

## 512K x 8 SRAM

HIGH SPEED SRAM with  
 REVOLUTIONARY PINOUT

### AVAILABLE AS MILITARY SPECIFICATIONS

- SMD 5962-95600
- SMD 5962-95613
- MIL-STD-883

### FEATURES

- Ultra High Speed Asynchronous Operation
- Fully Static, No Clocks
- Multiple center power and ground pins for improved noise immunity
- Easy memory expansion with CE\ and OE\ options
- All inputs and outputs are TTL-compatible
- Single +5V Power Supply +/- 10%
- Data Retention Functionality Testing
- Cost Efficient Plastic Packaging
- Extended Testing Over -55°C to +125°C for plastics
- Plastic 36 pin PSOJ is fully compatible with the Ceramic 36 pin SOJ and offered in lead free finish
- TSOPII in Copper Lead Frame for Superior Thermal Performance<sup>2</sup>
- RoHS Compliant Options Available

### OPTIONS

- Timing
  - 12ns access
  - 15ns access
  - 17ns access
  - 20ns access
  - 25ns access
  - 35ns access
  - 45ns access

### MARKING

- Operating Temperature Ranges
 

Full Military (-55°C to +125°C)	/883C
Military (-55°C to +125°C)	XT
Industrial (-40°C to +85°C)	IT
- Package(s)
 

Ceramic LCC	EC
Ceramic Flatpack	F
Plastic SOJ (Lead Free) <sup>1</sup>	DJ
Ceramic SOJ (attached formed lead)	ECJ
Ceramic SOJ	SOJ
Plastic TSOPII (44pin, 400mil)	DGC <sup>2</sup>
Plastic TSOPII (RoHS Compliant)	DGCR <sup>2</sup>

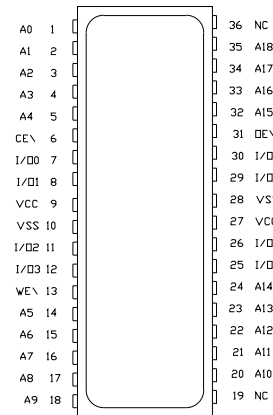
- 2V data retention/low power<sup>3</sup> L

Notes:

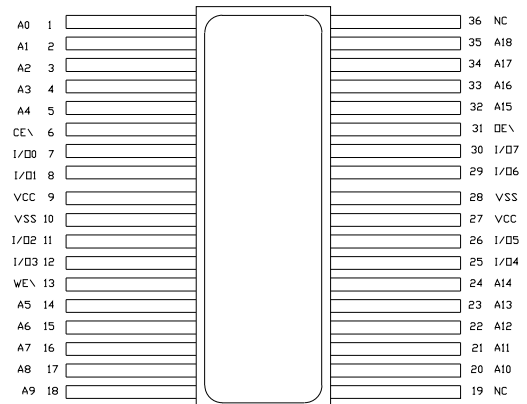
1. Pb finish also available, contact factory
2. Contact factory for Copper Lead Frame Products
3. Not available for parts in DGC & DGCR packages.

### PIN ASSIGNMENT (Top View)

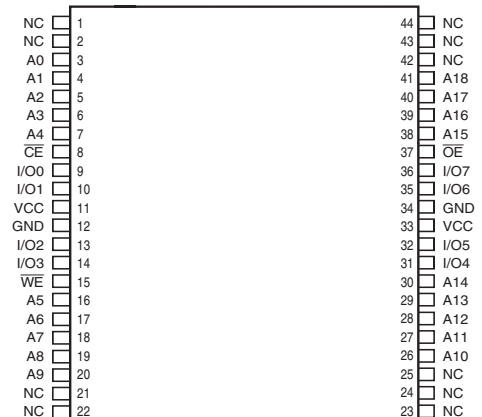
36-Pin SOJ (DJ, ECJ & SOJ)  
 36-Pin CLCC (EC)



### 36-Pin Flat Pack (F)



### 44-Pin TSOPII (DGC & DGCR)



### GENERAL DESCRIPTION

The AS5C512K8 is a high speed SRAM. It offers flexibility in high-speed memory applications, with chip enable (CE $\setminus$ ) and output enable (OE $\setminus$ ) capabilities. These features can place the outputs in High-Z for additional flexibility in system design.

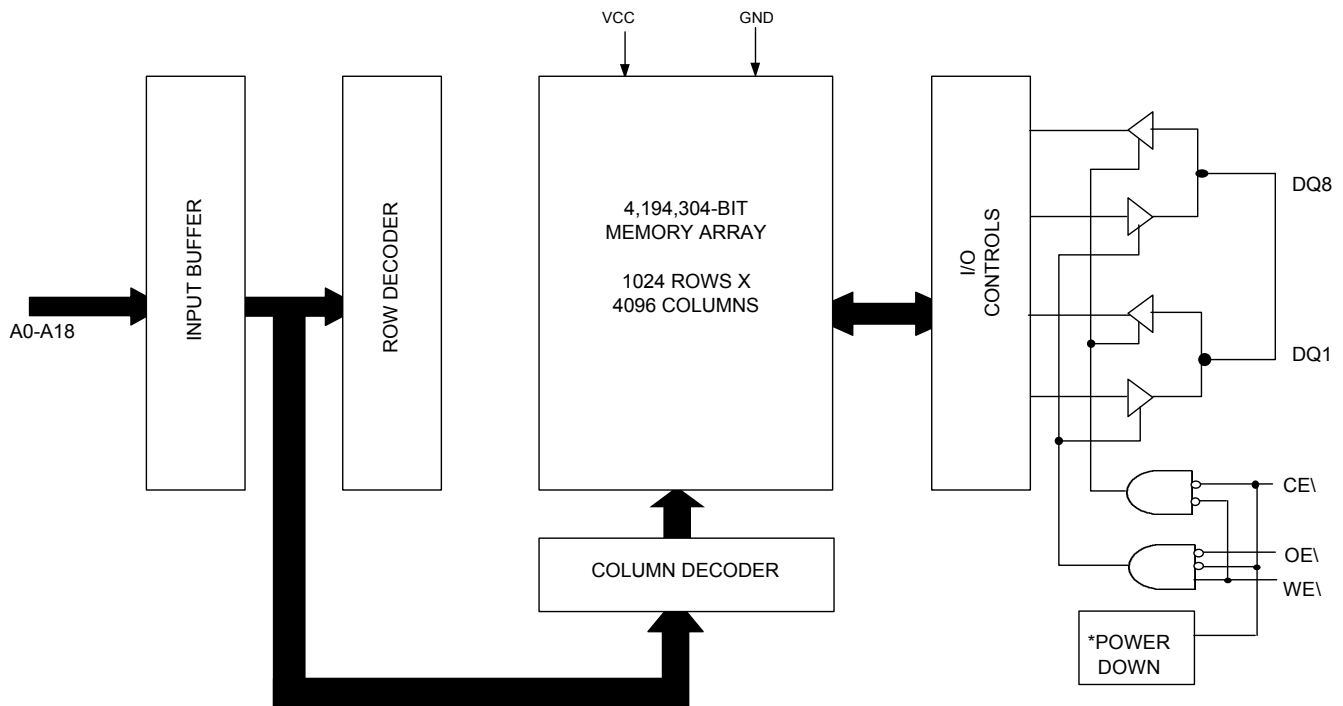
Writing to these devices is accomplished when write enable (WE $\setminus$ ) and CE $\setminus$  inputs are both LOW. Reading is accomplished when WE $\setminus$  remains HIGH and CE $\setminus$  and OE $\setminus$  go LOW.

As a option, the device can be supplied offering a reduced power

standby mode, allowing system designers to meet low standby power requirements. This device operates from a single +5V power supply and all inputs and outputs are fully TTL-compatible.

The AS5C512K8DJ offers the convenience and reliability of the AS5C512K8 SRAM and has the cost advantage of a durable plastic. The AS5C512K8DJ is footprint compatible with 36 pin CSOJ package of the SMD 5692-95600. TSOPII with copper lead frame offers superior thermal performance.

