# MSM8128S/K/V/W/JX 128K x 8 Monolithic CMOS SRAM

Issue 1.0 : August 1989

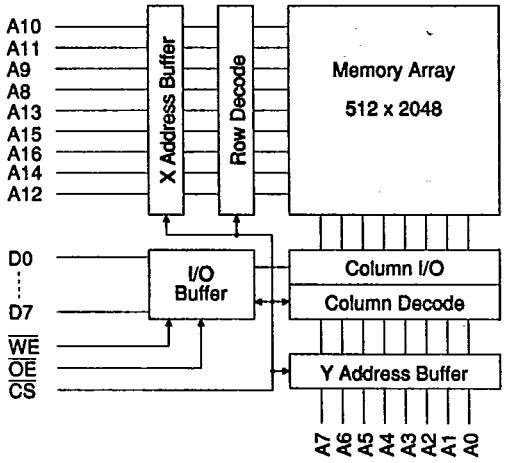
## ADVANCE PRODUCT INFORMATION

131,072 x 8 CMOS High Speed Static RAM

### Features

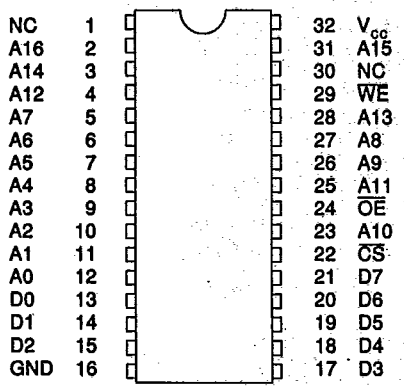
- Fast Access Times of 45,55,70 nS
- ASIC (JEDEC) 1Megabit Module Pinout
- Upgradable to 4Megabit Module
- VIL™ High Density Package
- Low Power Standby 50µW (typ.)-L Version
- Low Power Operation 150mW(typ.)-L Version
- 2.0V Data Retention Mode
- Completely Static Operation
- Equal Access and Cycle Times
- Battery Back-up Capability
- Directly TTL Compatible
- Common Data Inputs & Outputs
- May be Processed to MIL-STD-883B (suffix MB)

### Block Diagram




### Pin Definition

Package Type:'S','K','V'




Type 'W','J' on page 2-96.

### Pin Functions

| | |
|---|---|
| A0-A16 | Address Inputs |
| D0-7 | Data Input/Output |
| $\overline{CS}$ | Chip Select |
| $\overline{OE}$ | Output Enable |
| $\overline{WE}$ | Write Enable |
| NC | No Connect |
| $V_{CC}$ | Power (+5V) |
| GND | Ground |

### Package Details

| Pin Count | Description | Package Type | Material | Pin Out |
|---|---|---|---|---|
| 32 | 600 mil Dual-in-Line (DIP) | S | Ceramic | JEDEC |
| 32 | 400 mil Dual-in-Line (DIP) | K | Ceramic | JEDEC |
| 32 | 100 mil Vertical-in-Line (VIL™) | V | Ceramic | JEDEC |
| 32 | Extended Leadless Chip Carrier (LCC) | W | Ceramic | ASIC |
| 32 | J-Leaded Chip Carrier (JLCC) | J | Ceramic | ASIC |

Package dimensions and outlines are displayed on page 2-97,98.





