

## 128K x 8 SRAM

### WITH CHIP & OUTPUT ENABLE

#### AVAILABLE AS MILITARY SPECIFICATIONS

- SMD 5962-89598
- MIL-STD-883

#### FEATURES

- Access Times: 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 ( $\pm 10\%$ ) Power Supply
- Easy memory expansion with CE\ and OE\ options.
- All inputs and outputs are TTL compatible

#### OPTIONS

##### • Timing

- 12ns access
- 15ns access
- 20ns access
- 25ns access
- 35ns access
- 45ns access
- 55ns access
- 70ns access

#### MARKING

- 12 (IT only)
- 15
- 20
- 25
- 35
- 45
- 55\*
- 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

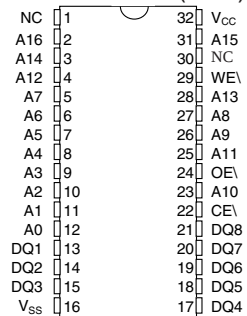
\*Electrical characteristics identical to those provided for the 45ns access devices.

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[www.micross.com](http://www.micross.com)**

#### PIN ASSIGNMENT (Top View)

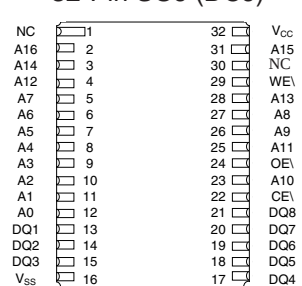
##### 32-Pin DIP (C, CW)

##### 32-Pin SOJ (SOJ)

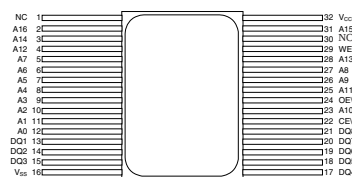


##### 32-Pin LCC (EC)

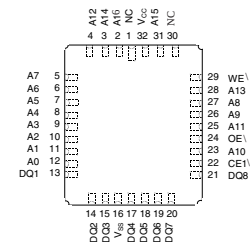
##### 32-Pin SOJ (DCJ)



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



##### 32-Pin LCC (ECA)



#### GENERAL DESCRIPTION

The MT5C1009 is a 1,048,576-bit high-speed CMOS static RAM organized as 131,072 words by 8 bits. This device uses 8 common input and output lines and has an output enable pin which operate faster than address access times during READ cycle.

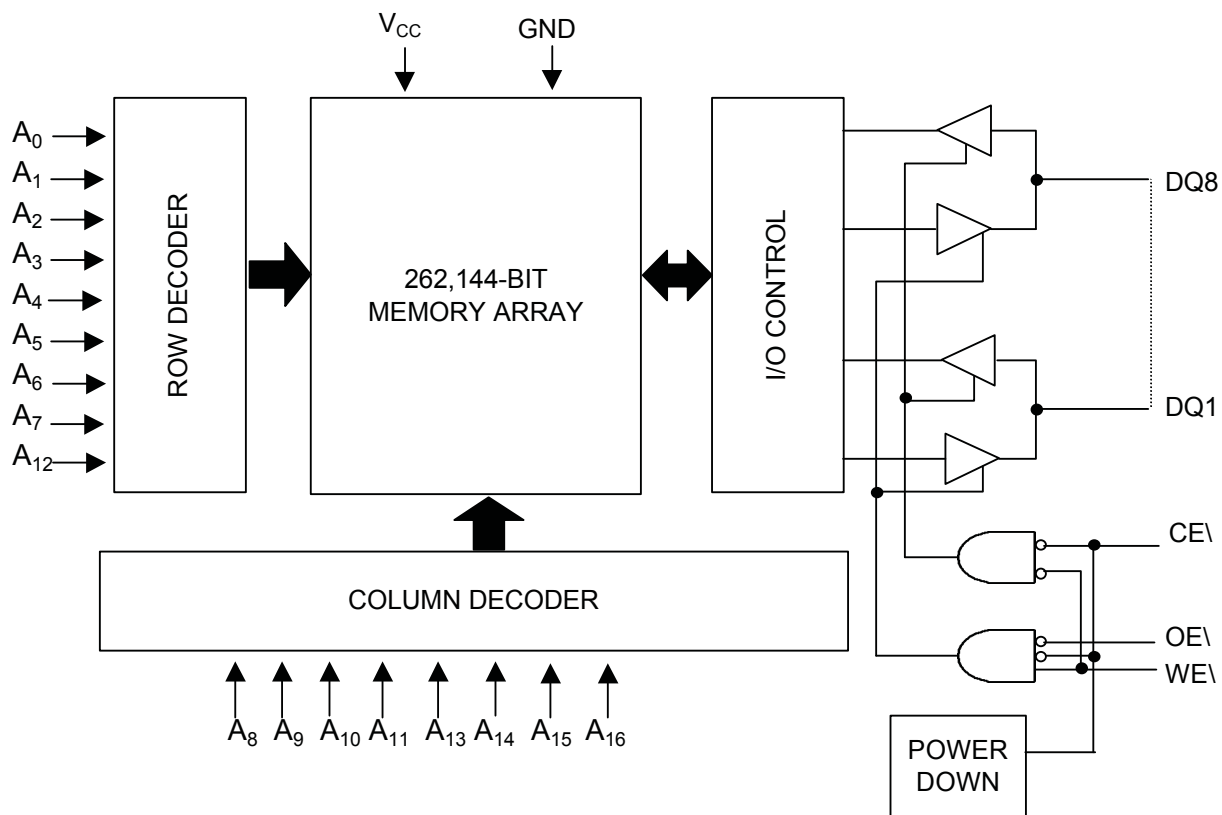
For design flexibility in high-speed memory applications, this device offers chip enable (CE\ ) and output enable (OE\ ) features. These enhancements can place the outputs in High-Z for additional flexibility in system design.

Writing to these devices is accomplished when write enable (WE\ ) and CE\ inputs are both LOW. Reading is accomplished when WE\ remains HIGH and CE\ 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 2mW maximum.

All devices operate from a single +5V power supply and all inputs and outputs are fully TTL compatible. It is particularly well suited for use in high-density, high-speed system applications.

