

TS32MLS72V6D

168PIN PC133 Unbuffered DIMM
256MB With 16Mx8 CL3

Description

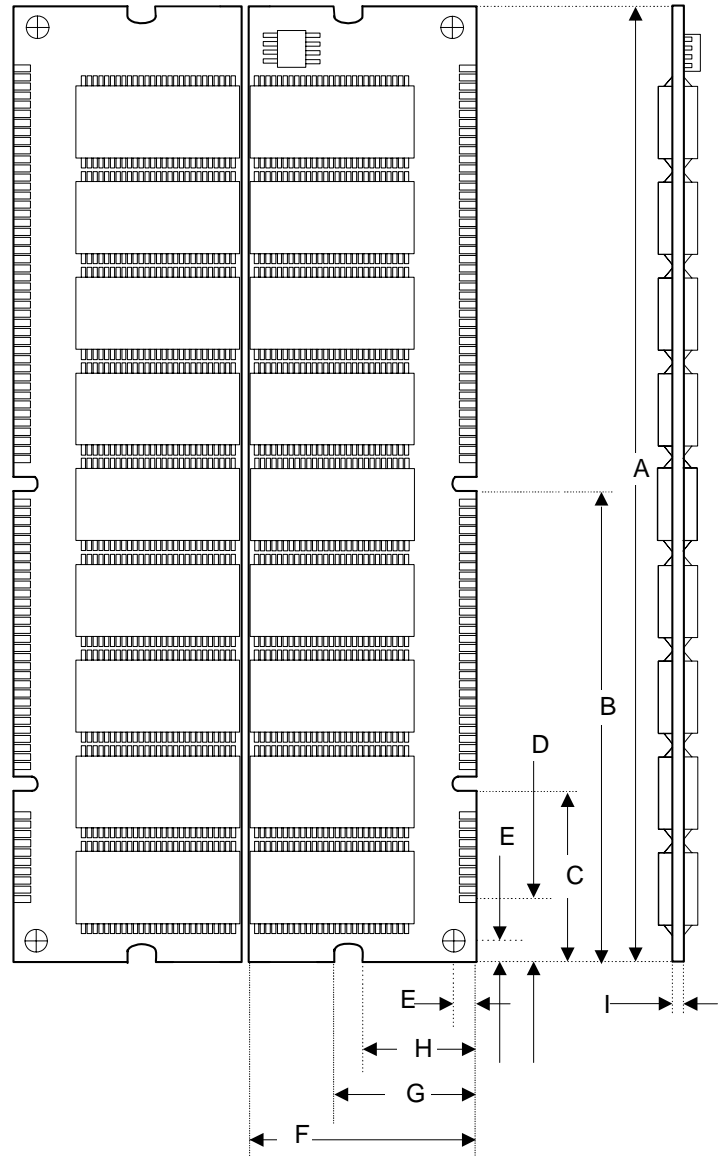
The TS32MLS72V6D is a 32M x 72bits Synchronous Dynamic RAM high-density for PC-133. The TS32MLS72V6D consists of 18pcs CMOS 16Mx8 bits Synchronous DRAMs in TSOP-II 400mil packages and a 2048 bits serial EEPROM on a 168-pin printed circuit board. The TS32MLS72V6D is a Dual In-Line Memory Module and is intended for mounting into 168-pin edge connector sockets.

Synchronous design allows precise cycle control with the use of system clock. I/O transactions are possible on every clock cycle. Range of operation frequencies, programmable latencies allow the same device to be useful for a variety of high bandwidth, high performance memory system applications.

Features

- Performance Range : PC-133 CL3
- Conformed to JEDEC Standard Spec.
- Burst Mode Operation.
- Auto and Self Refresh.
- CKE Power Down Mode.
- DQM Byte Masking (Read/Write)
- Serial Presence Detect (SPD) with serial EEPROM
- LVTTTL compatible inputs and outputs.
- Single 3.3V \pm 0.3V power supply.
- MRS cycle with address key programs.
Latency (Access from column address)
Burst Length (1,2,4,8 & Full Page)
Data Sequence (Sequential & Interleave)
- All inputs are sampled at the positive going edge of the system clock.