### FUNCTIONAL BLOCK DIAGRAM



*\*On the low voltage Data Retention option.*

### TRUTH TABLE

MODE	OE $\setminus$	CE $\setminus$	WE $\setminus$	I/O	POWER
STANDBY	X	H	X	HIGH-Z	STANDBY
READ	L	L	H	Q	ACTIVE
NOT SELECTED	H	L	H	HIGH-Z	ACTIVE
WRITE	X	L	L	D	ACTIVE

X = Don't Care

### PIN FUNCTIONS

A0 - A18	Address Inputs
WE $\setminus$	Write Enable
CE $\setminus$	Chip Enable
OE $\setminus$	Output Enable
I/O $_0$ - I/O $_7$	Data Inputs/Outputs
V $_{cc}$	Power
V $_{ss}$	Ground
NC	No Connection

### ABSOLUTE MAXIMUM RATINGS\*

Voltage on Vcc Supply Relative to Vss

Vcc .....	-5V to +7.0V
Storage Temperature (Plastic).....	-65°C to +150°C
Storage Temperature (Ceramic).....	-55°C to +125°C
Short Circuit Output Current (per I/O).....	20mA
Voltage on any Pin Relative to Vss.....	-5V to Vcc+1V
Maximum Junction Temperature** .....	+150°C
Power Dissipation .....	1W

\*Stresses 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 may affect reliability.

\*\* 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>A</sub> ≤ +125°C & -40°C ≤ T<sub>A</sub> ≤ +85°C ; Vcc = 5V ±10%)

DESCRIPTION	CONDITIONS	SYM	MAX							UNITS	NOTES
			-12	-15	-17	-20	-25	-35	-45		
Power Supply Current: Operating	WE\=CE\<V <sub>IL</sub> ; Vcc = MAX f = MAX = 1/t <sub>RC</sub> Outputs Open	I <sub>CCSP</sub>	100	100	100	90	90	80	70	mA	3
		"L" Version Only I <sub>CCLP</sub>	75	75	75	65	65	60	50	mA	
Power Supply Current: Standby	CE\ ≥ V <sub>IH</sub> , All other inputs ≤ V <sub>IL</sub> , Vcc = MAX, f = 0, Outputs Open	I <sub>SBTSP</sub>	20	20	20	20	20	20	20	mA	
		"L" Version Only I <sub>SBTLP</sub>	10	10	10	10	10	10	10	mA	
	CE\ ≥ Vcc -0.2V; Vcc = MAX V <sub>IN</sub> ≤ Vss +0.2V or V <sub>IN</sub> ≥ Vcc -0.2V; f = 0	I <sub>SBCSP</sub>	15	15	15	15	15	15	15	mA	
"L" Version Only I <sub>SBCLP</sub>		5	5	5	5	5	5	5	mA		

DESCRIPTION	CONDITIONS	SYM	MIN	MAX	UNITS	NOTES
Input High (Logic 1) Voltage		V <sub>IH</sub>	2.2	Vcc +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> ≤ Vcc	I <sub>LI</sub>	-2	2	μA	
Output Leakage Current	Output(s) Disabled 0V ≤ V <sub>OUT</sub> ≤ Vcc	I <sub>LO</sub>	-2	2	μA	
Output High Voltage	I <sub>OH</sub> = -4.0 mA	V <sub>OH</sub>	2.4	---	V	1
Output Low Voltage	I <sub>OL</sub> = 8 mA	V <sub>OL</sub>	---	0.4	V	1
Supply Voltage		V <sub>CC</sub>	4.5	5.5	V	1

### CAPACITANCE

PARAMETER	CONDITIONS	SYMBOL	MAX	UNITS	NOTES
Input Capacitance	T <sub>A</sub> = 25°C, f = 1MHz V <sub>IN</sub> = 0	C <sub>i</sub>	8	pF	4
Output Capacitance		C <sub>o</sub>	10	pF	4

**ELECTRICAL CHARACTERISTICS AND RECOMMENDED AC OPERATING CONDITIONS**

 (-55°C ≤ T<sub>A</sub> ≤ +125°C or -40°C to +85°C; V<sub>CC</sub> = 5V ±10%)

DESCRIPTION	SYM	-12		-15		-17		-20		-25		-35		-45		UNITS	NOTES
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX		
<b>READ CYCLE</b>																	
Read Cycle Time	t <sub>RC</sub>	12		15		17		20		25		35		45		ns	
Address Access Time	t <sub>AA</sub>		12		15		17		20		25		35		45	ns	
Chip Enable Access Time	t <sub>ACE</sub>		12		15		17		20		25		35		45	ns	
Output Hold From Address Change	t <sub>OH</sub>	2		2		2		2		2		2		2		ns	
Chip Enable to Output in Low-Z	t <sub>LZCE</sub>	2		2		2		2		2		2		2		ns	4, 6, 7
Chip Disable to Output in High-Z	t <sub>HZCE</sub>	0	6.5	0	7	0	8	0	8	0	10	0	15	0	20	ns	4, 6, 7
Output Enable Access Time	t <sub>AOE</sub>		7		8		8		10		12		15		25	ns	
Output Enable to Output in Low-Z	t <sub>LZOE</sub>	0		0		0		0		0		0		0		ns	4, 6, 7
Output Disable to Output in High-Z	t <sub>HZOE</sub>	0	6.5	0	7	0	8	0	8	0	10	0	15	0	20	ns	4, 6, 7
<b>WRITE CYCLE</b>																	
WRITE Cycle Time	t <sub>WC</sub>	12		15		17		20		25		35		45		ns	
Chip Enable to End of Write	t <sub>CW</sub>	12		15		16		17		20		30		35		ns	
Address Valid to End of Write	t <sub>AW</sub>	12		15		16		17		20		30		35		ns	
Address Setup Time	t <sub>AS</sub>	0		0		0		0		0		0		0		ns	
Address Hold From End of Write	t <sub>AH</sub>	0		0		0		0		0		0		0		ns	
WRITE Pulse Width	t <sub>WP</sub>	12		15		16		17		20		30		35		ns	
Data Setup Time	t <sub>DS</sub>	6.5		7		9		10		12		20		25		ns	
Data Hold Time	t <sub>DH</sub>	0		0		0		0		0		0		0		ns	
Write Disable to Output in Low-Z	t <sub>LZWE</sub>	0		0		0		0		0		0		0		ns	4, 6, 7
Write Enable to Output in High-Z	t <sub>HZWE</sub>	0	6.5	0	7	0	8	0	8	0	10	0	15	0	20	ns	4, 6, 7

## AC TEST CONDITIONS

Input pulse levels .....	$V_{SS}$ to 3.0V
Input rise and fall times .....	3ns
Input timing reference levels .....	1.5V
Output reference levels .....	1.5V
Output load .....	See Figures 1