## FUNCTIONAL BLOCK DIAGRAM



**NOTE:** The two least significant row address bits (A8 and A6) are encoded using gray code.

## TRUTH TABLE

| CE\ | WE\ | OE\ | MODE           | I/O PIN   | SUPPLY CURRENT          |
|-----|-----|-----|----------------|-----------|-------------------------|
| H   | X   | X   | Not Selected   | High-Z    | $I_{SBT2}$ , $I_{SBC2}$ |
| X   | X   | X   | Not Selected   | High-Z    | $I_{SBT2}$ , $I_{SBC2}$ |
| L   | H   | H   | Output Disable | High-Z    | $I_{CC}$                |
| L   | H   | L   | Read           | $D_{OUT}$ | $I_{CC}$                |
| L   | L   | X   | Write          | $D_{IN}$  | $I_{CC}$                |

**ABSOLUTE MAXIMUM RATINGS\***

|                                                      |                 |
|------------------------------------------------------|-----------------|
| Supply Voltage Range (V <sub>CC</sub> ).....         | -0.5V 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> ..... | -0.5V to +7.0V  |
| 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\ = V <sub>IH</sub> ,<br>V <sub>CC</sub> = MAX, f = MAX = 1/t <sub>RC</sub> (MIN)<br>Output Open<br>( <sup>1</sup> )L version only | I <sub>CCSP</sub>  | 180 | 180 | 140 | 140 | 135 | 125 | mA    | 3     |
|                                 |                                                                                                                                                                    | I <sub>CCLP</sub>  | 180 | 180 | 140 | 130 | 125 | 115 | mA    |       |
| Power Supply Current: Standby   | CE\ ≥ V <sub>IH</sub> ; All Other Inputs<br>≤ V <sub>IL</sub> or ≥ V <sub>IH</sub> , V <sub>CC</sub> = MAX<br>f = 0 Hz                                             | I <sub>SBT</sub>   | 25  | 25  | 25  | 25  | 25  | 25  | mA    |       |
|                                 |                                                                                                                                                                    | I <sub>SBCSP</sub> | 10  | 10  | 10  | 10  | 10  | 10  | mA    |       |
|                                 | CE\ ≥ V <sub>CC</sub> - 0.2V; V <sub>CC</sub> = MAX<br>Inputs = V <sub>IH</sub> or V <sub>IL</sub><br>f = 0 Hz                                                     | I <sub>SBCLP</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> | 20  | pF    | 4     |
| Input Capacitance (CE\, WE\, OE\) |                                                         | C <sub>I</sub> | 14  | pF    | 4     |

**ELECTRICAL CHARACTERISTICS AND RECOMMENDED AC OPERATING CONDITIONS**

(Note 5) ( $-55^{\circ}\text{C} \leq T_c \leq 125^{\circ}\text{C}$  &  $-40^{\circ}\text{C}$  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   |     | 6   |     | 10  |     | 15  |     | 20  | ns    |         |
| Output Enable to output in Low-Z   | t <sub>LZOE</sub> | 0   |     | 0   |     | 0   |     | 0   |     | 0   |     | 0   |     | ns    | 4, 6, 7 |
| Output disable to output in High-Z | t <sub>HZOE</sub> |     | 7   |     | 7   |     | 6   |     | 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  |     | 12  |     | 20  |     | 25  |     | 35  |     | ns    |         |
| Address valid to end of write      | t <sub>AW</sub>   | 11  |     | 12  |     | 12  |     | 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   |     | 0   |     | ns    |         |
| WRITE pulse width (OE High)        | t <sub>WP</sub>   | 11  |     | 12  |     | 12  |     | 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 |

**AC TEST 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     |

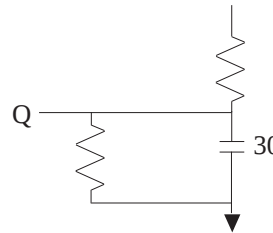


Fig. 1 Output Load Equivalent

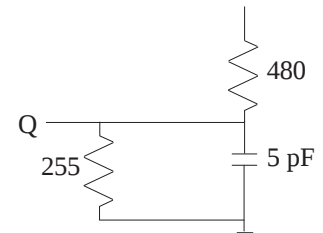


Fig. 2 Output Load Equivalent

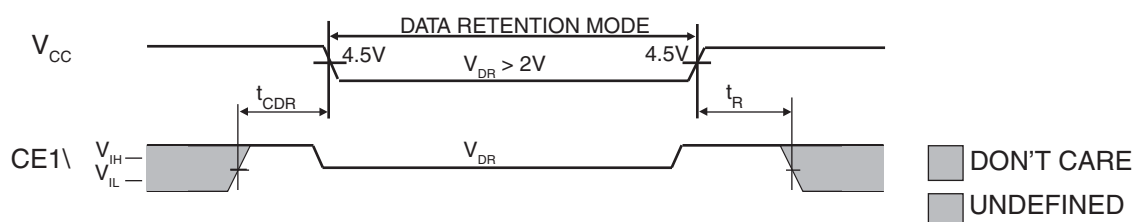
**NOTES**

- 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  $f = \frac{1}{RC (MIN)}$  Hz.
- 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.

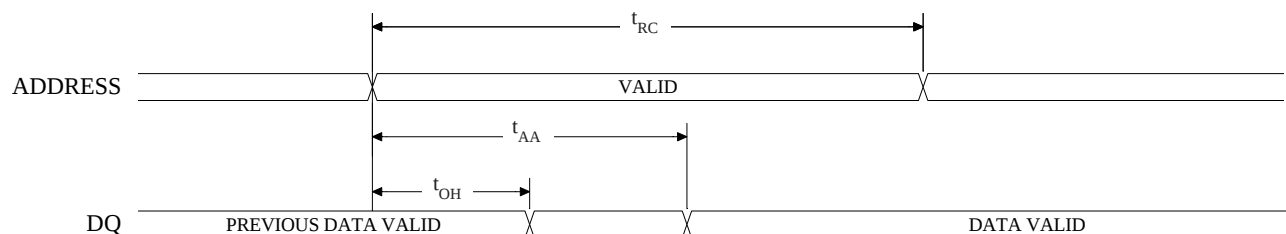
**DATA RETENTION ELECTRICAL CHARACTERISTICS (L Version Only)**

| DESCRIPTION                          | CONDITIONS                                                                   |  | SYMBOL               | MIN                  | MAX | UNITS | NOTES |  |
|--------------------------------------|------------------------------------------------------------------------------|--|----------------------|----------------------|-----|-------|-------|--|
| V <sub>CC</sub> for Retention Data   | $CE \geq (V_{CC} - 0.2V)$<br>$V_{IN} \geq (V_{CC} - 0.2V)$<br>or $\leq 0.2V$ |  | V <sub>DR</sub>      | 2                    | --- | V     |       |  |
| Data Retention Current               |                                                                              |  | V <sub>CC</sub> = 2V | I <sub>CCDR1</sub> * |     | 0.75  | mA    |  |
|                                      |                                                                              |  |                      | I <sub>CCDR2</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 |  |

