## DATA RETENTION ELECTRICAL CHARACTERISTICS (L Version Only)

| DESCRIPTION                          | CONDITIONS                                                                                      | SYMBOL            | MIN             | MAX | UNITS | NOTES |
|--------------------------------------|-------------------------------------------------------------------------------------------------|-------------------|-----------------|-----|-------|-------|
| V <sub>CC</sub> for Retention Data   |                                                                                                 | V <sub>DR</sub>   | 2               | --- | V     |       |
| Data Retention Current               | CE1\ ≥ (V <sub>CC</sub> - 0.2V)<br>V <sub>IN</sub> ≥ (V <sub>CC</sub> - 0.2V)<br>or ≤ 0.2V, f=0 | I <sub>CCDR</sub> |                 | 1.0 | mA    |       |
| Chip Deselect to Data Retention Time |                                                                                                 | t <sub>CDR</sub>  | 0               | --- | ns    | 4     |
| Operation Recovery Time              |                                                                                                 | t <sub>R</sub>    | t <sub>RC</sub> |     | ns    | 4, 11 |

## LOW V<sub>CC</sub> DATA RETENTION WAVEFORM

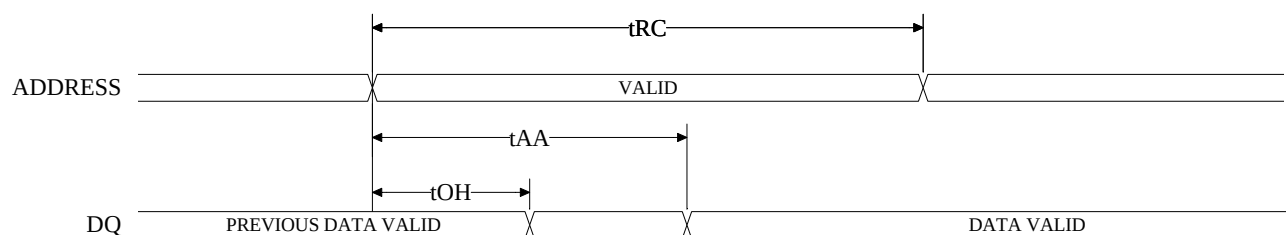




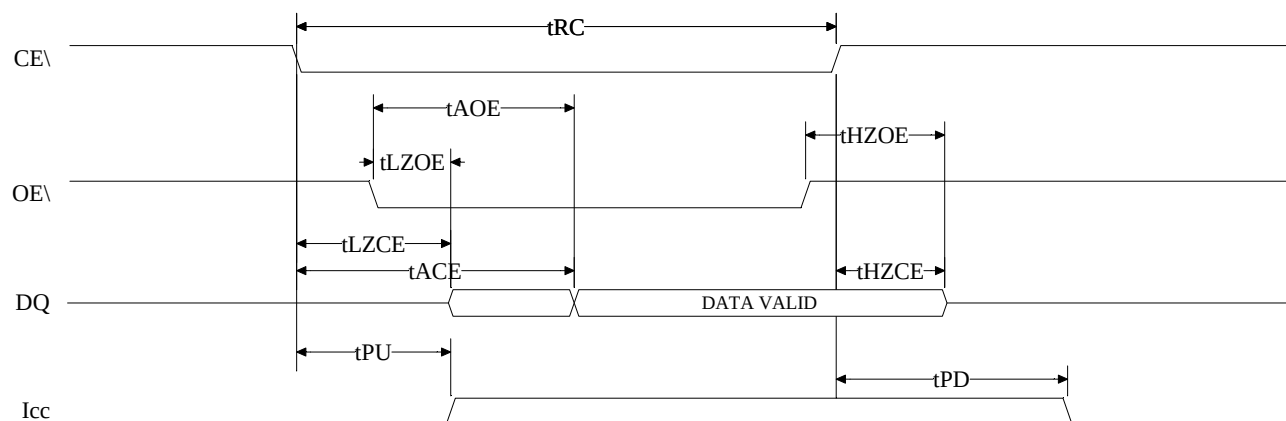
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## READ CYCLE NO. 1 <sup>8,9</sup>