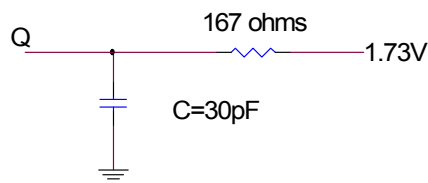


Fig. 1 Output Load Equivalent

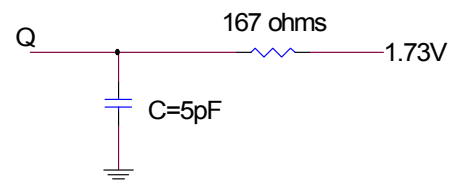


Fig. 2 Output Load Equivalent

and 2

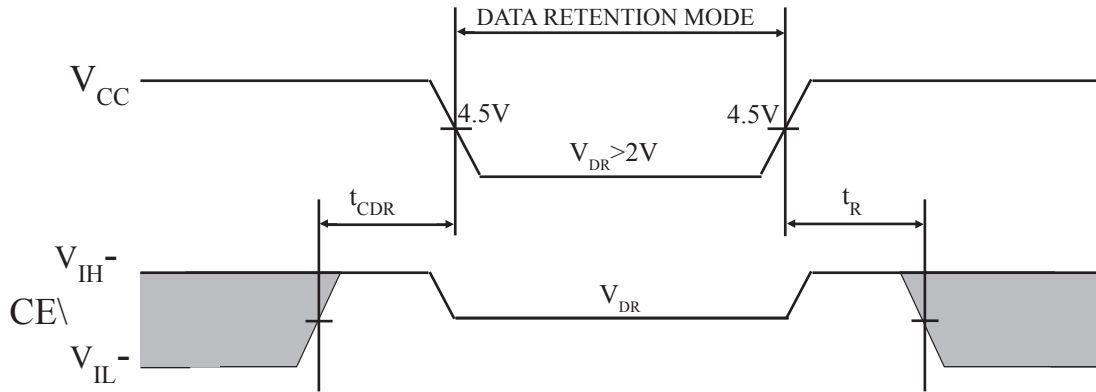
## NOTES

- All voltages referenced to  $V_{SS}$  (GND).
- 2V for pulse width < 20ns
- $I_{CC}$  is dependent on output loading and cycle rates.
- 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  $C_L = 5pF$  as in Fig. 2. Transition is measured  $\pm 200mV$  from steady state voltage.
- At any given temperature and voltage condition, 'HZCE is less than 'LZCE, and 'HZWE is less than 'LZWE.
- 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.
- Chip enable and write enable can initiate and terminate a WRITE cycle.
- Output enable (OE\ ) is inactive (HIGH).
- Output enable (OE\ ) is active (LOW).
- ASI does not warrant functionality nor reliability of any product in which the junction temperature exceeds 150°C. Care should be taken to limit power to acceptable levels.

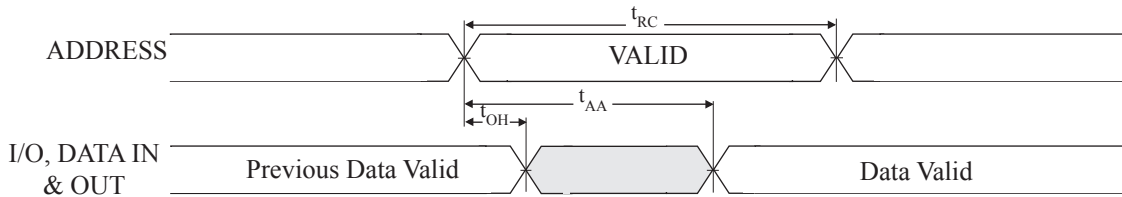
## DATA RETENTION ELECTRICAL CHARACTERISTICS (L Version Only)

DESCRIPTION	CONDITIONS	SYM	MIN	MAX	UNITS	NOTES
V <sub>CC</sub> for Retention Data	CE\ > $V_{CC} - 0.2V$ $V_{IN} > V_{CC} - 0.2$ or $0.2V$	$V_{DR}$	2		V	
Data Retention Current	$V_{CC} = 2.0V$	$I_{CCDR}$		2	mA	
Chip Deselect to Data		$t_{CDR}$	0		ns	4
Operation Recovery Time		$t_R$	10		ms	4, 11

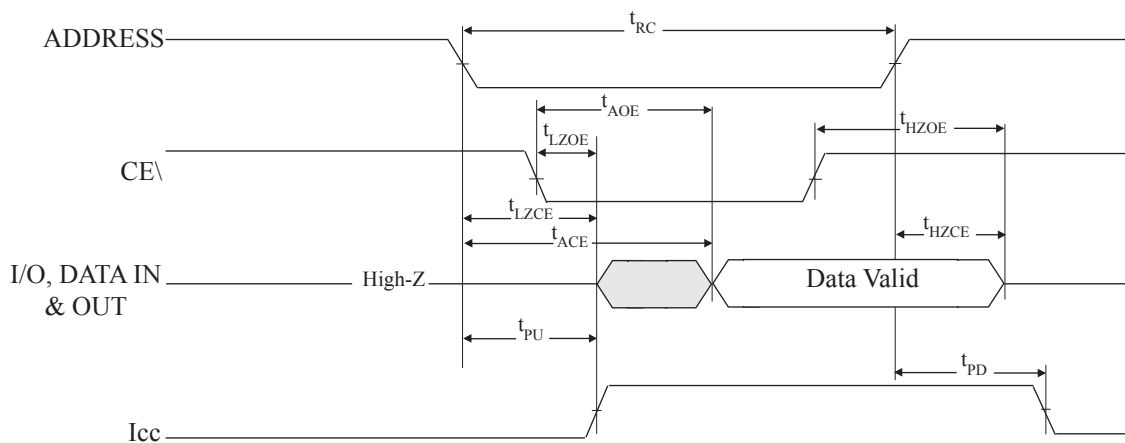
**LOW  $V_{CC}$  DATA RETENTION WAVEFORM**





**READ CYCLE NO. 1<sup>8,9</sup>**  
(Address Controlled,  $CE\backslash = OE\backslash = V_{IL}$ ,  $WE\backslash = V_{IH}$ )

