smart Modular Technologies Inc.

TECHNICAL DATASHEET

PRELIMINARY

smart MEMORY MODULE 256K X 16 DRAM

SMS516256-08/10/12

GENERAL DESCRIPTION

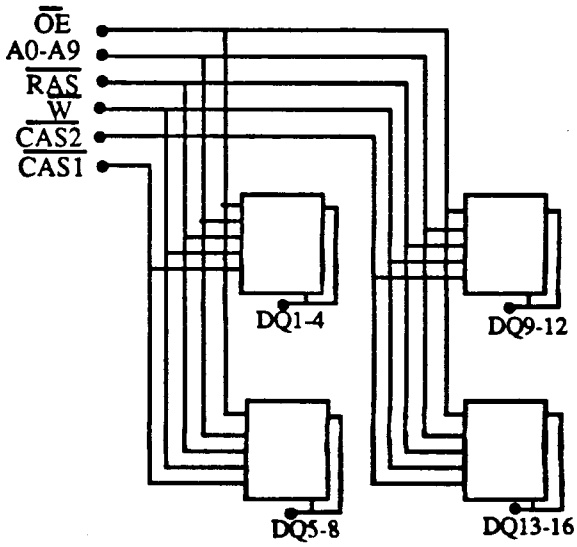
The SMS516256 is a high density, high speed 256K X 16 dynamic RAM module in a 35 pin single in-line package with edge connections.
The module is assembled with four 256K x 4 SOJ DRAMs on a FR4 printed circuit board substrate with a 0.22μf decoupling capacitor for each of the DRAMs.

This device has independent $\overline{CAS}$ controls for each 8 bit byte and common $\overline{RAS}$, $\overline{WE}$, and $\overline{OE}$ signals for all of the DRAM's.

FEATURES

- 256K X 16 Organization
- Separate $\overline{CAS}$ control for each byte
- All inputs and outputs TTL compatible
- Capabilities: Page Mode or Nibble Mode or Static Column mode
- Single power supply: 5V±10%
- Separate power and ground planes to improve noise immunity
- Separate $\overline{OE}$ signal allows use of Read-Modify-Write cycle

FUNCTIONAL BLOCK DIAGRAM

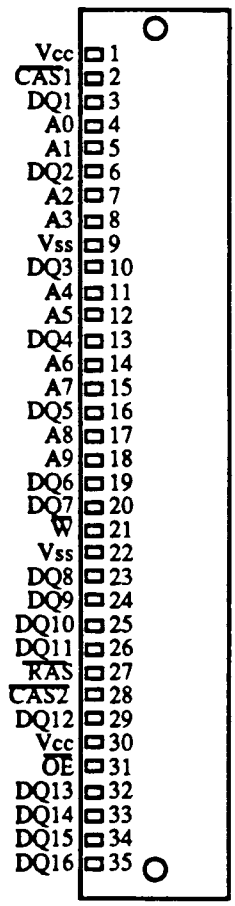


PIN NAMES

A_0-A_9	Address Inputs
DQ_{1-16}	Data In/Out
$\overline{RAS}$	Row Address Strobe
$\overline{CAS}_{1-2}$	Column Address Strobe
$\overline{W}$	Read/Write Input
Vcc	Power (+5V)
Vss	Ground
$\overline{OE}$	Output Enable

Vcc —|— Vss
0.22μf
All DRAMs

PIN CONFIGURATION



SELECTION GUIDE

Part Numbers

SMS516256-08	80ns	Edge Connections
SMS516256-10	100ns	Edge Connections
SMS516256-12	120ns	Edge Connections

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SMS516256

Device Operation:

The SMS516256 is a 256K x 16 dynamic RAM high density memory module. This module has separate $\overline{CAS}$ controls for each 8 bit byte enabling it to be used in interleaved memory access applications.