## READ CYCLE NO. 2 <sup>7, 8, 10, 12</sup>

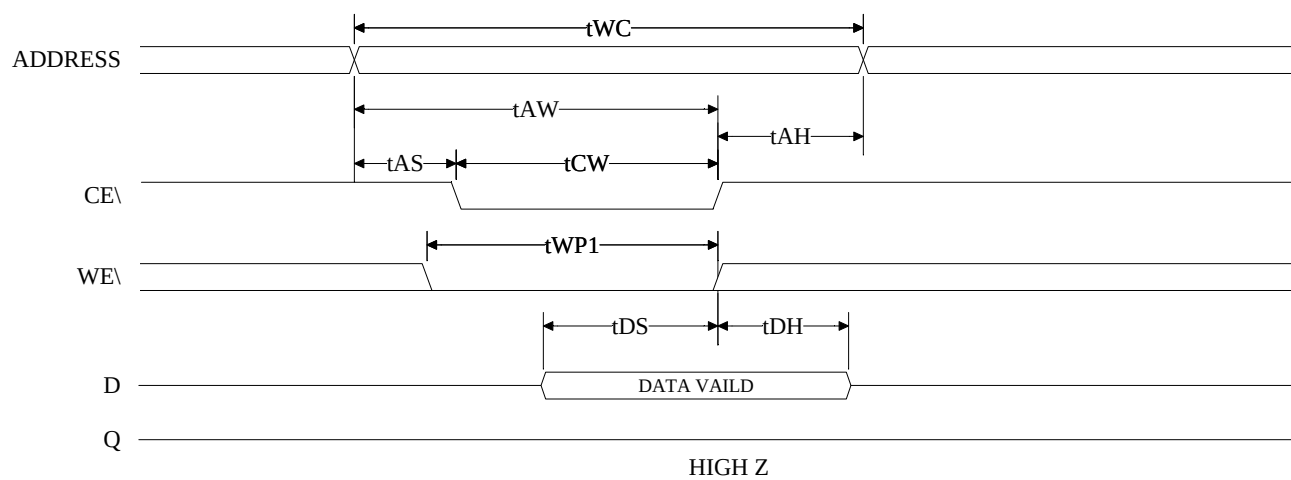




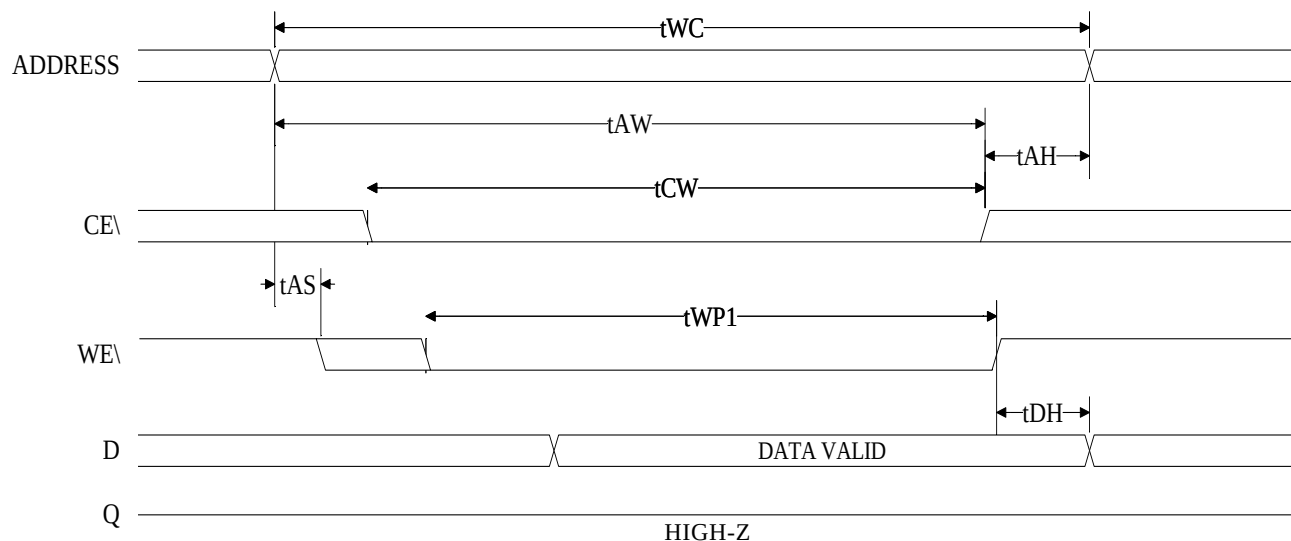
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## WRITE CYCLE NO. 1 <sup>12,13</sup> (Chip Enabled Controlled)



## WRITE CYCLE NO. 2 <sup>7,12,13</sup> (Write Enabled Controlled)



**NOTE:** Output enable (OE\) is inactive (HIGH).

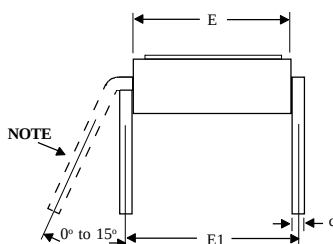
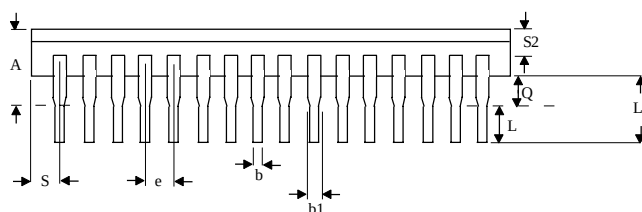
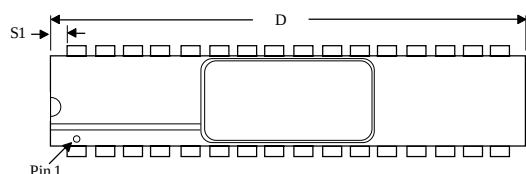


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## MECHANICAL DEFINITIONS\*

**ASI Case #111 (Package Designator C)**  
**SMD 5962-89598, Case Outline Z**



| SYMBOL | SMD SPECIFICATIONS                                  |       |
|--------|-----------------------------------------------------|-------|
|        | MIN                                                 | MAX   |
| A      | ---                                                 | 0.232 |
| b      | 0.014                                               | 0.023 |
| b1     | 0.038                                               | 0.065 |
| c      | 0.008                                               | 0.015 |
| D      | ---                                                 | 1.700 |
| E      | 0.350                                               | 0.405 |
| E1     | 0.390                                               | 0.420 |
| e      | 0.100 BSC                                           |       |
| L      | 0.125                                               | 0.200 |
| L1     | 0.150                                               | ---   |
| Q      | 0.015                                               | 0.060 |
| S      | ---                                                 | 0.100 |
| S1     | 0.005                                               | ---   |
| S2     | 0.005                                               | ---   |
| NOTE:  | Either configuration in detail A is allowed on SMD. |       |

\*All measurements are in inches.