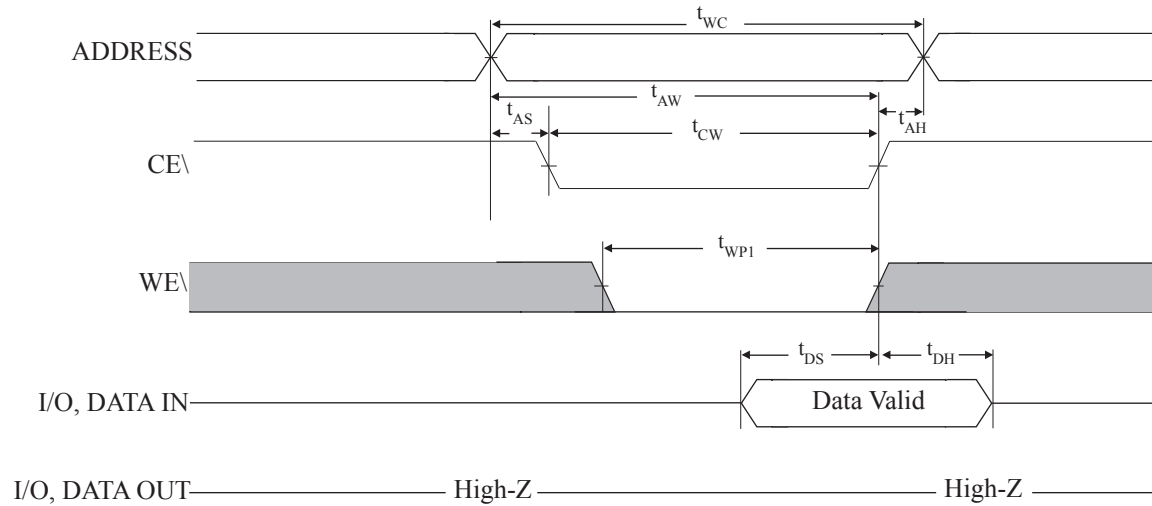


**READ CYCLE NO. 2<sup>2</sup>**  
( $WE\backslash = V_{IH}$ )

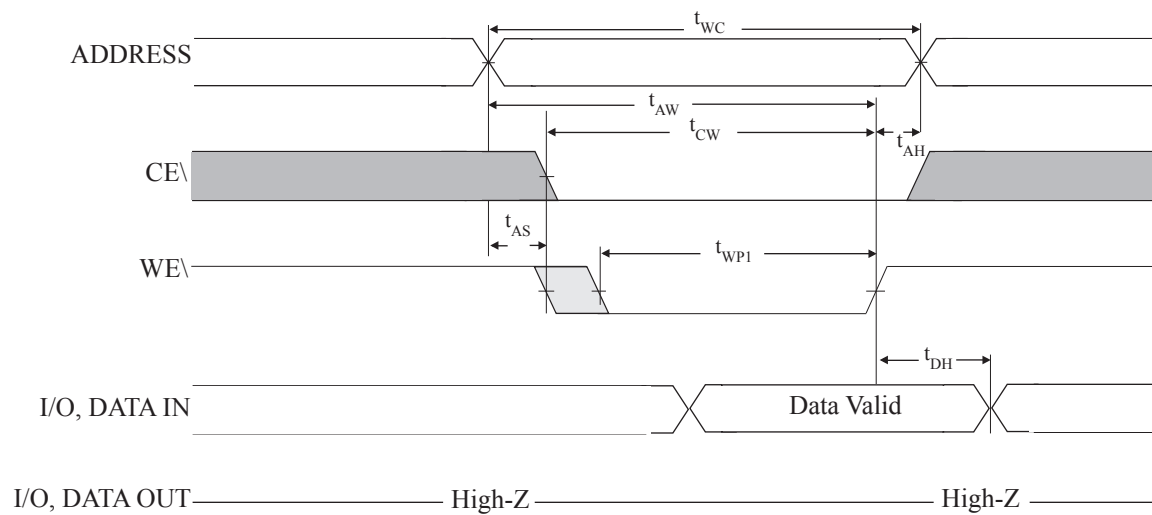


 Don't Care  
 Undefined

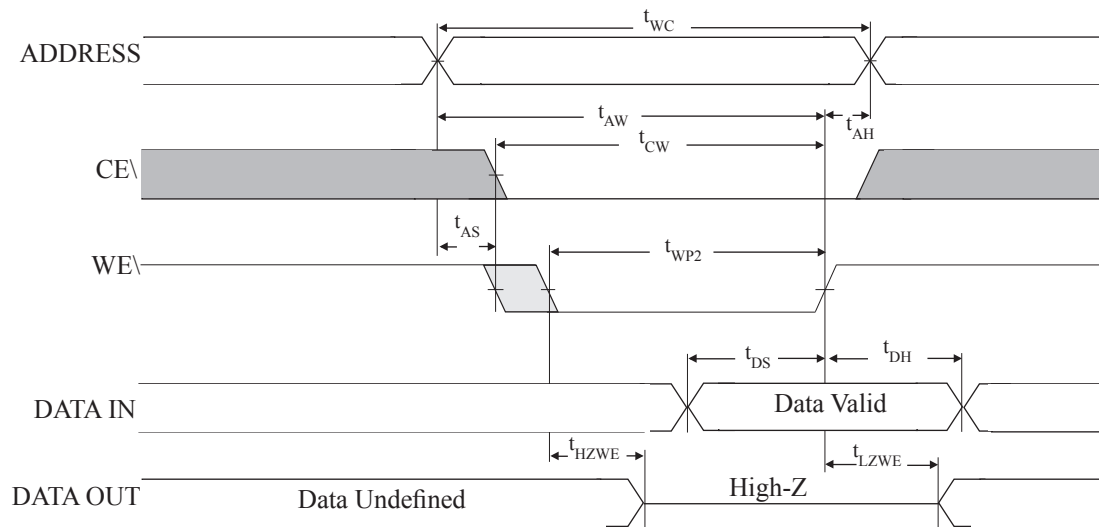
**WRITE CYCLE NO. 1<sup>12</sup>**  
(CE Controlled)



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



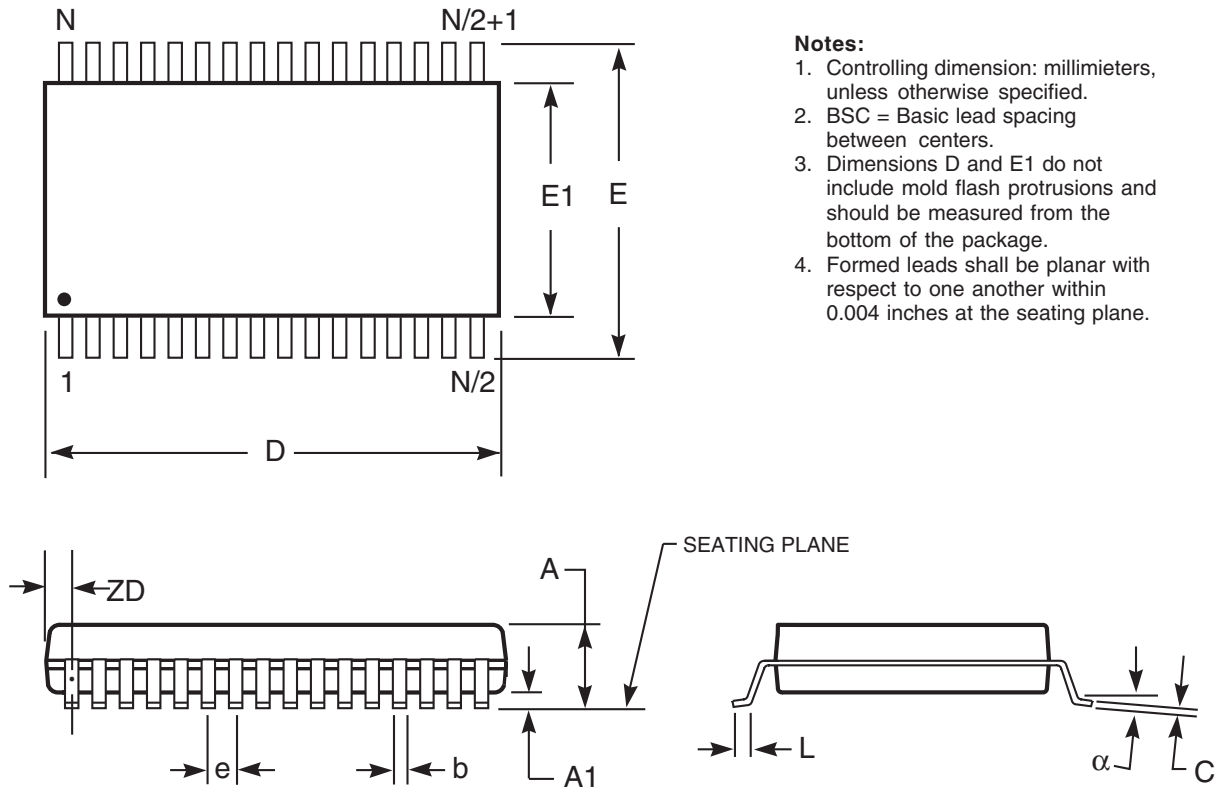
**WRITE CYCLE NO. 3<sup>7,12, 14</sup>**  
**(WE Controlled)**





## MECHANICAL DEFINITIONS

### 44-Pin TSOPII (Package Designators DGC & DGCR)

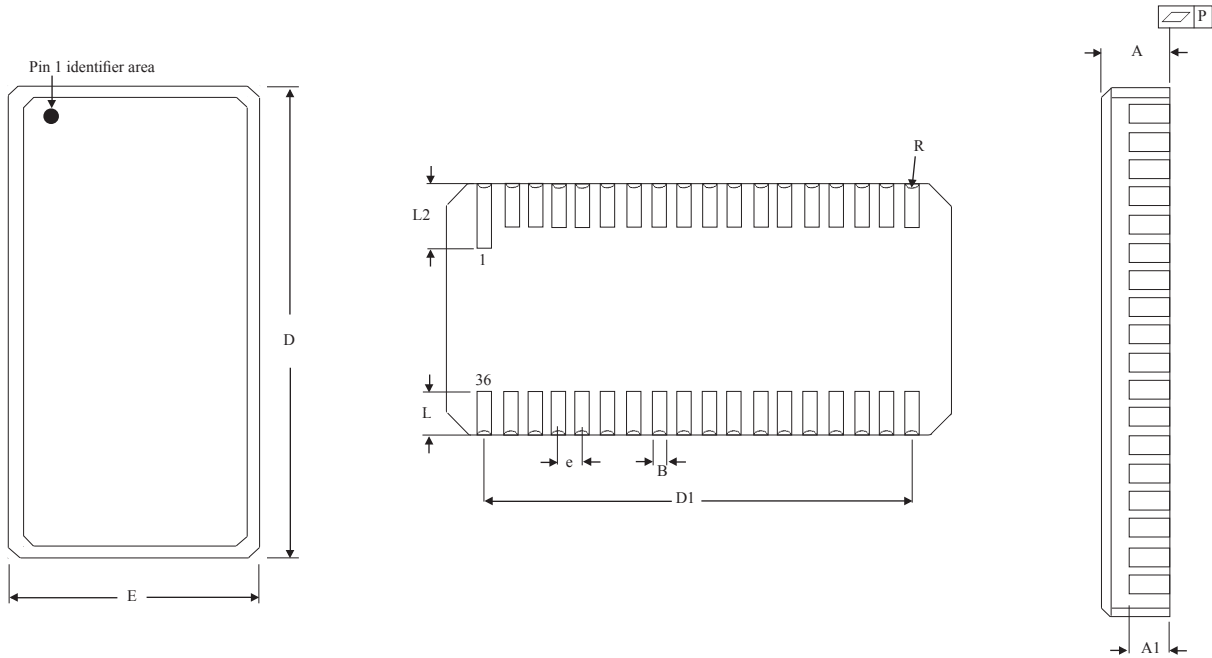


N=44 Leads

Symbol	Millimeters		Inches		
	Ref. Std.	Min	Max	Min	Max
A	-		1.20	-	0.047
A1		0.05	0.15	0.002	0.006
b		0.30	0.45	0.012	0.018
C		0.12	0.21	0.005	0.008
D		18.31	18.52	0.721	0.729
E1		10.03	10.29	0.395	0.405
E		11.56	11.96	0.455	0.471
e		0.80 BSC		0.032 BSC	
L		0.41	0.60	0.016	0.024
ZD		0.81 REF		0.032 REF	
$\alpha$		0°	5°	0°	5°