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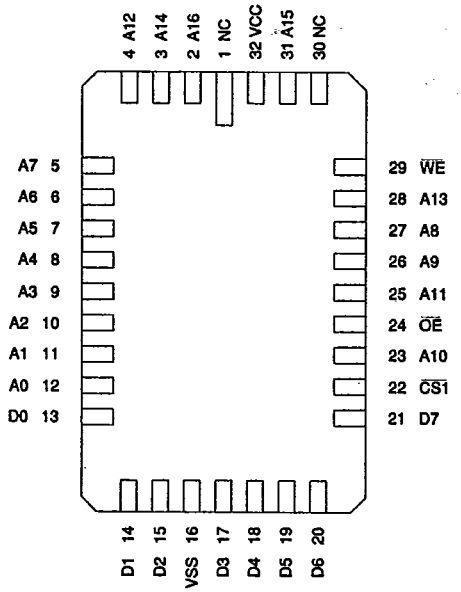
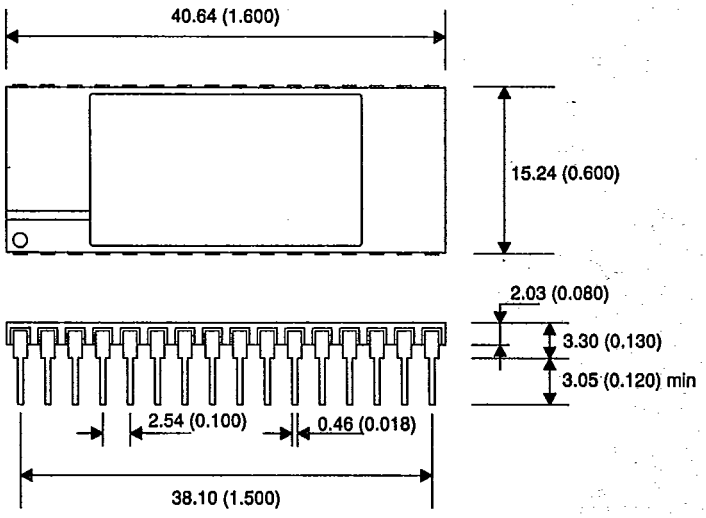
## Pin Definition: Package Type 'W','J'

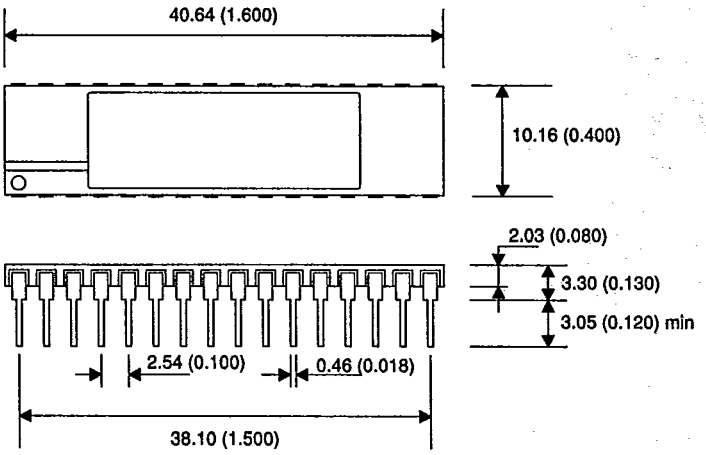


**Package Details** Dimensions in mm (inches).Tolerance on all dimensions +/-0.254(0.010). T-46-23-14

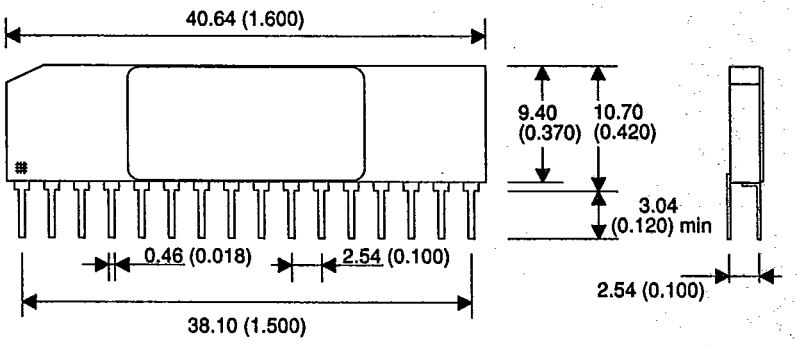
## 32 pin 600 mil Dual-in-Line (DIP) - 'S' Package




## 32 pin 400 mil Dual-in-Line (DIP) - 'K' Package




## 32 pin 100 mil Vertical-in-Line (VIL™) - 'V' Package

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## 32 pin Extended Leadless Chip Carrier (LCC) - 'W' Package

