Integrated Device Technology, Inc.

128K x 8
64K x 8
CMOS DUAL-PORT
STATIC RAM MODULE

ADVANCE INFORMATION
IDT7MP1021
IDT7MP1023

FEATURES

- High density 1M/512K CMOS dual-port static RAM module
- Fast access times:
  - 25, 30, 35, 40, 50, 65ns
- Fully asynchronous read/write operation from either port
- On-board semaphore ($\overline{SEM}$) controls
- Surface mounted plastic components on a 64-pin FR-4 SIMM (Single In-line Memory Module)
- Multiple GND pins and decoupling capacitors for maximum noise immunity
- Single 5V (±10%) power supply
- Input/outputs directly TTL compatible

PIN CONFIGURATION

VCC	1	2	GND
L_$\overline{OE}$	3	4	R_$\overline{OE}$
L_R/$\overline{W}$	5	6	R_R/$\overline{W}$
L_$\overline{SEM}$	7	8	R_$\overline{SEM}$
L_$\overline{CS}$	9	10	R_$\overline{CS}$
L_I/O(0)	11	12	R_I/O(0)
L_I/O(1)	13	14	R_I/O(1)
GND	15	16	R_I/O(2)
L_I/O(2)	17	18	R_I/O(3)
L_I/O(3)	19	20	R_I/O(4)
L_I/O(4)	21	22	R_I/O(5)
L_I/O(5)	23	24	R_I/O(6)
L_I/O(6)	25	26	R_I/O(7)
L_I/O(7)	27	28	R_A(0)
L_A(0)	29	30	R_A(1)
L_A(1)	31	32	R_A(2)
L_A(2)	33	34	R_A(3)
L_A(3)	35	36	R_A(4)
L_A(4)	37	38	R_A(5)
L_A(5)	39	40	R_A(6)
L_A(6)	41	42	R_A(7)
L_A(7)	43	44	R_A(8)
L_A(8)	45	46	GND
L_A(9)	47	48	R_A(9)
L_A(10)	49	50	R_A(10)
L_A(11)	51	52	R_A(11)
L_A(12)	53	54	R_A(12)
L_A(13)	55	56	R_A(13)
L_A(14)	57	58	R_A(14)
L_A(15)	59	60	R_A(15)
L_A(16)	61	62	R_A(16)
GND	63	64	VCC

SIMM
TOP VIEW

DESCRIPTION:

The IDT7MP1021/IDT7MP1023 is a 128K x 8/64K x 8 high-speed CMOS dual-port static RAM module constructed on a multilayer glass epoxy laminate (FR-4) substrate using eight IDT7006 (16K x 8) dual-port RAMs and two IDT 74FCT138 decoders or depopulated using only four IDT7006s and two decoders. This module provides two independent ports with separate control, address, and I/O pins that permit independent and asynchronous access for reads or writes to any location in memory. The $\overline{SEM}$ controls can be used to facilitate port-to-port communication via "handshake" signaling. The $\overline{SEM}$ controls are logic latches which are part of the IDT7006 but independent of the dual-port RAM memory array. This control allows the signalling of information to easily pass through the dual-port module.

The IDT7MP1021/1023 module is packaged on a multilayer glass expoxy laminate (FR-4) 64-pin SIMM (Single In-line Memory Module) with dimensions of only 3.85" x 0.305" x 1.12". Maximum access times as fast as 25ns over the commercial temperature range are available.

All inputs and outputs of the IDT7MP1021/1023 are TTL compatible and operate from a single 5V supply. Fully asynchronous circuitry is used, requiring no clocks or refreshing for operation of the module.

PIN NAMES

Left Port	Right Port	Description
L_A (0–16)	R_A (0–16)	Address Inputs
L_I/O (0–7)	R_I/O (0–7)	Data Inputs/Outputs
L_R/$\overline{W}$	R_R/$\overline{W}$	Read/Write Enables
L_$\overline{CS}$	R_$\overline{CS}$	Chip Select
L_$\overline{OE}$	R_$\overline{OE}$	Output Enable
L_$\overline{SEM}$	R_$\overline{SEM}$	Semaphore Control
Vcc		Power
GND		Ground

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