## MECHANICAL DEFINITIONS\*

### Micross Case #210 (Package Designator EC) SMD 5962-95600, Case Outline N

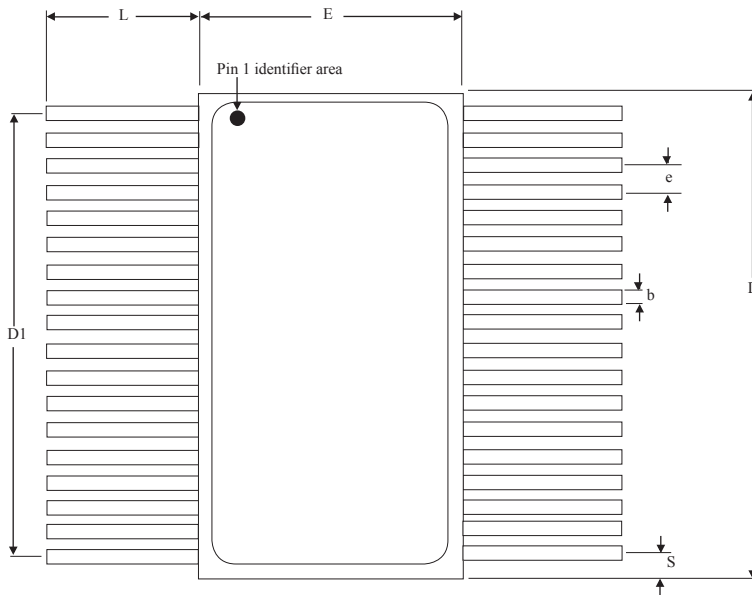


SYMBOL	SMD SPECIFICATIONS	
	MIN	MAX
A	0.080	0.100
A1	0.054	0.066
B	0.022	0.028
D	0.910	0.930
D1	0.840	0.860
E	0.445	0.460
e	0.050 BSC	
L	0.100 TYP	
L2	0.115	0.135
P	---	0.006
R	0.009 TYP	

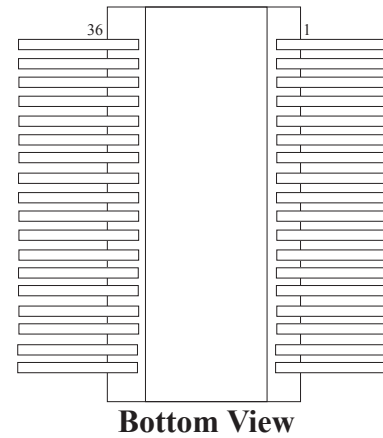
\*All measurements are in inches.

## MECHANICAL DEFINITIONS\*

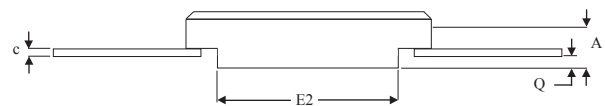
Micross Case #307 (Package Designator F)  
 SMD 5962-95600, Case Outline T



**Top View**



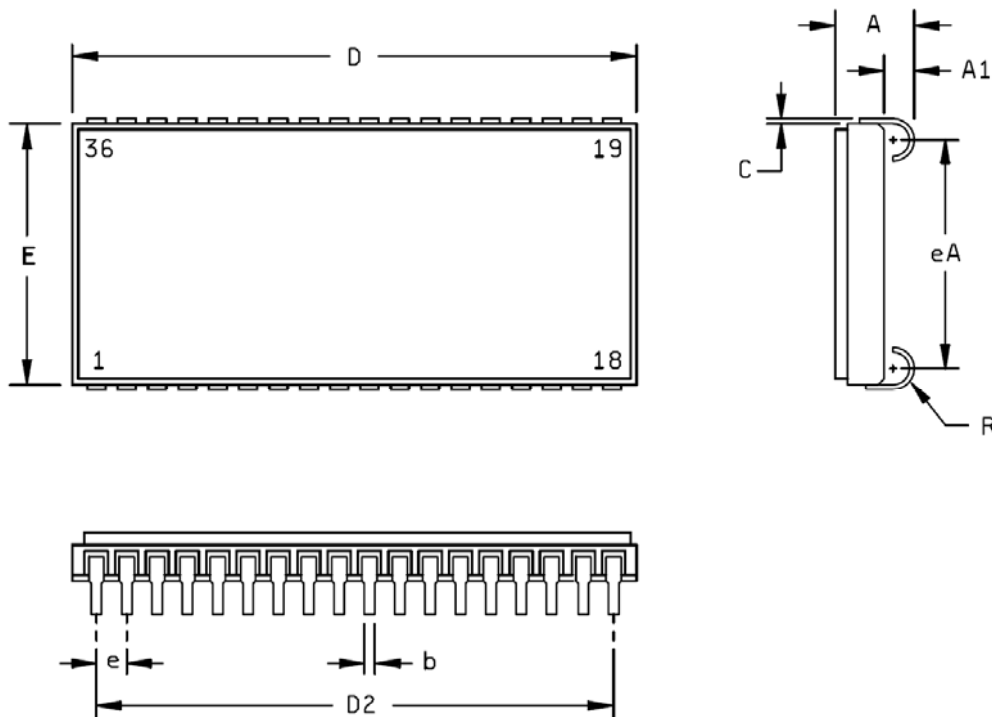
**Bottom View**



SYMBOL	SMD SPECIFICATIONS	
	MIN	MAX
A	0.096	0.125
b	0.015	0.022
c	0.003	0.009
D	0.910	0.930
D1	0.840	0.860
E	0.505	0.515
E2	0.385	0.397
e	0.050 BSC	
L	0.250	0.370
Q	0.020	0.045

\*All measurements are in inches.

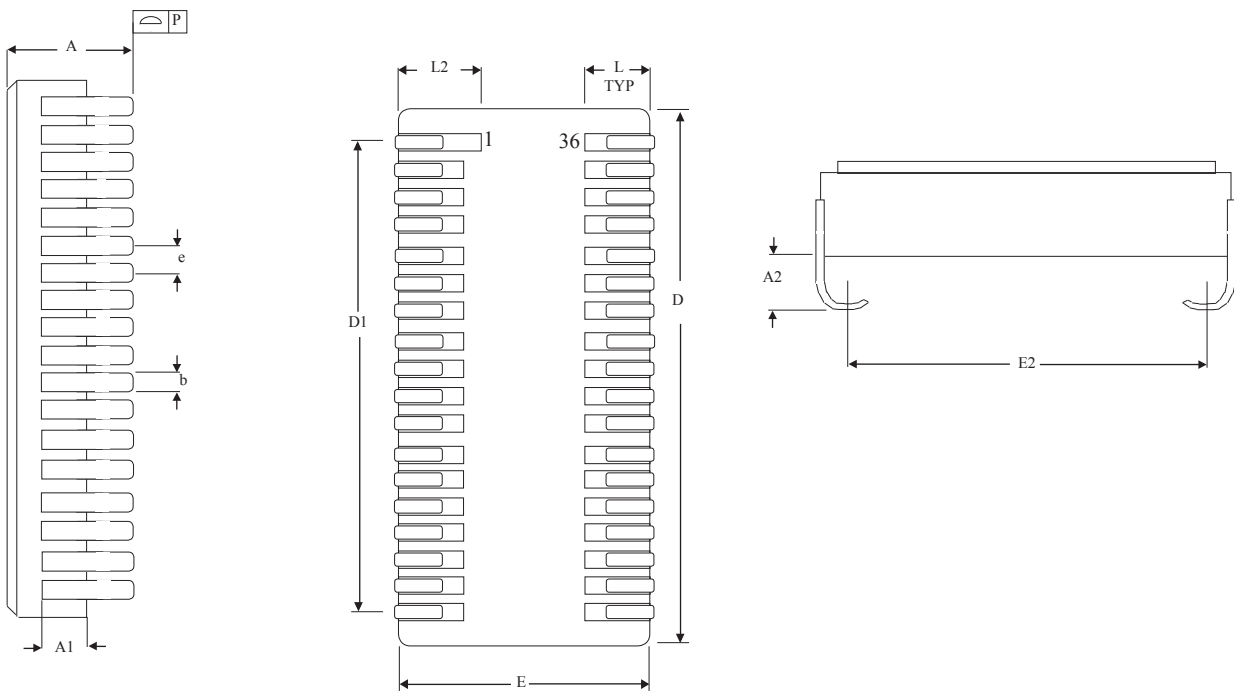
**MECHANICAL DEFINITIONS\***  
Micross Case Package Designator: SOJ  
SMD 5962-95600, Case Outline M



Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	2.92	3.68	.115	.145
A1	.63	1.14	.025	.045
b	0.38	0.51	.015	.020
C	0.15	0.30	.006	.012
D	23.39	23.85	.921	.939
D2	21.46	21.71	.845	.855
E	10.54	10.92	.415	.430
e	1.27 BSC		.050 BSC	
eA	9.42	9.83	.371	.387
R	.76 TYP		.030 TYP	

## MECHANICAL DEFINITIONS\*

Micross Case #503 (Package Designator ECJ)  
 SMD 5962-95600, Case Outline M

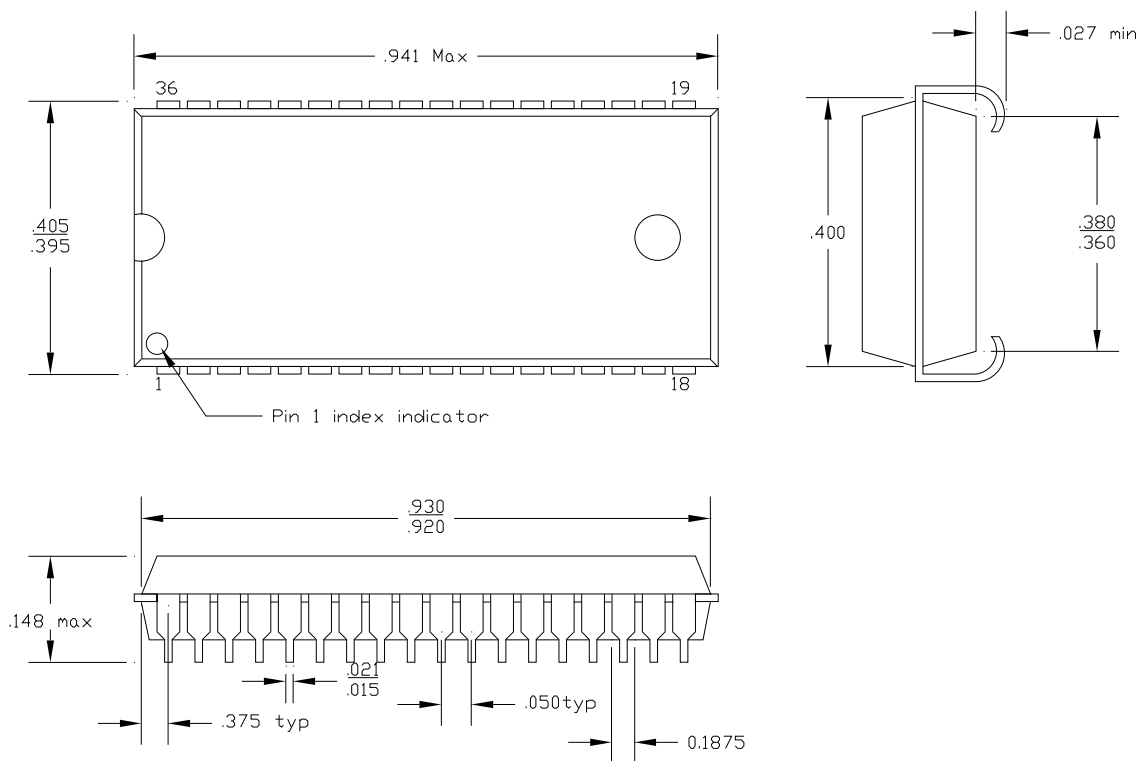


SYMBOL	SMD SPECIFICATIONS	
	MIN	MAX
A	0.140	0.160
A1	0.054	0.075
A2	0.025	0.063
b	0.019	0.028
D	0.910	0.939
D1	0.840	0.860
E	0.434	0.460
E2	0.374	0.410
e	0.050 BSC	
L	0.050	0.070
L2	0.115	0.135
P	---	0.004

\*All measurements are in inches.

## MECHANICAL DEFINITIONS\*

Micross Case #903 (Package Designator DJ)



\*All measurements are in inches.

## ORDERING INFORMATION

### 36-Pin Ceramic Flat Pack

EXAMPLE: AS5C512K8F-25/XT

Device Number	Package Type	Speed ns	Options**	Process
AS5C512K8	F	-12	L	/*
AS5C512K8	F	-15	L	/*
AS5C512K8	F	-17	L	/*
AS5C512K8	F	-20	L	/*
AS5C512K8	F	-25	L	/*
AS5C512K8	F	-30	L	/*
AS5C512K8	F	-45	L	/*

### 36-Pin CLCC

EXAMPLE: AS5C512K8EC-35/XT

Device Number	Package Type	Speed ns	Options**	Process
AS5C512K8	EC	-12	L	/*
AS5C512K8	EC	-15	L	/*
AS5C512K8	EC	-17	L	/*
AS5C512K8	EC	-20	L	/*
AS5C512K8	EC	-25	L	/*
AS5C512K8	EC	-30	L	/*
AS5C512K8	EC	-45	L	/*

### 44-Pin TSOPII - Sn/Pb Lead Finish

EXAMPLE: AS5C512K8DGC-12/XT

Device Number	Package Type	Speed ns	Process
AS5C512K8	DGC	-12	/*
AS5C512K8	DGC	-15	/*

### 36-Pin Ceramic SOJ Package

EXAMPLE: AS5C512K8ECJ-15/IT

Device Number	Package Type	Speed ns	Options**	Process
AS5C512K8	SOJ [ECJ]	-12	L	/*
AS5C512K8	SOJ [ECJ]	-15	L	/*
AS5C512K8	SOJ [ECJ]	-17	L	/*
AS5C512K8	SOJ [ECJ]	-20	L	/*
AS5C512K8	SOJ [ECJ]	-25	L	/*
AS5C512K8	SOJ [ECJ]	-30	L	/*
AS5C512K8	SOJ [ECJ]	-45	L	/*

\*Consult Factory for ECJ package option, SOJ is new standard.

### 36-Pin Plastic SOJ

EXAMPLE: AS5C512K8DJ-20/XT

Device Number	Package Type	Speed ns	Options**	Process
AS5C512K8	DJ <sup>+</sup>	-12	L	/*
AS5C512K8	DJ <sup>+</sup>	-15	L	/*
AS5C512K8	DJ <sup>+</sup>	-17	L	/*
AS5C512K8	DJ <sup>+</sup>	-20	L	/*
AS5C512K8	DJ <sup>+</sup>	-25	L	/*
AS5C512K8	DJ <sup>+</sup>	-30	L	/*
AS5C512K8	DJ <sup>+</sup>	-45	L	/*

+Lead Free (Pb finish is also available, consult factory)

### 44-Pin TSOPII - RoHS Compliant - NiPdAu Lead Finish

EXAMPLE: AS5C512K8DGCR-12/IT

Device Number	Package Type	Speed ns	Process
AS5C512K8	DGCR	-12	/*
AS5C512K8	DGCR	-15	/*

### \*AVAILABLE PROCESSES

IT = Industrial Temperature Range

-40°C to +85°C

XT = Extended Temperature Range

-55°C to +125°C

883C = Full Military Processing

-55°C to +125°C

### \*\*OPTIONS DEFINITIONS

L = 2V Data Retention / Low Power (Consult Factory)

\*\* L Version is not currently an available option for parts in DGC & DGCR package.