MT5C1008

Rev. 6.5 7/02

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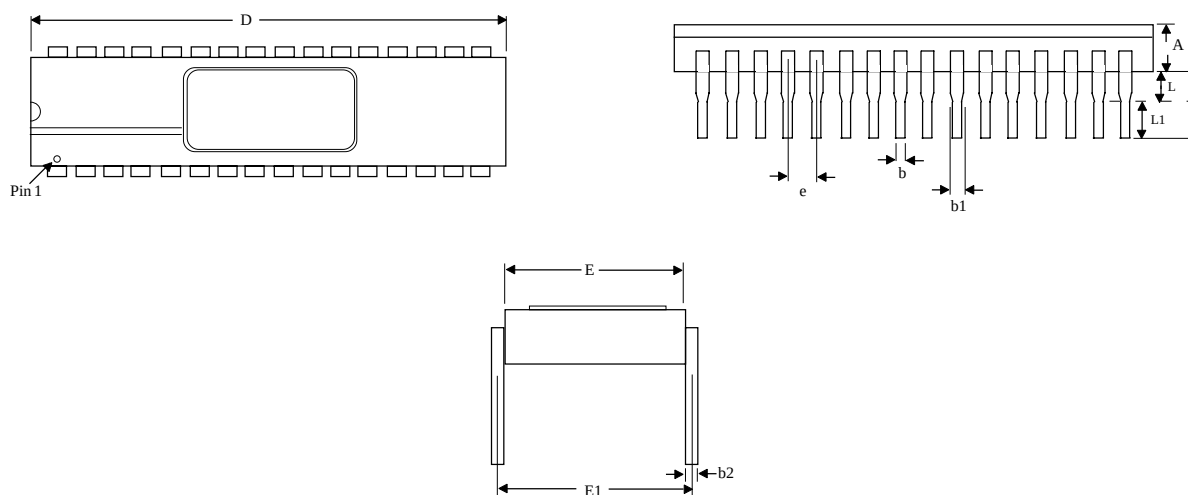


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**MT5C1008**

## MECHANICAL DEFINITIONS\*

**ASI Case #112 (Package Designator CW)**  
**SMD 5962-89598, Case Outline X**



| SYMBOL | SMD SPECIFICATIONS |       |
|--------|--------------------|-------|
|        | MIN                | MAX   |
| A      | 0.089              | 0.111 |
| b      | 0.016              | 0.020 |
| b1     | 0.045              | 0.055 |
| b2     | 0.009              | 0.011 |
| D      | 1.585              | 1.615 |
| E      | 0.585              | 0.605 |
| E1     | 0.595              | 0.610 |
| e      | 0.090              | 0.110 |
| L      | 0.040              | 0.060 |
| L1     | 0.125              | 0.175 |

\*All measurements are in inches.

