TOSHIBA MOS MEMORY PRODUCTS

1,048,576 WORDS×4 BIT
NIBBLE MODE
DYNAMIC RAM MODULE

THM41001L-10,12

DESCRIPTION

The THM41001L is a 1,048,576 words by 4 bits dynamic RAM module which assembled 4 pcs of TC511001J on the printed circuit board.

The THM41001L is optimized for application to the systems which are required high density and large capacity such as main memory of the computers and an image memory systems, and to the others which are requested compact size.

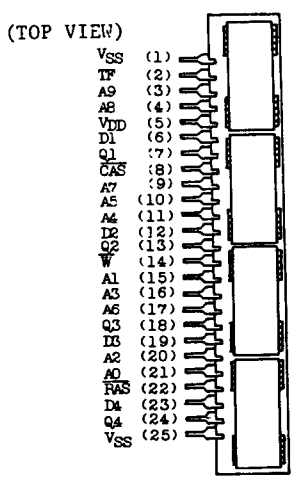
FEATURES

- 1,048,576 words by 4 bits organization
- Fast access time

		THM41001L-10	THM41001L-12
t_{RAC}	$\overline{RAS}$ Access Time	100ns	120ns
t_{AA}	Column Address Access Time	50ns	60ns
t_{CAC}	$\overline{CAS}$ Access Time	35ns	40ns
t_{RC}	Cycle Time	190ns	220ns
t_{NCAC}	Nibble Mode Access Time	20ns	25ns
t_{NC}	Nibble Mode Cycle Time	40ns	50ns

- Single power supply of 5V ± 10%
- Low power
  1,320mW MAX. Operating (THM41001L-10)
  1,100mW MAX. Operating (THM41001L-12)
  22mW MAX. Standby
- $\overline{CAS}$ before $\overline{RAS}$ refresh, $\overline{RAS}$ only refresh, Hidden refresh, and Nibble Mode capability.
- All inputs and outputs TTL compatible
- 512 refresh cycles/8ms
- 12.64mm MAX. Assembly Height

PIN CONNECTION (TOP VIEW)



PIN NAMES

A0 ~ A9	Address Inputs
D1 ~ D4	Data Input
Q1 ~ Q4	Data Output
$\overline{CAS}$	Column Address Strobe
$\overline{RAS}$	Row Address Strobe
$\overline{W}$	Read/Write Input
TF	Test Function
Vcc	Power (+5V)
Vss	Ground