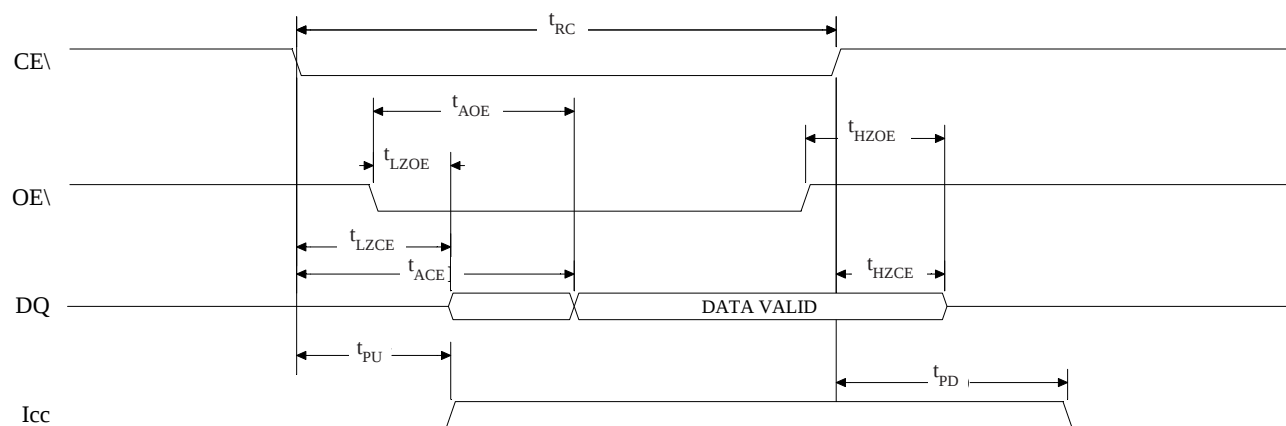
\* Low Power, -20 device only

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


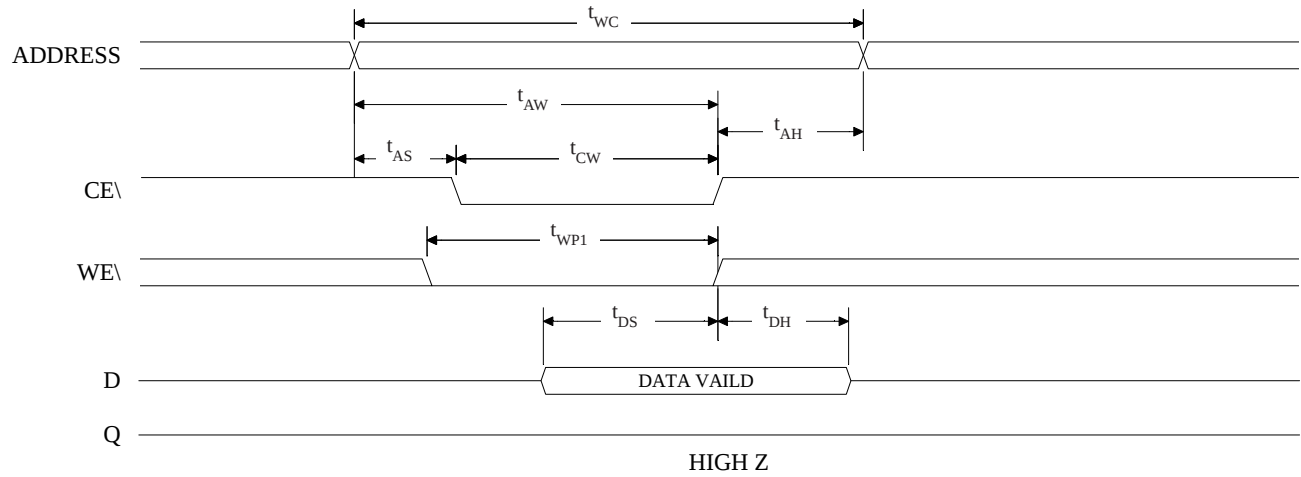
READ CYCLE NO. 1 <sup>8,9</sup>



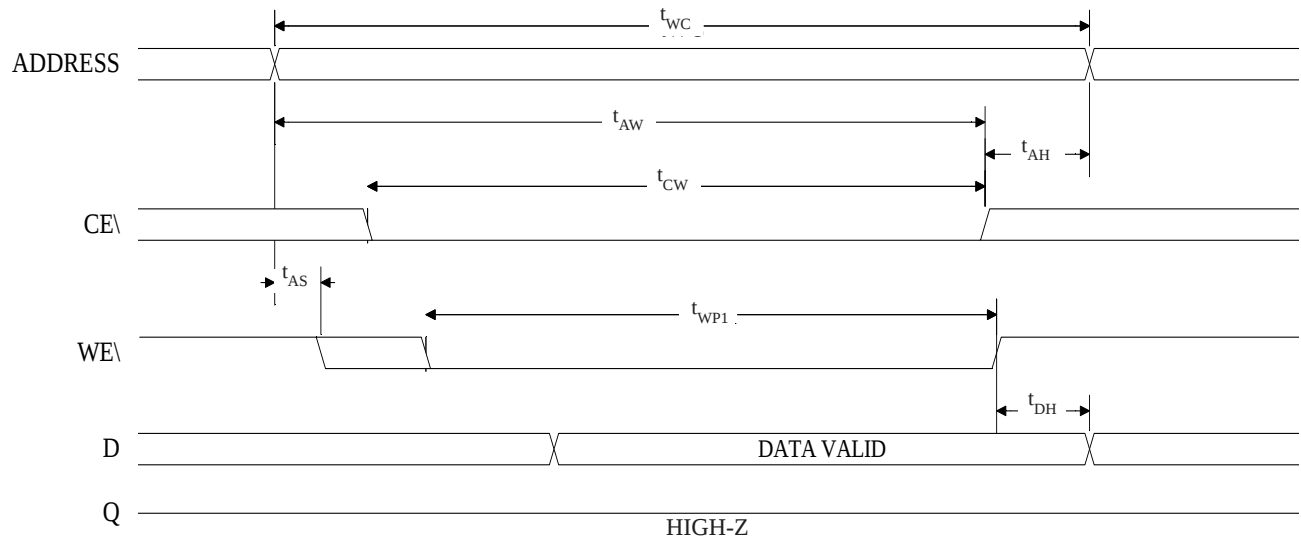
READ CYCLE NO. 2 <sup>7, 8, 10, 12</sup>