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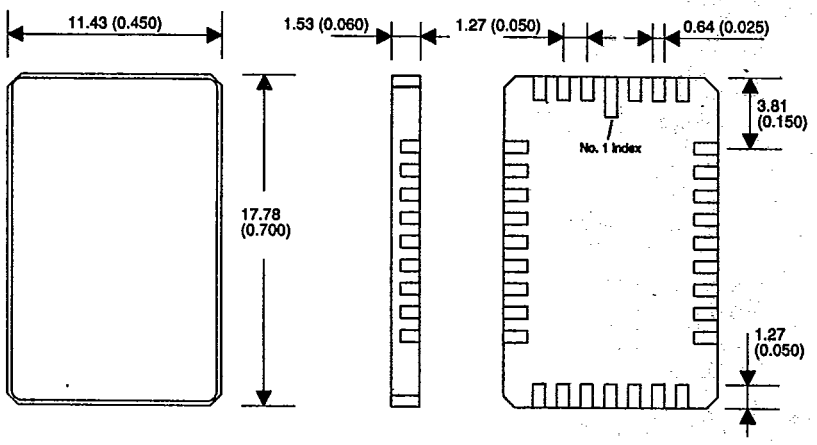
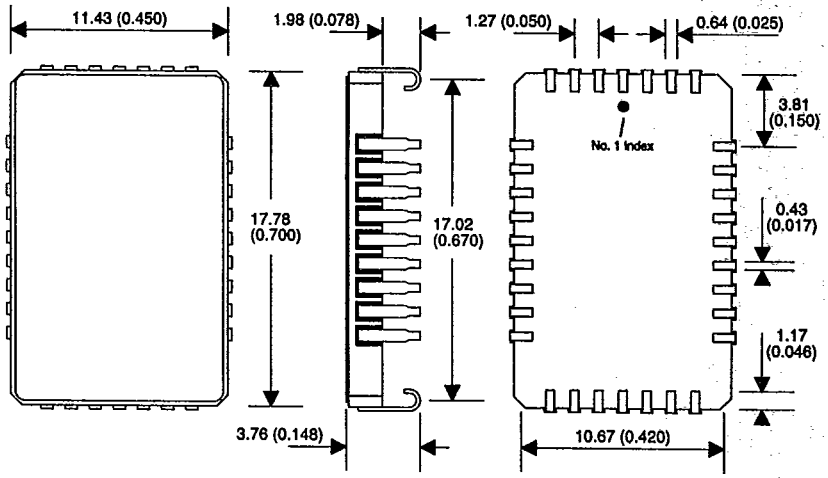



## 32 pin Extended 'J' Leaded Chip Carrier (JLCC) - 'J' Package



## Military Screening Procedure

T-46-23-14

**Monolithic Screening Flow** for high reliability product is in accordance with Mil-883C method 5004 and is detailed below:

### MB COMPONENT SCREENING FLOW

| *SCREEN* | *TEST METHOD (Per MIL 883C)* | *LEVEL* |
|---|---|---|
| **Visual and Mechanical** | | |
| Internal visual | 2010 Condition B or manufacturers equivalent | 100% |
| High-temperature storage | 1008 Condition C (24hrs @ 150°C) | 100% |
| Temperature Cycle | 1010 Condition C (10 Cycles, -65°C to 150°C) | 100% |
| Constant acceleration | 2001 Condition E (Y axis only), (30,000g) | 100% |
| Pre-Burn-in electrical | Per applicable device specification @ Ta+25°C | 100% |
| Burn-in | Method 1015, Condition D, Ta+125°C, 160 hrs min. | 100% |
| **Final Electrical Tests** | Per applicable device specification | |
| Static (dc) | a) @ Ta=25°C and power supply extremes | 100% |
| | b) @ temperature and power supply extremes | 100% |
| Functional | a) @ Ta=25°C and power supply extremes | 100% |
| | b) @ temperature and power supply extremes | 100% |
| Switching (ac) | a) @ Ta=25°C and power supply extremes | 100% |
| | b) @ temperature and power supply extremes | 100% |
| **Percent Defective Allowable(PDA)** | Calculated at post-burn-in @ Ta=25°C | 5% |
| Hermeticity | 1014 | |
| Fine | Condition A | 100% |
| Gross | Condition C | 100% |
| External Visual | 2009 Per vendor or customer specification | 100% |

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## Ordering Information

**MSM8128SXLMB-45**

| | | |
|---|---|---|
| Speed | 45,55,70 nS | |
| Temp. range/screening | Blank | = Commercial |
| | I | = Industrial |
| | M | = Military |
| | MB | = Processed to MIL-STD-883B RevC |
| Standard/Low Power | Blank | = Standard Power |
| | L | = Low Power |
| Pinout | Blank | = JEDEC |
| | X | = ASIC |
| Package | S | = 32 pin 600 mil DIP |
| | K | = 32 pin 400 mil DIP |
| | V | = 32 pin 100 mil VIL |
| | W | = 32 pad LCC |
| | J | = 32 pad JLCC |