

# PcRam

TS1M3660

## Description

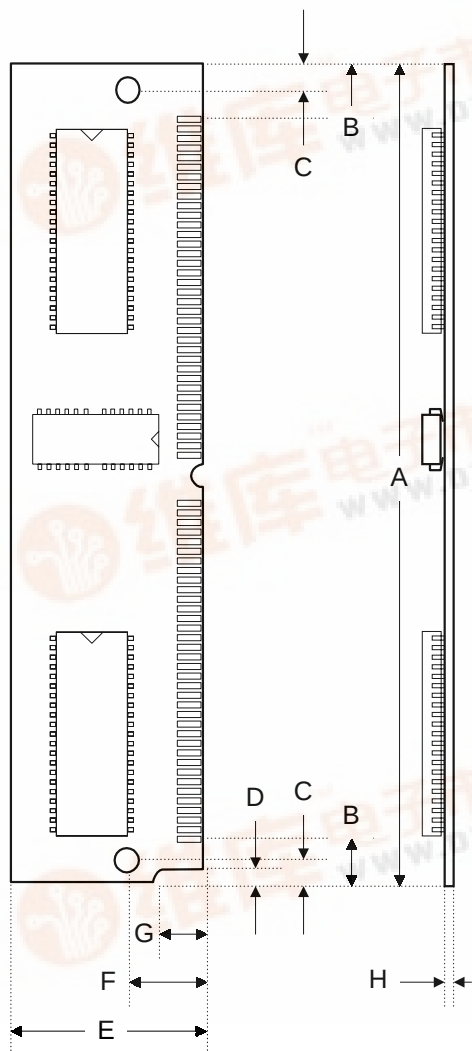
The TS1M3660 is a 1M by 36-bit dynamic RAM module with 2 pcs of 1Mx16 DRAMs and 1 pcs of 1Mx4 quad CAS DRAMs assembled on the printed circuit board.

The TS1M3660 is optimized for application to systems which require high density and large capacity along with compact sizing.

## Features

- 1,048,576-word by 36-bit organization.
- Fast Page Mode Operation.
- Single +5.0V  $\pm$  10% power supply.
- 512 cycles refresh.
- Lower power consumption.
- CAS before RAS refresh, RAS only refresh, Hidden refresh, Fast Page Mode, Read\_Modify\_Write capability.

## Placement

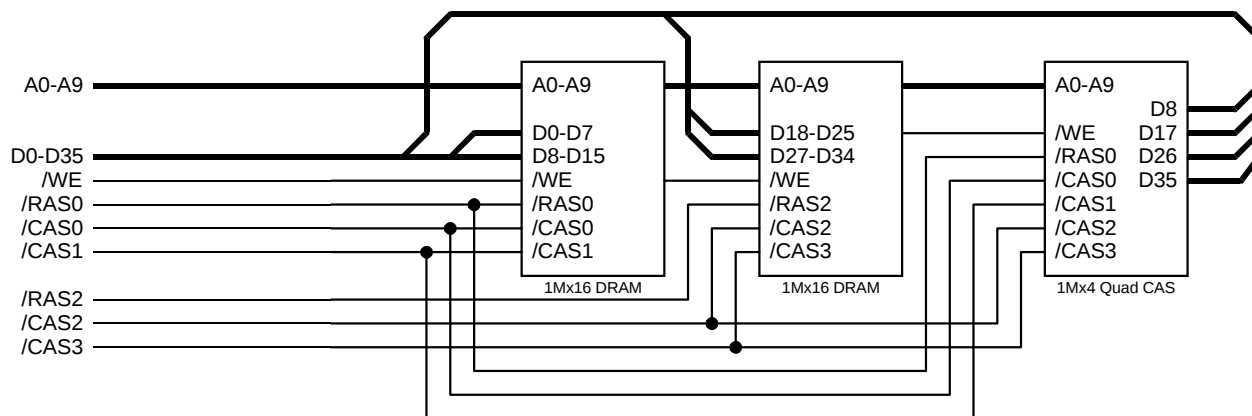


| TS1M3660                                        |       |
|-------------------------------------------------|-------|
| Access time from /RAS<br>t <sub>RAC</sub>       | 60ns  |
| Access time from /CAS<br>t <sub>CAC</sub>       | 15ns  |
| Random read/write cycle time<br>t <sub>RC</sub> | 110ns |
| Page mode cycle time<br>t <sub>PC</sub>         | 40ns  |

## Dimensions

| Side | Millimeters        | Inches            |
|------|--------------------|-------------------|
| A    | 107.95 $\pm$ 0.400 | 4.520 $\pm$ 0.015 |
| B    | 6.35               | 0.250             |
| C    | 3.38               | 0.133             |
| D    | 2.03               | 0.080             |
| E    | 25.40 $\pm$ 0.200  | 1.000 $\pm$ 0.008 |
| F    | 10.16              | 0.400             |
| G    | 6.35               | 0.250             |
| H    | 1.27 $\pm$ 0.100   | 0.050 $\pm$ 0.004 |

## TS1M3660-- Block Diagram



### Pinouts

| Pin No | Pin Name | Pin No | Pin Name | Pin No | Pin Name |
|--------|----------|--------|----------|--------|----------|
| 01     | Vss      | 25     | D24      | 49     | D9       |
| 02     | D0       | 26     | D7       | 50     | D27      |
| 03     | D18      | 27     | D25      | 51     | D10      |
| 04     | D1       | 28     | A7       | 52     | D28      |
| 05     | D19      | 29     | NC       | 53     | D11      |
| 06     | D2       | 30     | Vcc      | 54     | D29      |
| 07     | D20      | 31     | A8       | 55     | D12      |
| 08     | D3       | 32     | A9       | 56     | D30      |
| 09     | D21      | 33     | NC       | 57     | D13      |
| 10     | Vcc      | 34     | /RAS2    | 58     | D31      |
| 11     | NC       | 35     | D26      | 59     | Vcc      |
| 12     | A0       | 36     | D8       | 60     | D32      |
| 13     | A1       | 37     | D17      | 61     | D14      |
| 14     | A2       | 38     | D35      | 62     | D33      |
| 15     | A3       | 39     | Vss      | 63     | D15      |
| 16     | A4       | 40     | /CAS0    | 64     | D34      |
| 17     | A5       | 41     | /CAS2    | 65     | D16      |
| 18     | A6       | 42     | /CAS3    | 66     | NC       |
| 19     | NC       | 43     | /CAS1    | 67     | PD1      |
| 20     | D4       | 44     | /RAS0    | 68     | PD2      |
| 21     | D22      | 45     | NC       | 69     | PD3      |
| 22     | D5       | 46     | NC       | 70     | PD4      |
| 23     | D23      | 47     | /WE      | 71     | NC       |
| 24     | D6       | 48     | NC       | 72     | Vss      |

### Pin Identification

| Symbol        | Function                   |
|---------------|----------------------------|
| A0 ~ A9       | Address inputs             |
| D0 ~ D35      | Common data inputs/outputs |
| /RAS0, /RAS2  | Row address strobes        |
| /CAS0 ~ /CAS3 | Column address strobes     |
| /WE           | Write enable               |
| Vcc           | +5.0 Volt power supply     |
| Vss           | Ground                     |
| NC            | No connection              |
| PD1 ~ PD4     | Presence detection pin     |

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