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



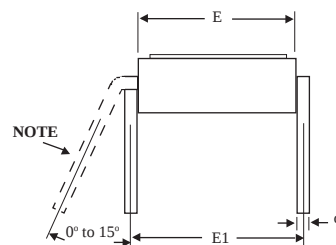
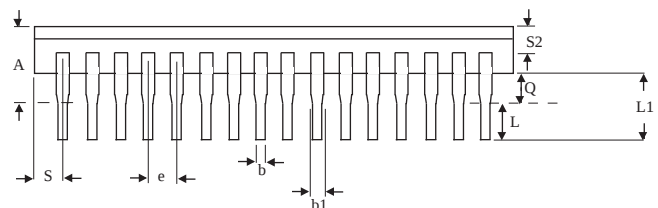
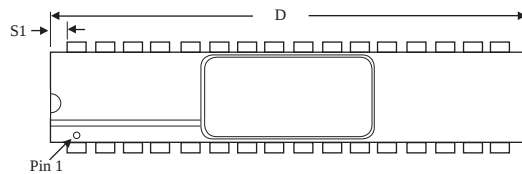
WRITE CYCLE NO. 2 <sup>7, 12, 13</sup>  
 (Write Enabled Controlled)



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

## MECHANICAL DEFINITIONS\*

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

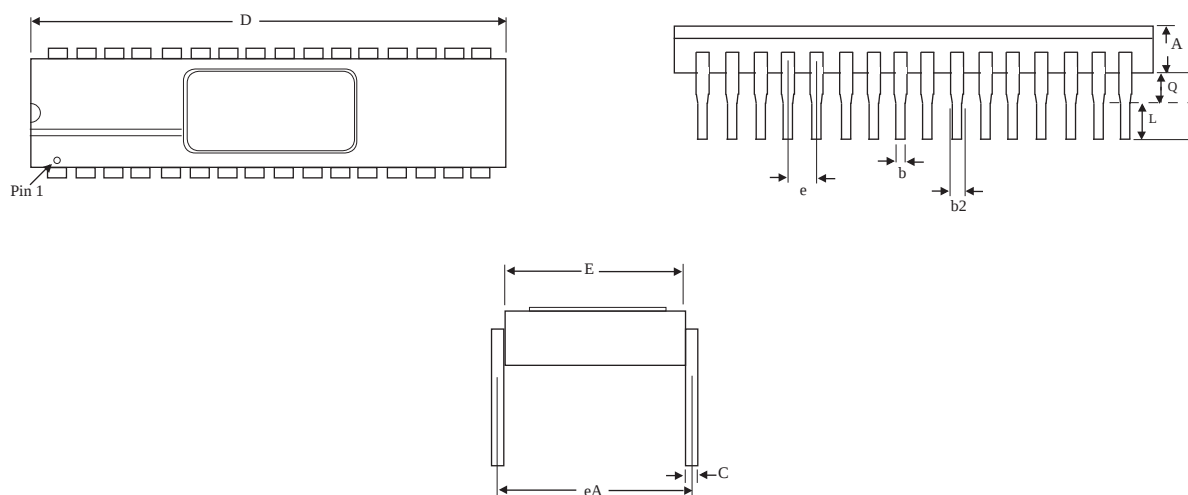


| SYMBOL | SMD SPECIFICATIONS                                  |       |
|--------|-----------------------------------------------------|-------|
|        | MIN                                                 | MAX   |
| A      | --                                                  | 0.232 |
| b      | 0.014                                               | 0.023 |
| b1     | 0.038                                               | 0.065 |
| e      | 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.

## MECHANICAL DEFINITIONS\*

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

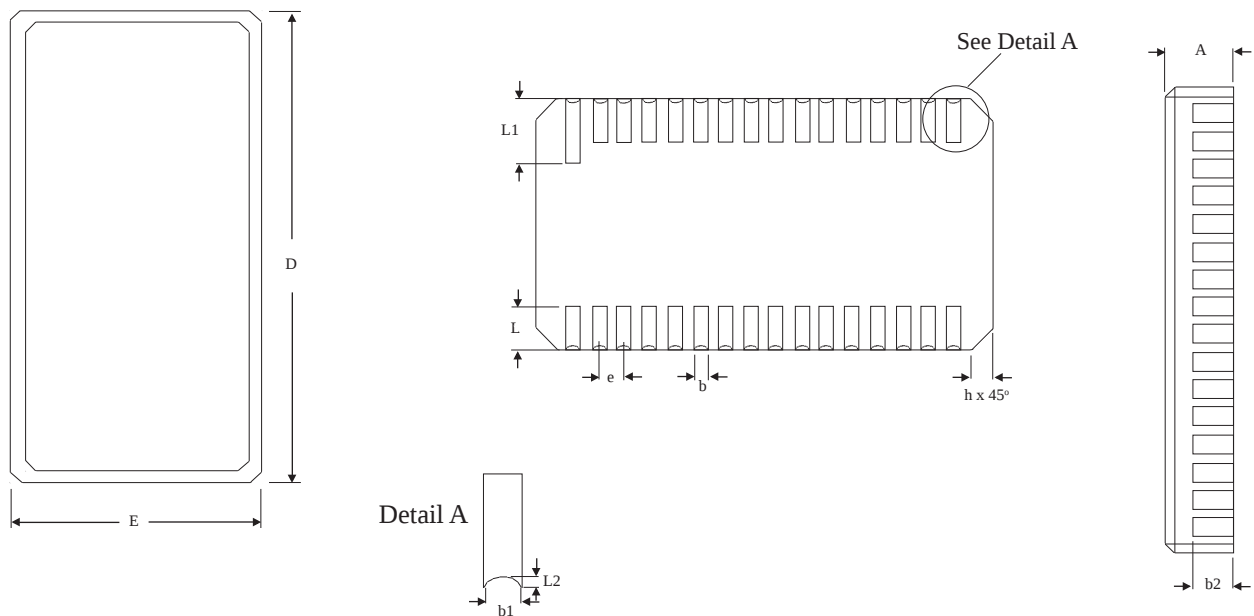


| SYMBOL | SMD Specifications |       |
|--------|--------------------|-------|
|        | MIN                | MAX   |
| A      | 0.089              | 0.111 |
| b      | 0.016              | 0.020 |
| b2     | 0.045              | 0.050 |
| C      | 0.009              | 0.011 |
| D      | 1.585              | 1.615 |
| E      | 0.585              | 0.605 |
| eA     | 0.600 B 9C         |       |
| e      | 0.100 B 9C         |       |
| Q      | 0.040              | 0.060 |
| L      | 0.125              | 0.175 |

\*All measurements are in inches.

