

MAXIMUM RATINGS

| SYMBOL | ITEM | RATING | UNIT |
|---------------------|-----------------------|---------------------------|--------|
| V _{DD} | Power Supply Voltage | -0.3~7.0 | V |
| V _{IN} | Input Voltage | -2.0~7.0 | V |
| V _{OUT} | Output Voltage | -0.5~V _{DD} +0.5 | V |
| P _D | Power Dissipator | 650 | mW |
| T _{SOLDER} | Soldering Temperature | 260 · 10 | °C·sec |
| T _{STG} | Storage Temperature | -65~150 | °C |
| T _{OPR} | Operating Temperature | 0~70 | °C |

D. C. RECOMMENDED OPERATING CONDITIONS

| SYMBOL | PARAMETER | MIN. | TYP. | MAX. | UNIT |
|-----------------|----------------------|------|------|----------------------|------|
| V _{DD} | Power Supply Voltage | 4.5 | 5.0 | 5.5 | V |
| V _{IH} | Input High Voltage | 2.2 | — | V _{DD} +0.3 | V |
| V _{IL} | Input Low Voltage | -3.0 | — | 0.8 | V |

D. C and OPERATING CHARACTERISTICS (T_a=0~70°C, V_{DD}=5V±10%)

| SYMBOL | PARAMETER | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|-------------------|------------------------|---|------|------|------|------|
| I _{IL} | Input Leakage Current | V _{IN} =0~V _{DD} | — | — | ±1.0 | μA |
| I _{OH} | Output High Current | V _{OH} =2.4V | -8 | — | — | mA |
| I _{OL} | Output Low Current | V _{OL} =0.4V | 8 | — | — | mA |
| I _{LO} | Output Leakage Current | CE=V _{IH} or WE=V _{IL} V _{OUT} =0~V _{DD} | — | — | ±1.0 | μA |
| I _{DDO} | Operating Current | V _{DD} =5.5V, t _{cycle} =Min cycle, CE=V _{IL} Other Input=V _{IH} /V _{IL} | — | — | 100 | mA |
| I _{DDs1} | Standby Current | CE=V _{IH} | — | — | 20 | mA |
| I _{DDs2} | | CE=V _{DD} -0.2V Other Input=V _{DD} -0.2V or 0.2V | — | — | 2 | |

CAPACITANCE (T_a=25°C)

| SYMBOL | PARAMETER | TEST CONDITION | MAX. | UNIT |
|------------------|--------------------|-----------------------|------|------|
| C _{IN} | Input Capacitance | V _{IN} =GND | 10 | pF |
| C _{OUT} | Output Capacitance | V _{OUT} =GND | 10 | pF |

Note : This parameter periodically sampled is not 100% tested.

TC5562P/J-35, TC5562P/J-45 TC5562P/J-55

A. C. CHARACTERISTICS (Ta=0~70°C, VDD=5V±10%)

Read Cycle

| SYMBOL | PARAMETER | TC5562P/J-35 | | TC5562P/J-45 | | TC5562P/J-55 | | UNIT |
|------------------|----------------------------------|--------------|------|--------------|------|--------------|------|------|
| | | MIN. | MAX. | MIN. | MAX. | MIN. | MAX. | |
| t _{RC} | Read Cycle Time | 35 | — | 45 | — | 55 | — | ns |
| t _{ACC} | Address Access Time | — | 35 | — | 45 | — | 55 | |
| t _{CO} | Chip Enable Access Time | — | 35 | — | 45 | — | 55 | |
| t _{COE} | Chip Enable to Output in Low-Z | 5 | — | 5 | — | 5 | — | |
| t _{COD} | Chip Disable to Output in High-Z | — | 15 | — | 15 | — | 15 | |
| t _{OH} | Output Data Hold Time | 5 | — | 5 | — | 5 | — | |

Write Cycle

| SYMBOL | PARAMETER | TC5562P/J-35 | | TC5562P/J-45 | | TC5562P/J-55 | | UNIT |
|-----------------------------|-----------------------------|--------------|------|--------------|------|--------------|------|------|
| | | MIN. | MAX. | MIN. | MAX. | MIN. | MAX. | |
| t _{WC} | Write Cycle Time | 35 | — | 45 | — | 55 | — | ns |
| t _{WP} | Write Pulse Width | 25 | — | 30 | — | 35 | — | |
| t _{CW} | Chip Enable to End of Write | 25 | — | 30 | — | 35 | — | |
| t _{AS} | Address Set up Time | 0 | — | 0 | — | 0 | — | |
| t _{WR} | Write Recovery Time | 0 | — | 0 | — | 0 | — | |
| t _{OE_W} | WE to Output Low-Z | 0 | — | 0 | — | 0 | — | |
| t _{OD_W} | WE to Output High-Z | — | 15 | — | 15 | — | 15 | |
| t _{DS} | Data Set up Time | 20 | — | 25 | — | 25 | — | |
| t _{DH} | Data Hold Time | 0 | — | 0 | — | 0 | — | |

A. C. TEST CONDITIONS

| | |
|--|------------|
| Input Pulse Levels | 2.4V/0.6V |
| Input Rise and Fall Times | 5ns |
| Input and Output Timing Reference Levels | 1.5V |
| Output Load | See Fig. 1 |