Placement



PCB :09-2500

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Dimensions

| Side | Millimeters | Inches |
|------|-------------|-------------|
| A | 133.35±0.40 | 5.250±0.016 |
| B | 65.67 | 2.585 |
| C | 23.49 | 0.925 |
| D | 8.89 | 0.350 |
| E | 3.00 | 0.118 |
| F | 28.45±0.20 | 1.120±0.008 |
| G | 19.80 | 0.780 |
| H | 15.80 | 0.622 |
| I | 1.27±0.10 | 0.050±0.004 |

(Refer Placement)

Pin Identification

| Symbol | Function |
|--------------------|---------------------------------|
| A0~A11, BA0, BA1 | Address input |
| DQ0~DQ63, C0~C7 | Data Input / Output. |
| CLK0~CLK3 | Clock Input. |
| CKE0, CEK1 | Clock Enable Input. |
| /CS0~/CS3 | Chip Select Input. |
| /RAS | Row Address Strobe |
| /CAS | Column Address Strobe |
| /WE | Write Enable |
| DQM0~DQM7 | Data (DQ) Mask |
| SA0~SA2 | Address in EEPROM |
| SCL | Serial PD Clock |
| SDA | Serial PD Add/Data input/output |
| Vcc | +5.0 Voltage Power Supply |
| Vss | Ground |
| NC | No Connection |

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Pinouts:

| Pin No | Pin Name | Pin No | Pin Name | Pin No | Pin Name | Pin No | Pin Name |
|--------|----------|--------|----------|--------|----------|--------|----------|
| 01 | Vss | 43 | Vss | 85 | Vss | 127 | Vss |
| 02 | DQ0 | 44 | NC | 86 | DQ32 | 128 | CKE0 |
| 03 | DQ1 | 45 | /CS2 | 87 | DQ33 | 129 | */CS3 |
| 04 | DQ2 | 46 | DQM2 | 88 | DQ34 | 130 | DQM6 |
| 05 | DQ3 | 47 | DQM3 | 89 | DQ35 | 131 | DQM7 |
| 06 | Vcc | 48 | NC | 90 | Vcc | 132 | *A13 |
| 07 | DQ4 | 49 | Vcc | 91 | DQ36 | 133 | Vcc |
| 08 | DQ5 | 50 | NC | 92 | DQ37 | 134 | NC |
| 09 | DQ6 | 51 | NC | 93 | DQ38 | 135 | NC |
| 10 | DQ7 | 52 | *C2 | 94 | DQ39 | 136 | *C6 |
| 11 | DQ8 | 53 | *C3 | 95 | DQ40 | 137 | *C7 |
| 12 | Vss | 54 | Vss | 96 | Vss | 138 | Vss |
| 13 | DQ9 | 55 | DQ16 | 97 | DQ41 | 139 | DQ48 |
| 14 | DQ10 | 56 | DQ17 | 98 | DQ42 | 140 | DQ49 |
| 15 | DQ11 | 57 | DQ18 | 99 | DQ43 | 141 | DQ50 |
| 16 | DQ12 | 58 | DQ19 | 100 | DQ44 | 142 | DQ51 |
| 17 | DQ13 | 59 | Vcc | 101 | DQ45 | 143 | Vcc |
| 18 | Vcc | 60 | DQ20 | 102 | Vcc | 144 | DQ52 |
| 19 | DQ14 | 61 | NC | 103 | DQ46 | 145 | NC |
| 20 | DQ15 | 62 | *Vref | 104 | DQ47 | 146 | *Vref |
| 21 | *C0 | 63 | *CKE1 | 105 | *C4 | 147 | *REGE |
| 22 | *C1 | 64 | Vss | 106 | *C5 | 148 | Vss |
| 23 | Vss | 65 | DQ21 | 107 | Vss | 149 | DQ53 |
| 24 | NC | 66 | DQ22 | 108 | NC | 150 | DQ54 |
| 25 | NC | 67 | DQ23 | 109 | NC | 151 | DQ55 |
| 26 | Vcc | 68 | Vss | 110 | Vcc | 152 | Vss |
| 27 | /WE | 69 | DQ24 | 111 | /CAS | 153 | DQ56 |
| 28 | DQM0 | 70 | DQ25 | 112 | DQM4 | 154 | DQ57 |
| 29 | DQM1 | 71 | DQ26 | 113 | DQM5 | 155 | DQ58 |
| 30 | /CS0 | 72 | DQ27 | 114 | */CS1 | 156 | DQ59 |
| 31 | NC | 73 | Vcc | 115 | /RAS | 157 | Vcc |
| 32 | Vss | 74 | DQ28 | 116 | Vss | 158 | DQ60 |
| 33 | A0 | 75 | DQ29 | 117 | A1 | 159 | DQ61 |
| 34 | A2 | 76 | DQ30 | 118 | A3 | 160 | DQ62 |
| 35 | A4 | 77 | DQ31 | 119 | A5 | 161 | DQ63 |
| 36 | A6 | 78 | Vss | 120 | A7 | 162 | Vss |
| 37 | A8 | 79 | *CLK2 | 121 | A9 | 163 | *CLK3 |
| 38 | A10/AP | 80 | NC | 122 | BA0 | 164 | NC |
| 39 | BA1 | 81 | NC | 123 | A11 | 165 | SA0 |
| 40 | Vcc | 82 | SDA | 124 | Vcc | 166 | SA1 |
| 41 | Vcc | 83 | SCL | 125 | *CLK1 | 167 | SA2 |
| 42 | CLK0 | 84 | Vcc | 126 | *A12 | 168 | Vcc |