## MECHANICAL DEFINITIONS\*

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

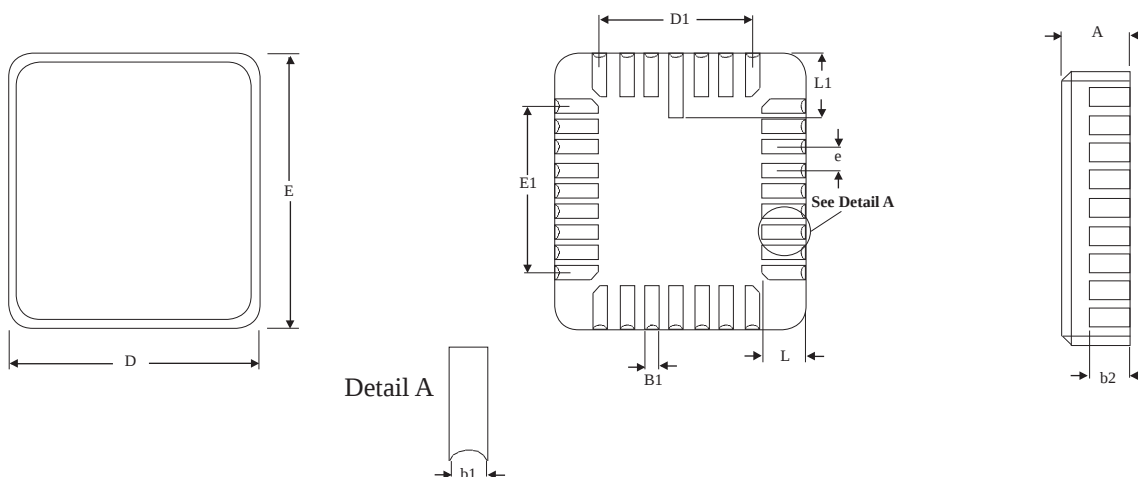


| SYMBOL | SMD SPECIFICATIONS |       |
|--------|--------------------|-------|
|        | MIN                | MAX   |
| A      | 0.080              | 0.100 |
| b      | 0.022              | 0.028 |
| b1     | 0.006              | 0.022 |
| b2     | 0.040              | --    |
| D      | 0.800              | 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.

## MECHANICAL DEFINITIONS\*

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

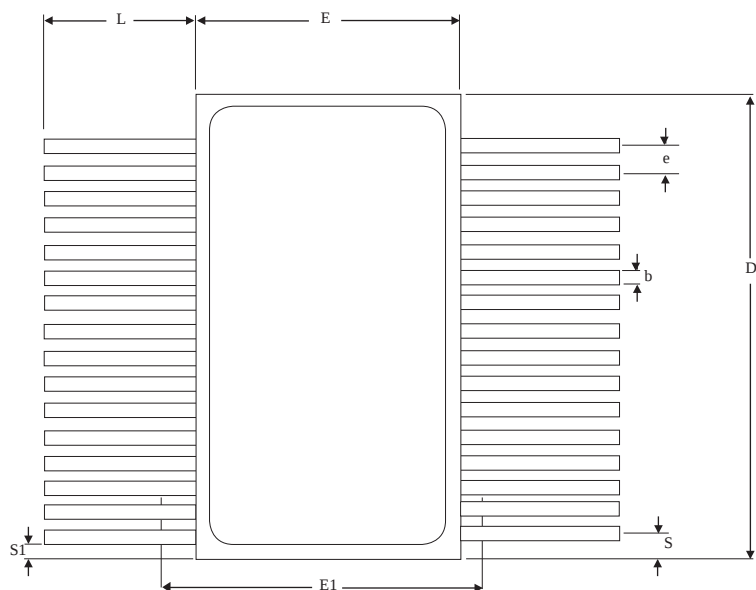


| SYMBOL | SMD SPECIFICATIONS |       |
|--------|--------------------|-------|
|        | MIN                | MAX   |
| A      | 0.060              | 0.080 |
| B1     | 0.022              | 0.028 |
| b1     | 0.004              | 0.014 |
| b2     | 0.040              | 0.050 |
| D      | 0.442              | 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 |

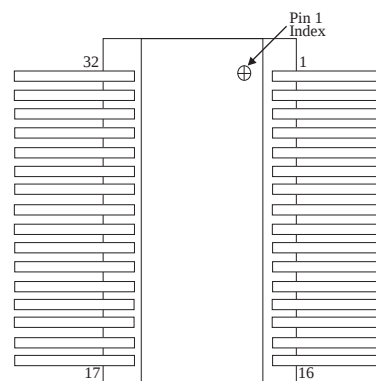
\*All measurements are in inches.

## MECHANICAL DEFINITIONS\*

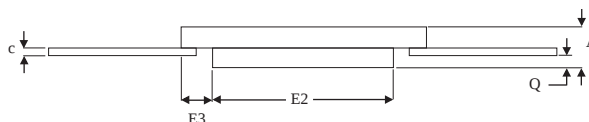
Microcross Case #303 (Package Designator F)  
SMD 5962-89598, Case Outline T