## MICROSS TO DSCC PART NUMBER CROSS REFERENCE FOR SMD 5962-95600\*

### Micross Package Designator EC

<u>Micross Part #</u>	<u>SMD Part #</u>
AS5C512K8EC-12L	5962-9560015QNA
AS5C512K8EC-12L	5962-9560016QNA
AS5C512K8EC-15	5962-9560014QNA
AS5C512K8EC-15L	5962-9560013QNA
AS5C512K8EC-20L	5962-9560012QNA
AS5C512K8EC-25L	5962-9560011QNA
AS5C512K8EC-35L	5962-9560010QNA
AS5C512K8EC-45L	5962-9560009QNA
AS5C512K8EC-20	5962-9560004MNA
AS5C512K8EC-20L	5962-9560008MNA
AS5C512K8EC-25	5962-9560003MNA
AS5C512K8EC-25L	5962-9560007MNA
AS5C512K8EC-35	5962-9560002MNA
AS5C512K8EC-35L	5962-9560006MNA
AS5C512K8EC-45	5962-9560001MNA
AS5C512K8EC-45L	5962-9560005MNA

### Micross Package Designator ECJ

<u>Micross Part #</u>	<u>SMD Part #</u>
AS5C512K8ECJ-12L	5962-9560015QMA
AS5C512K8ECJ-12L	5962-9560016QMA
AS5C512K8ECJ-15	5962-9560014QMA
AS5C512K8ECJ-15L	5962-9560013QMA
AS5C512K8ECJ-20L	5962-9560012QMA
AS5C512K8ECJ-25L	5962-9560011QMA
AS5C512K8ECJ-35L	5962-9560010QMA
AS5C512K8ECJ-45L	5962-9560009QMA
AS5C512K8ECJ-20	5962-9560004MMA
AS5C512K8ECJ-20L	5962-9560008MMA
AS5C512K8ECJ-25	5962-9560003MMA
AS5C512K8ECJ-25L	5962-9560007MMA
AS5C512K8ECJ-35	5962-9560002MMA
AS5C512K8ECJ-35L	5962-9560006MMA
AS5C512K8ECJ-45	5962-9560001MMA
AS5C512K8ECJ-45L	5962-9560005MMA

### Micross Package Designator F

<u>Micross Part #</u>	<u>SMD Part #</u>
AS5C512K8F-12L	5962-9560015QTA
AS5C512K8F-12L	5962-9560016QTA
AS5C512K8F-15	5962-9560014QTA
AS5C512K8F-15L	5962-9560013QTA
AS5C512K8F-20L	5962-9560012QTA
AS5C512K8F-25L	5962-9560011QTA
AS5C512K8F-35L	5962-9560010QTA
AS5C512K8F-45L	5962-9560009QTA
AS5C512K8F-20	5962-9560004MTA
AS5C512K8F-20L	5962-9560008MTA
AS5C512K8F-25	5962-9560003MTA
AS5C512K8F-25L	5962-9560007MTA
AS5C512K8F-35	5962-9560002MTA
AS5C512K8F-35L	5962-9560006MTA
AS5C512K8F-45	5962-9560001MTA
AS5C512K8F-45L	5962-9560005MTA

\* 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 FOR SMD 5962-95613\*

**Micross Package Designator EC**

<u>Micross Part #</u>	<u>SMD Part #</u>
AS5C512K8EC-12/H	5962-9561329HNA
AS5C512K8EC-12L/H	5962-9561328HNA
AS5C512K8EC-15/H	5962-9561314HNA
AS5C512K8EC-17/H	5962-9561310HNA
AS5C512K8EC-17L/H	5962-9561324HNA
AS5C512K8EC-20/H	5962-9561309HNA
AS5C512K8EC-20L/H	5962-9561323HNA
AS5C512K8EC-25/H	5962-9561308HNA
AS5C512K8EC-25/H	5962-9561313HNA
AS5C512K8EC-25L/H	5962-9561322HNA
AS5C512K8EC-25L/H	5962-9561327HNA
AS5C512K8EC-35/H	5962-9561307HNA
AS5C512K8EC-35/H	5962-9561312HNA
AS5C512K8EC-35L/H	5962-9561321HNA
AS5C512K8EC-35L/H	5962-9561326HNA
AS5C512K8EC-45/H	5962-9561306HNA
AS5C512K8EC-45/H	5962-9561311HNA
AS5C512K8EC-45L/H	5962-9561320HNA
AS5C512K8EC-45L/H	5962-9561325HNA
AS5C512K8EC-55/H	5962-9561305HNA
AS5C512K8EC-55L/H	5962-9561319HNA

AS5C512K8EC-12/H	5962-9561329HNC
AS5C512K8EC-12L/H	5962-9561328HNC
AS5C512K8EC-15/H	5962-9561314HNC
AS5C512K8EC-17/H	5962-9561310HNC
AS5C512K8EC-17L/H	5962-9561324HNC
AS5C512K8EC-20/H	5962-9561309HNC
AS5C512K8EC-20L/H	5962-9561323HNC
AS5C512K8EC-25/H	5962-9561308HNC
AS5C512K8EC-25/H	5962-9561313HNC
AS5C512K8EC-25L/H	5962-9561322HNC
AS5C512K8EC-25L/H	5962-9561327HNC
AS5C512K8EC-35/H	5962-9561307HNC
AS5C512K8EC-35/H	5962-9561312HNC
AS5C512K8EC-35L/H	5962-9561321HNC
AS5C512K8EC-35L/H	5962-9561326HNC
AS5C512K8EC-45/H	5962-9561306HNC
AS5C512K8EC-45/H	5962-9561311HNC
AS5C512K8EC-45L/H	5962-9561320HNC
AS5C512K8EC-45L/H	5962-9561325HNC
AS5C512K8EC-55/H	5962-9561305HNC
AS5C512K8EC-55L/H	5962-9561319HNC

**Micross Package Designator ECJ**

<u>Micross Part #</u>	<u>SMD Part #</u>
AS5C512K8ECJ-12/H	5962-9561329HZA
AS5C512K8ECJ-12L/H	5962-9561328HZA
AS5C512K8ECJ-15/H	5962-9561314HZA
AS5C512K8ECJ-17/H	5962-9561310HZA
AS5C512K8ECJ-17L/H	5962-9561324HZA
AS5C512K8ECJ-20/H	5962-9561309HZA
AS5C512K8ECJ-20L/H	5962-9561323HZA
AS5C512K8ECJ-25/H	5962-9561308HZA
AS5C512K8ECJ-25/H	5962-9561313HZA
AS5C512K8ECJ-25L/H	5962-9561322HZA
AS5C512K8ECJ-25L/H	5962-9561327HZA
AS5C512K8ECJ-35/H	5962-9561307HZA
AS5C512K8ECJ-35/H	5962-9561312HZA
AS5C512K8ECJ-35L/H	5962-9561321HZA
AS5C512K8ECJ-35L/H	5962-9561326HZA
AS5C512K8ECJ-45/H	5962-9561306HZA
AS5C512K8ECJ-45/H	5962-9561311HZA
AS5C512K8ECJ-45L/H	5962-9561320HZA
AS5C512K8ECJ-45L/H	5962-9561325HZA
AS5C512K8ECJ-55/H	5962-9561305HZA
AS5C512K8ECJ-55L/H	5962-9561319HZA