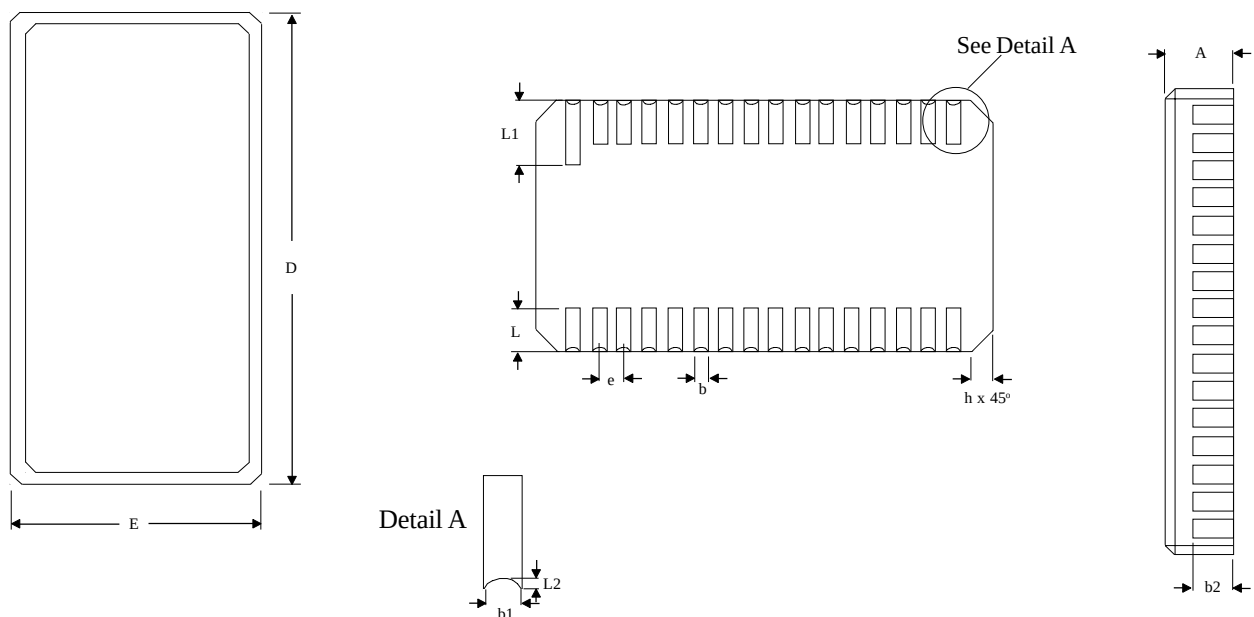


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## MECHANICAL DEFINITIONS\*

**ASI Case #207 (Package Designator EC)  
SMD 5962-89598, Case Outline U**



| SYMBOL | SMD SPECIFICATIONS |       |
|--------|--------------------|-------|
|        | MIN                | MAX   |
| A      | 0.080              | 0.100 |
| b      | 0.022              | 0.028 |
| b1     | 0.006              | 0.022 |
| b2     | 0.040              | ---   |
| D      | 0.800              | 0.840 |
| E      | 0.392              | 0.408 |
| e      | 0.050 BSC          |       |
| h      | 0.012 REF          |       |
| L      | 0.070              | 0.080 |
| L1     | 0.090              | 0.110 |
| L2     | 0.003              | 0.015 |

\*All measurements are in inches.

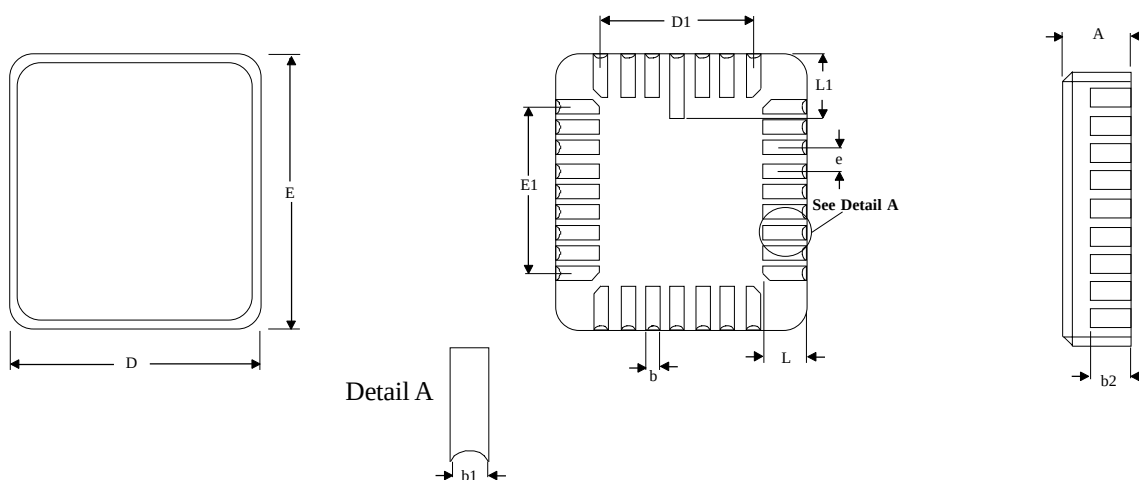


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## MECHANICAL DEFINITIONS\*

**ASI Case #208 (Package Designator ECA)  
SMD 5962-89598, Case Outline M**



| SYMBOL | SMD SPECIFICATIONS |       |
|--------|--------------------|-------|
|        | MIN                | MAX   |
| A      | 0.060              | 0.120 |
| b      | 0.022              | 0.028 |
| b1     | 0.004              | 0.014 |
| b2     | 0.040              | ---   |
| D      | 0.442              | 0.458 |
| D1     | 0.300 BSC          |       |
| E      | 0.540              | 0.560 |
| E1     | 0.400 BSC          |       |
| e      | 0.050 BSC          |       |
| L      | 0.045              | 0.055 |
| L1     | 0.075              | 0.095 |

\*All measurements are in inches.