**Top View**



**Bottom View**

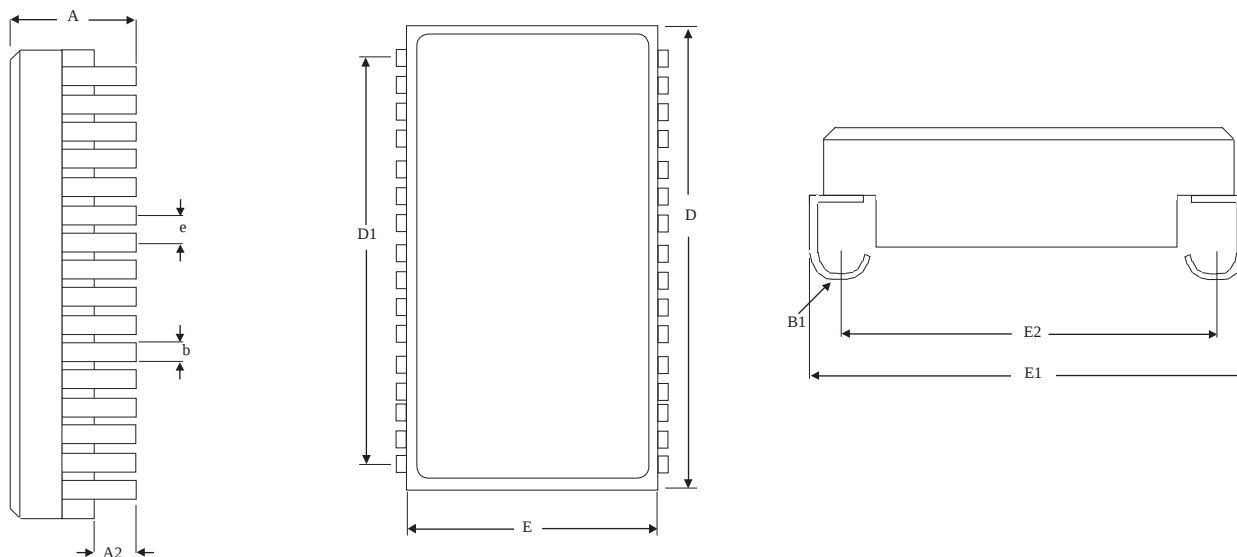


| SYMBOL | SMD SPECIFICATIONS |       |
|--------|--------------------|-------|
|        | MIN                | MAX   |
| A      | 0.097              | 0.125 |
| b      | 0.015              | 0.019 |
| c      | 0.003              | 0.009 |
| D      | --                 | 0.830 |
| E      | 0.400              | 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.

## MECHANICAL DEFINITIONS\*

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

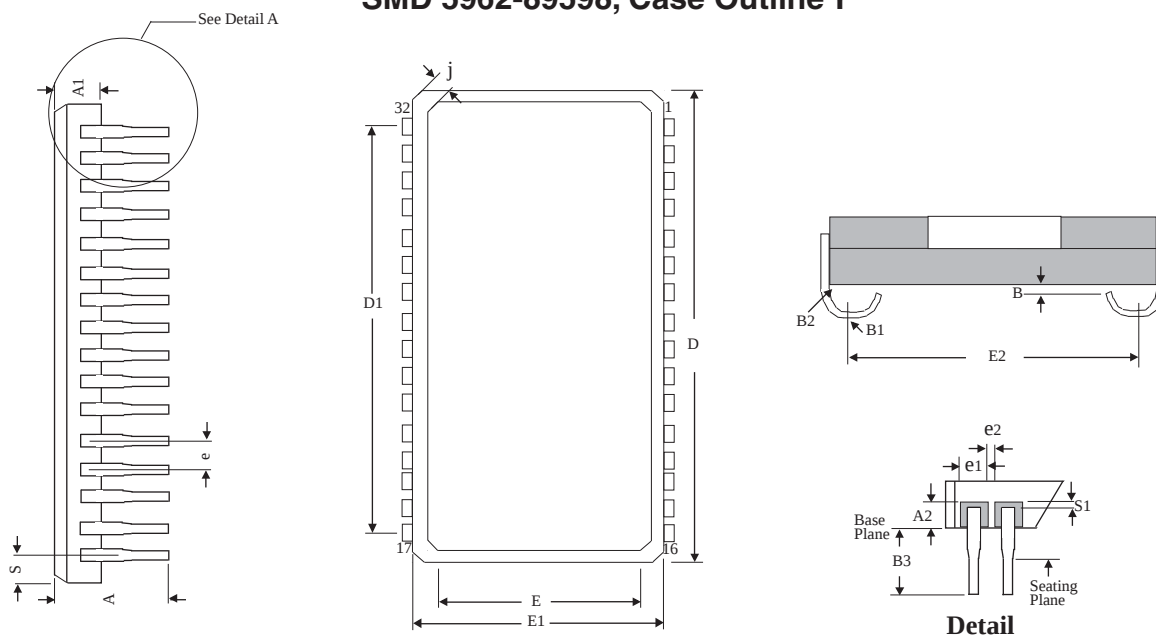


| SYMBOL | SMD SPECIFICATIONS |       |
|--------|--------------------|-------|
|        | MIN                | MAX   |
| A      | 0.135              | 0.144 |
| A2     | 0.025              | 0.035 |
| B1     | 0.030              | 0.040 |
| b      | 0.015              | 0.019 |
| D      | 0.812              | 0.828 |
| D1     | 0.740              | 0.755 |
| E      | 0.405              | 0.415 |
| E1     | 0.435              | 0.445 |
| E2     | 0.360              | 0.380 |
| e      | 0.050 BSC          |       |

*\*All measurements are in inches.*

## MECHANICAL DEFINITIONS\*

### Micross 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     | .030R TYP          |       |
| B2     | 0.020 REF          |       |
| B3     | 0.025              | 0.045 |
| D      | 0.816              | 0.838 |
| D1     | 0.75 REF           |       |
| E      | 0.419              | 0.431 |
| E1     | 0.430              | 0.445 |
| E2     | 0.360              | 0.380 |
| e      | 0.050 B3C          |       |
| 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.

## ORDERING INFORMATION

**EXAMPLE: MT5C1009C-25/XT**

| Device Number | Package Type | Speed ns | Options** | Process |
|---------------|--------------|----------|-----------|---------|
| MT5C1009      | C            | -12      | L         | /* +    |
| MT5C1009      | CW           | -12      | L         | /* +    |
| MT5C1009      | C            | -15      | L         | /*      |
| MT5C1009      | CW           | -15      | L         | /*      |
| MT5C1009      | C            | -20      | L         | /*      |
| MT5C1009      | CW           | -20      | L         | /*      |
| MT5C1009      | C            | -25      | L         | /*      |
| MT5C1009      | CW           | -25      | L         | /*      |
| MT5C1009      | C            | -35      | L         | /*      |
| MT5C1009      | CW           | -35      | L         | /*      |
| MT5C1009      | C            | -45      | L         | /*      |
| MT5C1009      | CW           | -45      | L         | /*      |
| MT5C1009      | C            | -55      | L         | /*      |
| MT5C1009      | CW           | -55      | L         | /*      |
| MT5C1009      | C            | -70      | L         | /*      |
| MT5C1009      | CW           | -70      | L         | /*      |