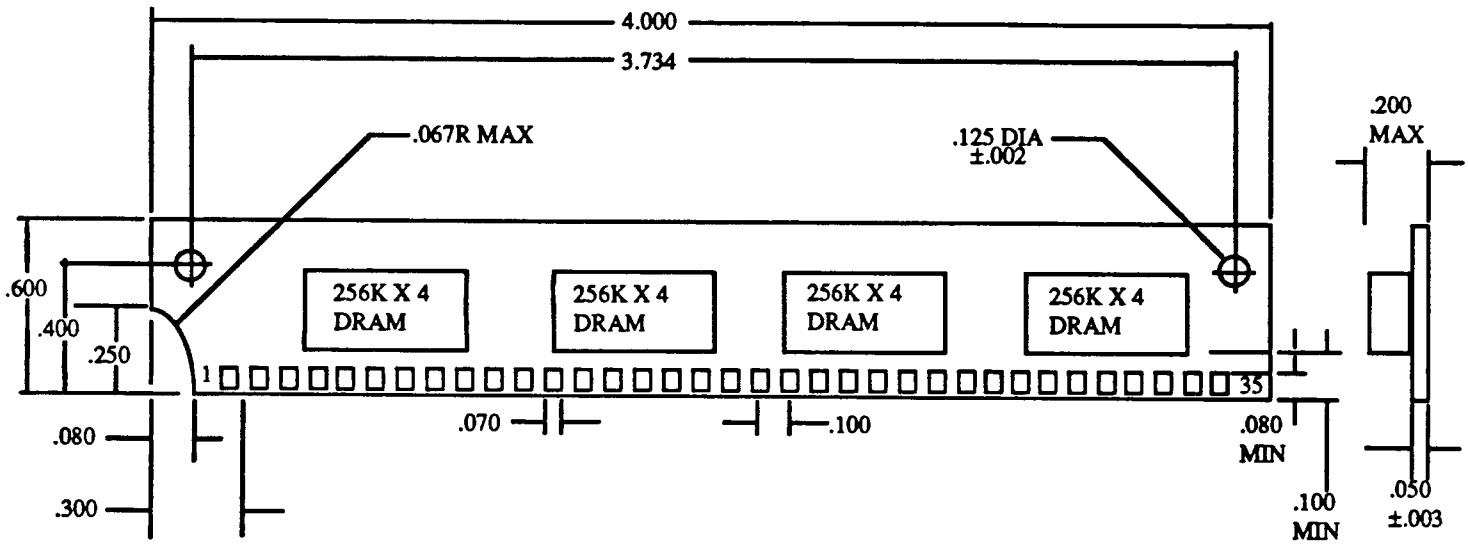
The SMS516256 is a SIMM with edge connections and is intended for mounting onto a 35 pin edge connector socket. A .22μf decoupling capacitor is mounted under each DRAM.

The module can use 256K x 4 (1Meg) DRAMs from many manufacturers in NMOS or low power CMOS technology with any combination of speed and operating modes such as Fast Page Mode, Static Column Mode or Nibble Mode.

A single 5 V ±10% power supply is required. Power dissipation is a function of the DRAMs used but for the CMOS version it is typically 20 milliwatts in standby and approximately 1.4 watts when active.

All other device timing specifications are identical with industry standard DRAM specifications. Please contact us for any additional information required.

SMS516256 256K X 16 35 PIN SIMM



TOLERANCES: ±0.005 UNLESS OTHERWISE SPECIFIED

All dimensions in inches
Above drawing is not to scale

DETAILS OF PC BOARD SPECIFICATIONS:

- Material of Printed Circuit Board - FR4, Epoxy Glass
- Separate ground and power planes are provided for improved noise immunity
- For SIMM devices;

  a) Copper contact pads are overplated with 100-300 microinch tin/lead (60/40) reflow
  b) Contact pads are on both the component and the circuit sides of the modules and are electrically shunted

SOCKET INFORMATION:

Part Number	Socket type	Molex Part No:
SMS516256	Single Row Low Profile	78829-3501
	Dual Row Low Profile	78816-3501
	Single Row Vertical	78830-3501

Please refer to the socket manufacturers' specifications for additional details.

SPECIAL MODULE REQUIREMENTS:

If your design requires a module with an organization, pinout or size specification different from this product or it incorporates other devices on a module, please contact us for more information about other products and services that we offer.