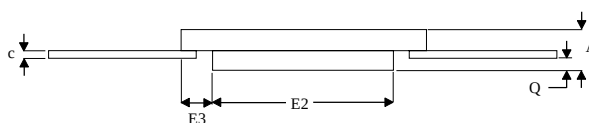
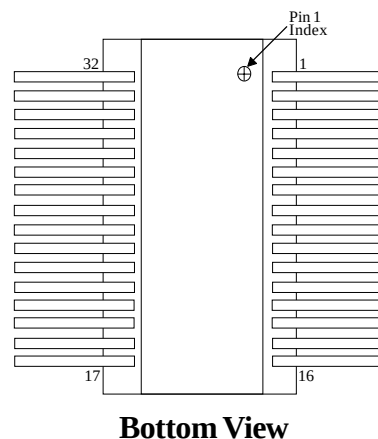
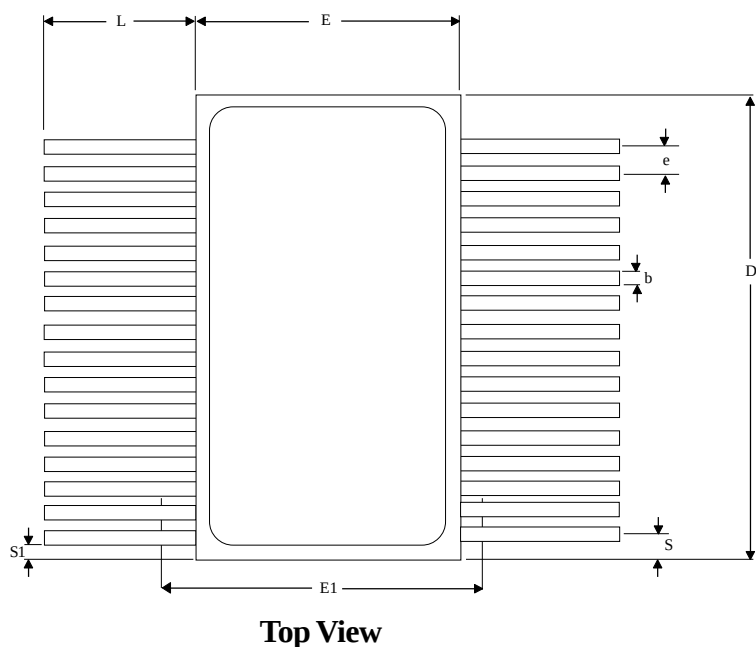


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## MECHANICAL DEFINITIONS\*

**ASI Case #303 (Package Designator F)  
SMD 5962-89598, Case Outline T**



| SYMBOL | SMD SPECIFICATIONS |       |
|--------|--------------------|-------|
|        | MIN                | MAX   |
| A      | 0.097              | 0.125 |
| b      | 0.015              | 0.019 |
| c      | 0.003              | 0.009 |
| D      | ---                | 0.830 |
| E      | 0.400              | 0.420 |
| E1     | ---                | 0.450 |
| E2     | 0.180              | ---   |
| E3     | 0.030              | ---   |
| e      | 0.050 BSC          |       |
| L      | 0.250              | 0.370 |
| Q      | 0.026              | 0.045 |
| S      | ---                | 0.045 |
| S1     | 0.000              | ---   |

\*All measurements are in inches.

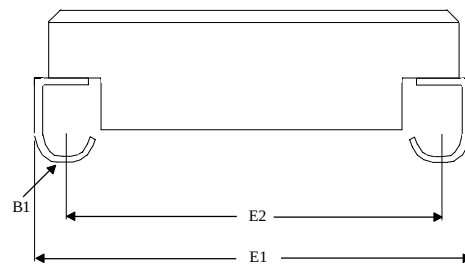
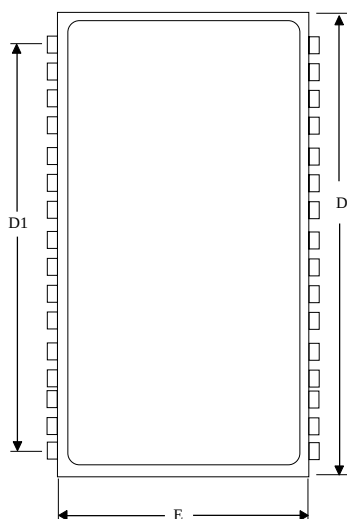
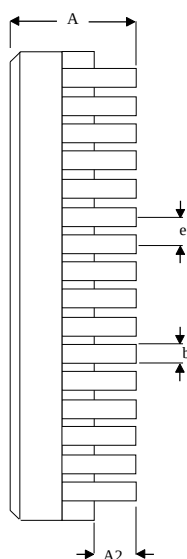


Austin Semiconductor, Inc.

**SRAM**  
**MT5C1008**

## MECHANICAL DEFINITIONS\*

**ASI Case #501 (Package Designator DCJ)**  
**SMD 5962-89598, Case Outline 7**



| SYMBOL | SMD SPECIFICATIONS |       |
|--------|--------------------|-------|
|        | MIN                | MAX   |
| A      | 0.132              | 0.144 |
| A2     | 0.026              | 0.036 |
| B1     | 0.030              | 0.040 |
| b      | 0.015              | 0.019 |
| D      | 0.812              | 0.828 |
| D1     | 0.740              | 0.760 |
| E      | 0.405              | 0.415 |
| E1     | 0.435              | 0.445 |
| E2     | 0.360              | 0.380 |
| e      | 0.050 BSC          |       |

\*All measurements are in inches.