**EXAMPLE: MT5C1009EC-45L/IT**

| Device Number | Package Type | Speed ns | Options** | Process |
|---------------|--------------|----------|-----------|---------|
| MT5C1009      | EC           | -12      | L         | /* +    |
| MT5C1009      | ECA          | -12      | L         | /* +    |
| MT5C1009      | EC           | -15      | L         | /*      |
| MT5C1009      | ECA          | -15      | L         | /*      |
| MT5C1009      | EC           | -20      | L         | /*      |
| MT5C1009      | ECA          | -20      | L         | /*      |
| MT5C1009      | EC           | -25      | L         | /*      |
| MT5C1009      | ECA          | -25      | L         | /*      |
| MT5C1009      | EC           | -35      | L         | /*      |
| MT5C1009      | ECA          | -35      | L         | /*      |
| MT5C1009      | EC           | -45      | L         | /*      |
| MT5C1009      | ECA          | -45      | L         | /*      |
| MT5C1009      | EC           | -55      | L         | /*      |
| MT5C1009      | ECA          | -55      | L         | /*      |
| MT5C1009      | EC           | -70      | L         | /*      |
| MT5C1009      | ECA          | -70      | L         | /*      |

**EXAMPLE: MT5C1009F-70L/883C**

| Device Number | Package Type | Speed ns | Options** | Process |
|---------------|--------------|----------|-----------|---------|
| MT5C1009      | F            | -12      | L         | /* +    |
| MT5C1009      | F            | -15      | L         | /*      |
| MT5C1009      | F            | -20      | L         | /*      |
| MT5C1009      | F            | -25      | L         | /*      |
| MT5C1009      | F            | -35      | L         | /*      |
| MT5C1009      | F            | -45      | L         | /*      |
| MT5C1009      | F            | -55      | L         | /*      |
| MT5C1009      | F            | -70      | L         | /*      |

**EXAMPLE: MT5C1009DCJ-35/883C**

| Device Number | Package Type | Speed ns | Options** | Process |
|---------------|--------------|----------|-----------|---------|
| MT5C1009      | DCJ          | -12      | L         | /* +    |
| MT5C1009      | SOJ          | -12      | L         | /* +    |
| MT5C1009      | DCJ          | -15      | L         | /*      |
| MT5C1009      | SOJ          | -15      | L         | /*      |
| MT5C1009      | DCJ          | -20      | L         | /*      |
| MT5C1009      | SOJ          | -20      | L         | /*      |
| MT5C1009      | DCJ          | -25      | L         | /*      |
| MT5C1009      | SOJ          | -25      | L         | /*      |
| MT5C1009      | DCJ          | -35      | L         | /*      |
| MT5C1009      | SOJ          | -35      | L         | /*      |
| MT5C1009      | DCJ          | -45      | L         | /*      |
| MT5C1009      | SOJ          | -45      | L         | /*      |
| MT5C1009      | DCJ          | -55      | L         | /*      |
| MT5C1009      | SOJ          | -55      | L         | /*      |
| MT5C1009      | DCJ          | -70      | L         | /*      |
| MT5C1009      | 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 standby  
 + = -12 option available as IT temperature range only.

## MICROSS TO DSCC PART NUMBER CROSS REFERENCE

### Micross Package Designator C & CW

| <u>Micross Part #</u> | <u>SMD Part #</u> |
|-----------------------|-------------------|
| MT5C1009C-100883C     | 5962-8959823MZA   |
| MT5C1009C-100L883C    | 5962-8959806MZA   |
| MT5C1009C-120883C     | 5962-8959822MZA   |
| MT5C1009C-120L883C    | 5962-8959805MZA   |
| MT5C1009C-15883C      | 5962-8959844MZA   |
| MT5C1009C-20883C      | 5962-8959839MZA   |
| MT5C1009C-20L883C     | 5962-8959840MZA   |
| MT5C1009C-25883C      | 5962-8959829MZA   |
| MT5C1009C-25L883C     | 5962-8959812MZA   |
| MT5C1009C-35883C      | 5962-8959828MZA   |
| MT5C1009C-35L883C     | 5962-8959811MZA   |
| MT5C1009C-45883C      | 5962-8959827MZA   |
| MT5C1009C-45L883C     | 5962-8959810MZA   |
| MT5C1009C-55883C      | 5962-8959826MZA   |
| MT5C1009C-55L883C     | 5962-8959809MZA   |
| MT5C1009C-70883C      | 5962-8959825MZA   |
| MT5C1009C-70L883C     | 5962-8959808MZA   |
| MT5C1009C-85883C      | 5962-8959824MZA   |
| MT5C1009C-85L883C     | 5962-8959807MZA   |
|                       |                   |
| MT5C1009CW-100883C    | 5962-8959823MXA   |
| MT5C1009CW-100L883C   | 5962-8959806MXA   |
| MT5C1009CW-120883C    | 5962-8959822MXA   |
| MT5C1009CW-120L883C   | 5962-8959805MXA   |
| MT5C1009CW-15883C     | 5962-8959844MXA   |
| MT5C1009CW-20883C     | 5962-8959839MXA   |
| MT5C1009CW-20L883C    | 5962-8959840MXA   |
| MT5C1009CW-25883C     | 5962-8959829MXA   |
| MT5C1009CW-25L883C    | 5962-8959812MXA   |
| MT5C1009CW-35883C     | 5962-8959828MXA   |
| MT5C1009CW-35L883C    | 5962-8959811MXA   |
| MT5C1009CW-45883C     | 5962-8959827MXA   |
| MT5C1009CW-45L883C    | 5962-8959810MXA   |
| MT5C1009CW-55883C     | 5962-8959826MXA   |
| MT5C1009CW-55L883C    | 5962-8959809MXA   |
| MT5C1009CW-70883C     | 5962-8959825MXA   |
| MT5C1009CW-70L883C    | 5962-8959808MXA   |
| MT5C1009CW-85883C     | 5962-8959824MXA   |
| MT5C1009CW-85L883C    | 5962-8959807MXA   |