AS5C512K8ECJ-12/H	5962-9561329HZC
AS5C512K8ECJ-12L/H	5962-9561328HZC
AS5C512K8ECJ-15/H	5962-9561314HZC
AS5C512K8ECJ-17/H	5962-9561310HZC
AS5C512K8ECJ-17L/H	5962-9561324HZC
AS5C512K8ECJ-20/H	5962-9561309HZC
AS5C512K8ECJ-20L/H	5962-9561323HZC
AS5C512K8ECJ-25/H	5962-9561308HZC
AS5C512K8ECJ-25/H	5962-9561313HZC
AS5C512K8ECJ-25L/H	5962-9561322HZC
AS5C512K8ECJ-25L/H	5962-9561327HZC
AS5C512K8ECJ-35/H	5962-9561307HZC
AS5C512K8ECJ-35/H	5962-9561312HZC
AS5C512K8ECJ-35L/H	5962-9561321HZC
AS5C512K8ECJ-35L/H	5962-9561326HZC
AS5C512K8ECJ-45/H	5962-9561306HZC
AS5C512K8ECJ-45/H	5962-9561311HZC
AS5C512K8ECJ-45L/H	5962-9561320HZC
AS5C512K8ECJ-45L/H	5962-9561325HZC
AS5C512K8ECJ-55/H	5962-9561305HZC
AS5C512K8ECJ-55L/H	5962-9561319HZC

\* 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 FOR SMD 5962-95613\*

### Micross Package Designator F

<u>Micross Part #</u>	<u>SMD Part #</u>
AS5C512K8F-12/H	5962-9561329HUA
AS5C512K8F-12L/H	5962-9561328HUA
AS5C512K8F-15/H	5962-9561314HUA
AS5C512K8F-17/H	5962-9561310HUA
AS5C512K8F-17L/H	5962-9561324HUA
AS5C512K8F-20/H	5962-9561309HUA
AS5C512K8F-20L/H	5962-9561323HUA
AS5C512K8F-25/H	5962-9561308HUA
AS5C512K8F-25/H	5962-9561313HUA
AS5C512K8F-25L/H	5962-9561322HUA
AS5C512K8F-25L/H	5962-9561327HUA
AS5C512K8F-35/H	5962-9561307HUA
AS5C512K8F-35/H	5962-9561312HUA
AS5C512K8F-35L/H	5962-9561321HUA
AS5C512K8F-35L/H	5962-9561326HUA
AS5C512K8F-45/H	5962-9561306HUA
AS5C512K8F-45/H	5962-9561311HUA
AS5C512K8F-55/H	5962-9561305HUA
AS5C512K8F-55L/H	5962-9561319HUA
AS5C512K8F-45L/H	5962-9561320HUA
AS5C512K8F-45L/H	5962-9561325HUA
AS5C512K8F-12/H	5962-9561329HUC
AS5C512K8F-12L/H	5962-9561328HUC
AS5C512K8F-15/H	5962-9561314HUC
AS5C512K8F-17/H	5962-9561310HUC
AS5C512K8F-17L/H	5962-9561324HUC
AS5C512K8F-20/H	5962-9561309HUC
AS5C512K8F-20L/H	5962-9561323HUC
AS5C512K8F-25/H	5962-9561308HUC
AS5C512K8F-25/H	5962-9561313HUC
AS5C512K8F-25L/H	5962-9561322HUC
AS5C512K8F-25L/H	5962-9561327HUC
AS5C512K8F-35/H	5962-9561307HUC
AS5C512K8F-35/H	5962-9561312HUC
AS5C512K8F-35L/H	5962-9561321HUC
AS5C512K8F-35L/H	5962-9561326HUC
AS5C512K8F-45/H	5962-9561306HUC
AS5C512K8F-45/H	5962-9561311HUC
AS5C512K8F-55/H	5962-9561305HUC
AS5C512K8F-55L/H	5962-9561319HUC
AS5C512K8F-45L/H	5962-9561320HUC
AS5C512K8F-45L/H	5962-9561325HUC

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

**DOCUMENT TITLE**

512K x 8 SRAM HIGH SPEED SRAM with REVOLUTIONARY PINOUT

**REVISION HISTORY**

<u>Rev #</u>	<u>History</u>	<u>Release Date</u>	<u>Status</u>																																				
7.1	Updated 36 lead SOJ Drawing	September 2008	Release																																				
7.2	Added Micross Information	January 2010	Release																																				
7.3	Expanded package offering to include Copper Lead Frames and RoHS compliancy, pages 1&14, changed elect. char. limits:	March 2011	Release																																				
	<table border="0"> <tr> <td></td> <td><u>From:</u></td> <td><u>To:</u></td> </tr> <tr> <td><math>I_{CCSP}</math></td> <td>225mA for all speeds</td> <td>100mA for -12,-15 &amp; -17 90mA for -20 &amp; -25 80mA for -35 70mA for -45</td> </tr> <tr> <td><math>I_{CCLP}</math></td> <td>180mA for all speeds</td> <td>75mA for -12,-15 &amp; -17 65mA for -20 &amp; -25 60mA for -35 50mA for -45</td> </tr> <tr> <td><math>I_{SBTSP}</math></td> <td>60mA for all speeds</td> <td>20mA for all speeds</td> </tr> <tr> <td><math>I_{SBTLP}</math></td> <td>30mA for all speeds</td> <td>10mA for all speeds</td> </tr> <tr> <td><math>I_{SBCSP}</math></td> <td>25mA for all speeds</td> <td>15mA for all speeds</td> </tr> <tr> <td><math>I_{SBCLP}</math></td> <td>10mA for all speeds</td> <td>5mA for all speeds</td> </tr> <tr> <td><math>I_{LI}</math></td> <td><math>\pm 10\mu A</math></td> <td><math>\pm 2\mu A</math></td> </tr> <tr> <td><math>C_I</math></td> <td>12pF</td> <td>8pF</td> </tr> <tr> <td><math>C_O</math></td> <td>14pF</td> <td>10pF</td> </tr> <tr> <td><math>t_{AH}</math></td> <td>1ns for all speeds</td> <td>0ns for all speeds</td> </tr> <tr> <td><math>t_{HZWE}</math></td> <td>25ns -35 &amp; 30ns -45</td> <td>15ns -35 &amp; 20ns -45</td> </tr> </table>		<u>From:</u>	<u>To:</u>	$I_{CCSP}$	225mA for all speeds	100mA for -12,-15 & -17 90mA for -20 & -25 80mA for -35 70mA for -45	$I_{CCLP}$	180mA for all speeds	75mA for -12,-15 & -17 65mA for -20 & -25 60mA for -35 50mA for -45	$I_{SBTSP}$	60mA for all speeds	20mA for all speeds	$I_{SBTLP}$	30mA for all speeds	10mA for all speeds	$I_{SBCSP}$	25mA for all speeds	15mA for all speeds	$I_{SBCLP}$	10mA for all speeds	5mA for all speeds	$I_{LI}$	$\pm 10\mu A$	$\pm 2\mu A$	$C_I$	12pF	8pF	$C_O$	14pF	10pF	$t_{AH}$	1ns for all speeds	0ns for all speeds	$t_{HZWE}$	25ns -35 & 30ns -45	15ns -35 & 20ns -45		
	<u>From:</u>	<u>To:</u>																																					
$I_{CCSP}$	225mA for all speeds	100mA for -12,-15 & -17 90mA for -20 & -25 80mA for -35 70mA for -45																																					
$I_{CCLP}$	180mA for all speeds	75mA for -12,-15 & -17 65mA for -20 & -25 60mA for -35 50mA for -45																																					
$I_{SBTSP}$	60mA for all speeds	20mA for all speeds																																					
$I_{SBTLP}$	30mA for all speeds	10mA for all speeds																																					
$I_{SBCSP}$	25mA for all speeds	15mA for all speeds																																					
$I_{SBCLP}$	10mA for all speeds	5mA for all speeds																																					
$I_{LI}$	$\pm 10\mu A$	$\pm 2\mu A$																																					
$C_I$	12pF	8pF																																					
$C_O$	14pF	10pF																																					
$t_{AH}$	1ns for all speeds	0ns for all speeds																																					
$t_{HZWE}$	25ns -35 & 30ns -45	15ns -35 & 20ns -45																																					
7.4	Updated Data Retention Electrical Characteristics (L Version Only) $I_{CCDR}$ max. from 800 uA to 4.5 mA	August 2012	Release																																				
7.5	Updated Data Retention Electrical Characteristics (L Version Only) $I_{CCDR}$ max. from 4.5mA to 2mA	January 2013	Release																																				