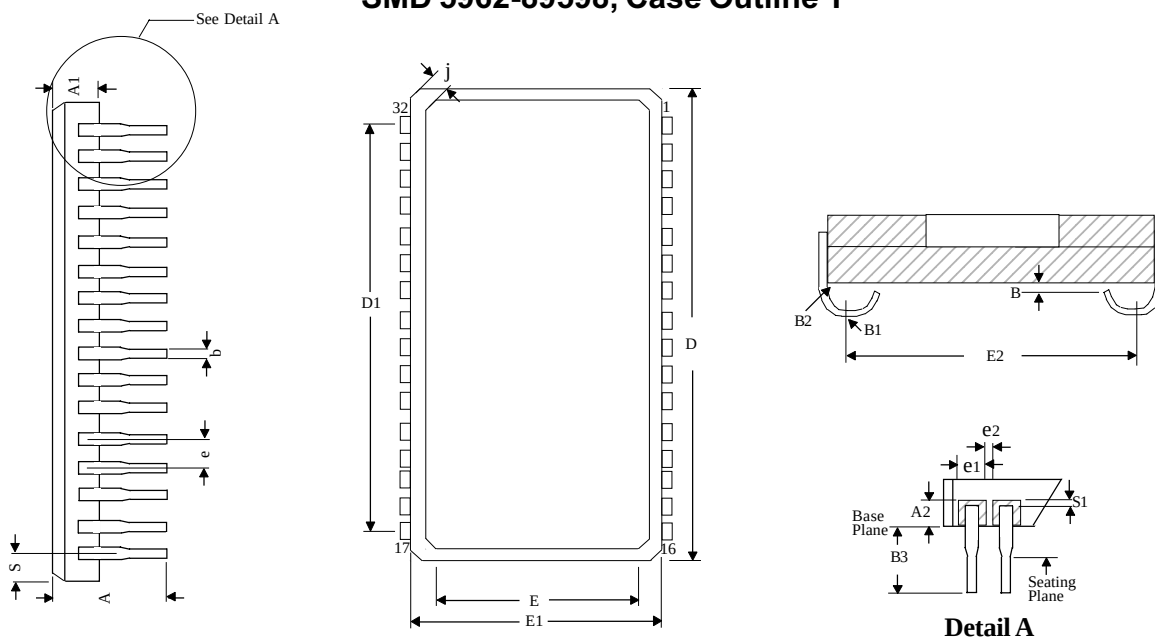


Austin Semiconductor, Inc.

**SRAM  
MT5C1008**

## MECHANICAL DEFINITIONS\*

**ASI Case #507 (Package Designator SOJ)  
SMD 5962-89598, Case Outline Y**



| SYMBOL | SMD SPECIFICATIONS |       |
|--------|--------------------|-------|
|        | MIN                | MAX   |
| A      | 0.120              | 0.165 |
| A1     | 0.088              | 0.120 |
| A2     | 0.070 REF          |       |
| B      | 0.010 REF          |       |
| B1     | 0.030R TYP         |       |
| B2     | 0.020 REF          |       |
| B3     | 0.025              | 0.045 |
| b      | 0.015              | 0.019 |
| D      | 0.816              | 0.838 |
| D1     | 0.750 REF          |       |
| E      | 0.419              | 0.431 |
| E1     | 0.430              | 0.445 |
| E2     | 0.360              | 0.380 |
| e      | 0.050 BSC          |       |
| e1     | 0.038 TYP          |       |
| e2     | 0.005              | ---   |
| j      | 0.005 TYP          |       |
| S      | 0.030              | 0.040 |
| S1     | 0.020 TYP          |       |

\*All measurements are in inches.



Austin Semiconductor, Inc.

# SRAM MT5C1008

## ORDERING INFORMATION

EXAMPLE: MT5C1008CW-45/883C

| Device Number | Package Type | Speed ns | Options** | Process |
|---------------|--------------|----------|-----------|---------|
| MT5C1008      | C            | -12      | L         | /*      |
| MT5C1008      | CW           | -12      | L         | /*      |
| MT5C1008      | C            | -15      | L         | /*      |
| MT5C1008      | CW           | -15      | L         | /*      |
| MT5C1008      | C            | -20      | L         | /*      |
| MT5C1008      | CW           | -20      | L         | /*      |
| MT5C1008      | C            | -25      | L         | /*      |
| MT5C1008      | CW           | -25      | L         | /*      |
| MT5C1008      | C            | -35      | L         | /*      |
| MT5C1008      | CW           | -35      | L         | /*      |
| MT5C1008      | C            | -45      | L         | /*      |
| MT5C1008      | CW           | -45      | L         | /*      |
| MT5C1008      | C            | -55      | L         | /*      |
| MT5C1008      | CW           | -55      | L         | /*      |
| MT5C1008      | C            | -70      | L         | /*      |
| MT5C1008      | CW           | -70      | L         | /*      |

EXAMPLE: MT5C1008ECA-25L/XT

| Device Number | Package Type | Speed ns | Options** | Process |
|---------------|--------------|----------|-----------|---------|
| MT5C1008      | EC           | -12      | L         | /*      |
| MT5C1008      | ECA          | -12      | L         | /*      |
| MT5C1008      | EC           | -15      | L         | /*      |
| MT5C1008      | ECA          | -15      | L         | /*      |
| MT5C1008      | EC           | -20      | L         | /*      |
| MT5C1008      | ECA          | -20      | L         | /*      |
| MT5C1008      | EC           | -25      | L         | /*      |
| MT5C1008      | ECA          | -25      | L         | /*      |
| MT5C1008      | EC           | -35      | L         | /*      |
| MT5C1008      | ECA          | -35      | L         | /*      |
| MT5C1008      | EC           | -45      | L         | /*      |
| MT5C1008      | ECA          | -45      | L         | /*      |
| MT5C1008      | EC           | -55      | L         | /*      |
| MT5C1008      | ECA          | -55      | L         | /*      |
| MT5C1008      | EC           | -70      | L         | /*      |
| MT5C1008      | ECA          | -70      | L         | /*      |