### Micross Package Designator EC & ECA

| <u>Micross Part #</u> | <u>SMD Part #</u> |
|-----------------------|-------------------|
| MT5C1009EC-100883C    | 5962-8959823MUA   |
| MT5C1009EC-100L883C   | 5962-8959806MUA   |
| MT5C1009EC-120883C    | 5962-8959822MUA   |
| MT5C1009EC-120L883C   | 5962-8959805MUA   |
| MT5C1009EC-15883C     | 5962-8959844MUA   |
| MT5C1009EC-20883C     | 5962-8959839MUA   |
| MT5C1009EC-20L883C    | 5962-8959840MUA   |
| MT5C1009EC-25883C     | 5962-8959829MUA   |
| MT5C1009EC-25L883C    | 5962-8959812MUA   |
| MT5C1009EC-35883C     | 5962-8959828MUA   |
| MT5C1009EC-35L883C    | 5962-8959811MUA   |
| MT5C1009EC-45883C     | 5962-8959827MUA   |
| MT5C1009EC-45L883C    | 5962-8959810MUA   |
| MT5C1009EC-55883C     | 5962-8959826MUA   |
| MT5C1009EC-55L883C    | 5962-8959809MUA   |
| MT5C1009EC-70883C     | 5962-8959825MUA   |
| MT5C1009EC-70L883C    | 5962-8959808MUA   |
| MT5C1009EC-85883C     | 5962-8959824MUA   |
| MT5C1009EC-85L883C    | 5962-8959807MUA   |
|                       |                   |
| MT5C1009ECA-100L883C  | 5962-8959806MMA   |
| MT5C1009ECA-100L883C  | 5962-8959823MMA   |
| MT5C1009ECA-120L883C  | 5962-8959805MMA   |
| MT5C1009ECA-120L883C  | 5962-8959822MMA   |
| MT5C1009ECA-15883C    | 5962-8959844MMA   |
| MT5C1009ECA-20883C    | 5962-8959839MMA   |
| MT5C1009ECA-20L883C   | 5962-8959840MMA   |
| MT5C1009ECA-25L883C   | 5962-8959812MMA   |
| MT5C1009ECA-25L883C   | 5962-8959829MMA   |
| MT5C1009ECA-35L883C   | 5962-8959811MMA   |
| MT5C1009ECA-35L883C   | 5962-8959828MMA   |
| MT5C1009ECA-45L883C   | 5962-8959810MMA   |
| MT5C1009ECA-45L883C   | 5962-8959827MMA   |
| MT5C1009ECA-55L883    | 5962-8959809MMA   |
| MT5C1009ECA-55L883C   | 5962-8959826MMA   |
| MT5C1009ECA-70L883C   | 5962-8959808MMA   |
| MT5C1009ECA-70L883C   | 5962-8959825MMA   |
| MT5C1009ECA-85L883    | 5962-8959824MMA   |
| MT5C1009ECA-85L883C   | 5962-8959807MMA   |

CONTINUED

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

## MICROSS TO DSCC PART NUMBER CROSS REFERENCE (Continued)

### Micross Package Designator DCJ & SOJ

| <u>Micross Part #</u> | <u>SMD Part #</u> |
|-----------------------|-------------------|
| MT5C1009DCJ-100883C   | 5962-8959823M7A   |
| MT5C1009DCJ-100L883C  | 5962-8959806M7A   |
| MT5C1009DCJ-120883C   | 5962-8959822M7A   |
| MT5C1009DCJ-120L883C  | 5962-8959805M7A   |
| MT5C1009DCJ-15883C    | 5962-8959844M7A   |
| MT5C1009DCJ-20883C    | 5962-8959839M7A   |
| MT5C1009DCJ-20L883C   | 5962-8959840M7A   |
| MT5C1009DCJ-25883C    | 5962-8959829M7A   |
| MT5C1009DCJ-25L883C   | 5962-8959812M7A   |
| MT5C1009DCJ-35883C    | 5962-8959828M7A   |
| MT5C1009DCJ-35L883C   | 5962-8959811M7A   |
| MT5C1009DCJ-45883C    | 5962-8959827M7A   |
| MT5C1009DCJ-45L883C   | 5962-8959810M7A   |
| MT5C1009DCJ-55883C    | 5962-8959826M7A   |
| MT5C1009DCJ-55L       | 5962-8959809M7A   |
| MT5C1009DCJ-70883C    | 5962-8959825M7A   |
| MT5C1009DCJ-70L883C   | 5962-8959808M7A   |
| MT5C1009DCJ-85883C    | 5962-8959824M7A   |
| MT5C1009DCJ-85L883C   | 5962-8959807M7A   |
|                       |                   |
| MT5C1009SOJ-100883C   | 5962-8959823MYA   |
| MT5C1009SOJ-100L883C  | 5962-8959806MYA   |
| MT5C1009SOJ-120883    | 5962-8959822MYA   |
| MT5C1009SOJ-120L883C  | 5962-8959805MYA   |
| MT5C1009SOJ-15883C    | 5962-8959844MYA   |
| MT5C1009SOJ-20883C    | 5962-8959839MYA   |
| MT5C1009SOJ-20L883C   | 5962-8959840MYA   |
| MT5C1009SOJ-25883C    | 5962-8959829MYA   |
| MT5C1009SOJ-25L883C   | 5962-8959812MYA   |
| MT5C1009SOJ-35883C    | 5962-8959828MYA   |
| MT5C1009SOJ-35L883C   | 5962-8959811MYA   |
| MT5C1009SOJ-45883C    | 5962-8959827MYA   |
| MT5C1009SOJ-45L883    | 5962-8959810MYA   |
| MT5C1009SOJ-55883C    | 5962-8959826MYA   |
| MT5C1009SOJ-55L883    | 5962-8959809MYA   |
| MT5C1009SOJ-70883C    | 5962-8959825MYA   |
| MT5C1009SOJ-70L883C   | 5962-8959808MYA   |
| MT5C1009SOJ-85883C    | 5962-8959824MYA   |
| MT5C1009SOJ-85L883C   | 5962-8959807MYA   |

### Micross Package Designator F

| <u>Micross Part #</u> | <u>SMD Part #</u> |
|-----------------------|-------------------|
| MT5C1009F-100883C     | 5962-8959823MTA   |
| MT5C1009F-100L883C    | 5962-8959806MTA   |
| MT5C1009F-120883C     | 5962-8959822MTA   |
| MT5C1009F-120L883C    | 5962-8959805MTA   |
| MT5C1009F-15883C      | 5962-8959844MTA   |
| MT5C1009F-20883C      | 5962-8959839MTA   |
| MT5C1009F-20L883C     | 5962-8959840MTA   |
| MT5C1009F-25883C      | 5962-8959829MTA   |
| MT5C1009F-25L883C     | 5962-8959812MTA   |
| MT5C1009F-35883C      | 5962-8959828MTA   |
| MT5C1009F-35L883C     | 5962-8959811MTA   |
| MT5C1009F-45883C      | 5962-8959827MTA   |
| MT5C1009F-45L883C     | 5962-8959810MTA   |
| MT5C1009F-55883C      | 5962-8959826MTA   |
| MT5C1009F-55L883C     | 5962-8959809MTA   |
| MT5C1009F-70883C      | 5962-8959825MTA   |
| MT5C1009F-70L883C     | 5962-8959808MTA   |
| MT5C1009F-85883C      | 5962-8959824MTA   |
| MT5C1009F-85L883C     | 5962-8959807MTA   |

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