EXAMPLE: MT5C1008F-25L/883C

| Device Number | Package Type | Speed ns | Options** | Process |
|---------------|--------------|----------|-----------|---------|
| MT5C1008      | F            | -12      | L         | /*      |
| MT5C1008      | F            | -15      | L         | /*      |
| MT5C1008      | F            | -20      | L         | /*      |
| MT5C1008      | F            | -25      | L         | /*      |
| MT5C1008      | F            | -35      | L         | /*      |
| MT5C1008      | F            | -45      | L         | /*      |
| MT5C1008      | F            | -55      | L         | /*      |
| MT5C1008      | F            | -70      | L         | /*      |

EXAMPLE: MT5C1008DCJ-35/IT

| Device Number | Package Type | Speed ns | Options** | Process |
|---------------|--------------|----------|-----------|---------|
| MT5C1008      | DCJ          | -12      | L         | /*      |
| MT5C1008      | SOJ          | -12      | L         | /*      |
| MT5C1008      | DCJ          | -15      | L         | /*      |
| MT5C1008      | SOJ          | -15      | L         | /*      |
| MT5C1008      | DCJ          | -20      | L         | /*      |
| MT5C1008      | SOJ          | -20      | L         | /*      |
| MT5C1008      | DCJ          | -25      | L         | /*      |
| MT5C1008      | SOJ          | -25      | L         | /*      |
| MT5C1008      | DCJ          | -35      | L         | /*      |
| MT5C1008      | SOJ          | -35      | L         | /*      |
| MT5C1008      | DCJ          | -45      | L         | /*      |
| MT5C1008      | SOJ          | -45      | L         | /*      |
| MT5C1008      | DCJ          | -55      | L         | /*      |
| MT5C1008      | SOJ          | -55      | L         | /*      |
| MT5C1008      | DCJ          | -70      | L         | /*      |
| MT5C1008      | SOJ          | -70      | L         | /*      |

### \*AVAILABLE PROCESSES

IT = Industrial Temperature Range

XT = Extended Temperature Range

883C = Full Military Processing

-40°C to +85°C

-55°C to +125°C

-55°C to +125°C

### \*\* OPTIONS

L = 2V Data Retention/Low Power



Austin Semiconductor, Inc.

## SRAM MT5C1008

### ASI TO DSCC PART NUMBER CROSS REFERENCE

#### ASI Package Designator C & CW

| ASI Part #          | SMD Part #      |
|---------------------|-----------------|
| MT5C1008C-20/883C   | 5962-8959838MZA |
| MT5C1008C-20L/883C  | 5962-8959821MZA |
| MT5C1008C-25/883C   | 5962-8959837MZA |
| MT5C1008C-25L/883C  | 5962-8959820MZA |
| MT5C1008C-35/883C   | 5962-8959836MZA |
| MT5C1008C-35L/883C  | 5962-8959819MZA |
| MT5C1008C-45/883C   | 5962-8959835MZA |
| MT5C1008C-45L/883C  | 5962-8959818MZA |
| MT5C1008C-55/883C   | 5962-8959834MZA |
| MT5C1008C-55L/883C  | 5962-8959817MZA |
| MT5C1008C-70/883C   | 5962-8959833MZA |
| MT5C1008C-70L/883C  | 5962-8959816MZA |
|                     |                 |
| MT5C1008CW-20/883C  | 5962-8959838MXA |
| MT5C1008CW-20L/883C | 5962-8959821MXA |
| MT5C1008CW-25/883C  | 5962-8959837MXA |
| MT5C1008CW-25L/883C | 5962-8959820MXA |
| MT5C1008CW-35/883C  | 5962-8959836MXA |
| MT5C1008CW-35L/883C | 5962-8959819MXA |
| MT5C1008CW-45/883C  | 5962-8959835MXA |
| MT5C1008CW-45L/883C | 5962-8959818MXA |
| MT5C1008CW-55/883C  | 5962-8959834MXA |
| MT5C1008CW-55L/883C | 5962-8959817MXA |
| MT5C1008CW-70/883C  | 5962-8959833MXA |
| MT5C1008CW-70L/883C | 5962-8959816MXA |

#### ASI Package Designator F

| ASI Part #         | SMD Part #      |
|--------------------|-----------------|
| MT5C1008F-20/883C  | 5962-8959838MTA |
| MT5C1008F-20L/883C | 5962-8959821MTA |
| MT5C1008F-25/883C  | 5962-8959837MTA |
| MT5C1008F-25L/883C | 5962-8959820MTA |
| MT5C1008F-35/883C  | 5962-8959836MTA |
| MT5C1008F-35L/883C | 5962-8959819MTA |
| MT5C1008F-45/883C  | 5962-8959835MTA |
| MT5C1008F-45L/883C | 5962-8959818MTA |
| MT5C1008F-55/883C  | 5962-8959834MTA |
| MT5C1008F-55L/883C | 5962-8959817MTA |
| MT5C1008F-70/883C  | 5962-8959833MTA |
| MT5C1008F-70L/883C | 5962-8959816MTA |

#### ASI Package Designator EC & ECA

| ASI Part #           | SMD Part #      |
|----------------------|-----------------|
| MT5C1008EC-20/883C   | 5962-8959838MUA |
| MT5C1008EC-20L/883C  | 5962-8959821MUA |
| MT5C1008EC-25/883C   | 5962-8959837MUA |
| MT5C1008EC-25L/883C  | 5962-8959820MUA |
| MT5C1008EC-35/883C   | 5962-8959836MUA |
| MT5C1008EC-35L/883C  | 5962-8959819MUA |
| MT5C1008EC-45/883C   | 5962-8959835MUA |
| MT5C1008EC-45L/883C  | 5962-8959818MUA |
| MT5C1008EC-55/883C   | 5962-8959834MUA |
| MT5C1008EC-55L/883C  | 5962-8959817MUA |
| MT5C1008EC-70/883C   | 5962-8959833MUA |
| MT5C1008EC-70L/883C  | 5962-8959816MUA |
|                      |                 |
| MT5C1008ECA-20/883C  | 5962-8959838MMA |
| MT5C1008ECA-20L/883C | 5962-8959821MMA |
| MT5C1008ECA-25/883C  | 5962-8959837MMA |
| MT5C1008ECA-25L/883C | 5962-8959820MMA |
| MT5C1008ECA-35/883C  | 5962-8959836MMA |
| MT5C1008ECA-35L/883C | 5962-8959819MMA |
| MT5C1008ECA-45/883C  | 5962-8959835MMA |
| MT5C1008ECA-45L/883C | 5962-8959818MMA |
| MT5C1008ECA-55/883C  | 5962-8959834MMA |
| MT5C1008ECA-55L/883C | 5962-8959817MMA |
| MT5C1008ECA-70/883C  | 5962-8959833MMA |
| MT5C1008ECA-70L/883C | 5962-8959816MMA |

#### ASI Package Designator DCJ & SOJ

| ASI Part #           | SMD Part #      |
|----------------------|-----------------|
| MT5C1008DCJ-20/883C  | 5962-8959838M7A |
| MT5C1008DCJ-20L/883C | 5962-8959821M7A |
| MT5C1008DCJ-25/883C  | 5962-8959837M7A |
| MT5C1008DCJ-25L/883C | 5962-8959820M7A |
| MT5C1008DCJ-35/883C  | 5962-8959836M7A |
| MT5C1008DCJ-35L/883C | 5962-8959819M7A |
| MT5C1008DCJ-45/883C  | 5962-8959835M7A |
| MT5C1008DCJ-45L/883C | 5962-8959818M7A |
| MT5C1008DCJ-55/883C  | 5962-8959834M7A |
| MT5C1008DCJ-55L/883C | 5962-8959817M7A |
| MT5C1008DCJ-70/883C  | 5962-8959833M7A |
| MT5C1008DCJ-70L/883C | 5962-8959816M7A |
|                      |                 |
| MT5C1008SOJ-20/883C  | 5962-8959838MYA |
| MT5C1008SOJ-20L/883C | 5962-8959821MYA |
| MT5C1008SOJ-25/883C  | 5962-8959837MYA |
| MT5C1008SOJ-25L/883C | 5962-8959820MYA |
| MT5C1008SOJ-35/883C  | 5962-8959836MYA |
| MT5C1008SOJ-35L/883C | 5962-8959819MYA |
| MT5C1008SOJ-45/883C  | 5962-8959835MYA |
| MT5C1008SOJ-45L/883C | 5962-8959818MYA |
| MT5C1008SOJ-55/883C  | 5962-8959834MYA |
| MT5C1008SOJ-55L/883C | 5962-8959817MYA |
| MT5C1008SOJ-70/883C  | 5962-8959833MYA |
| MT5C1008SOJ-70L/883C | 5962-8959816MYA |

\* ASI part number is for reference only. Orders received referencing the SMD part number will be processed per the SMD.





Austin Semiconductor, Inc.

**SRAM**  
**MT5C1008**

**DATE: 2/6/01**

## **Technical Note:**

### **128Kx8 SRAM – Maximum Recommended Supply Voltage and Ambient Temperature**

#### **Compliance:**

This product fully meets and is tested in compliance with SMD# 5962-89598 and tested in accordance with JESD78.

#### **Specific Product Affected:**

Die Manufacturer: Alliance Semiconductor Corporation

Die Name: AS2008SA

Device Types: MT5C1008 , MT5C1009

Speed Grades: All

Package Designators: All

Identifying Date Code Marking: Change implemented on product starting with date code 0100.

#### **Characteristic Identified:**

Austin Semiconductor, Inc. has received notification from this die vendor, Alliance Semiconductor Corp., that operation at high Vcc's of 6 volts and beyond may result in a latch-up condition. This can cause permanent damage to the device.

#### **Recommendation:**

During use in system applications and during manufacturing processes, including Burn-In and Test, the devices should not be subjected to Vcc Supply Voltages higher than 5.5Volts at 125°C.