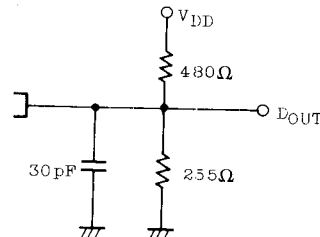
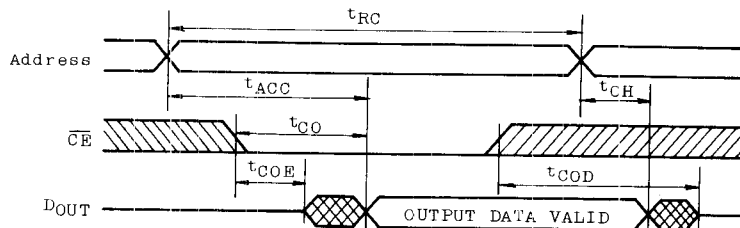


Fig.1 Output Load

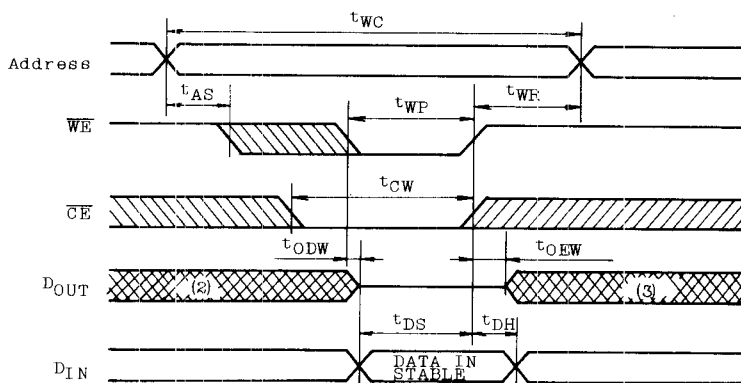
TC5562P/J-35, TC5562P/J-45 TC5562P/J-55

TIMING WAVEFORMS

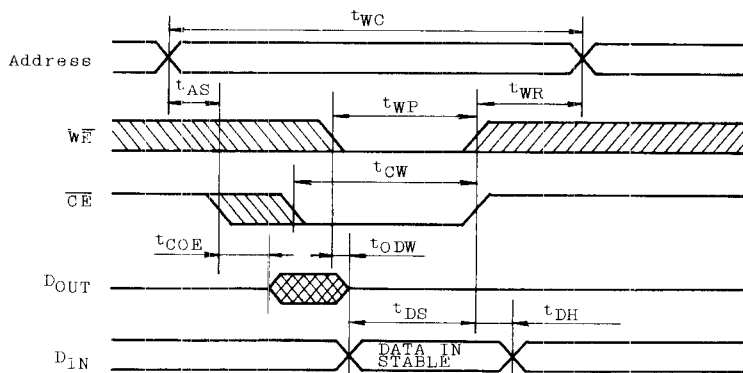
● READ CYCLE (1)



● WRITE CYCLE 1 (\overline{WE} Controlled Write)



● WRITE CYCLE 2 (\overline{CE} Controlled Write)

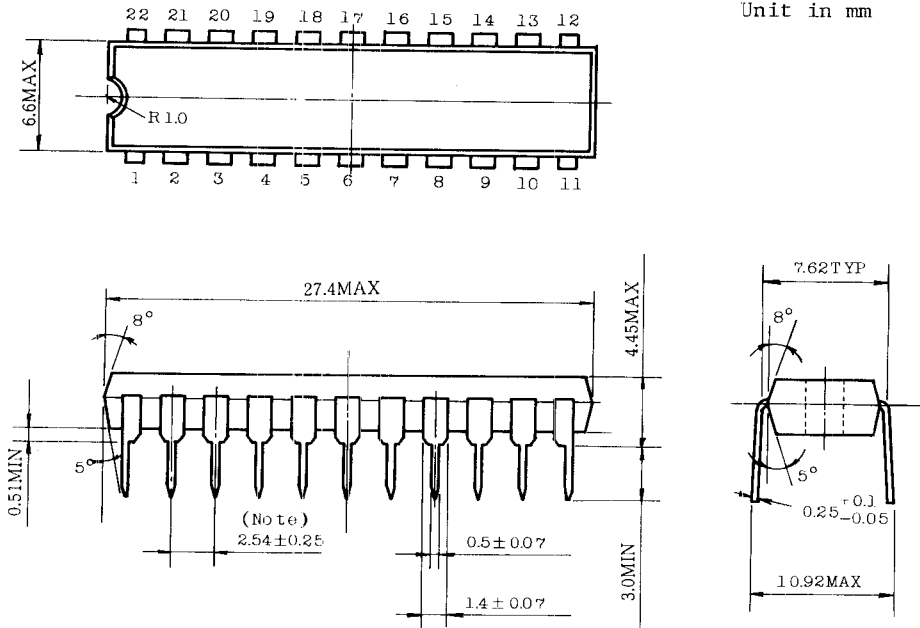


Note :

1. \overline{WE} is High for Read Cycle.
2. Assuming that \overline{CE} Low transition occurs coincident with or after \overline{WE} Low transition, Outputs remain in a high impedance state.
3. Assuming that \overline{CE} High transition occurs coincident with or prior \overline{WE} High transition, Outputs remain in a high impedance state.
4. The operating temperature (T_a) is guaranteed with transverse air flow exceeding 400 linear feet per minute.

**TC5562P/J-35, TC5562P/J-45
TC5562P/J-55**

OUTLINE DRAWINGS

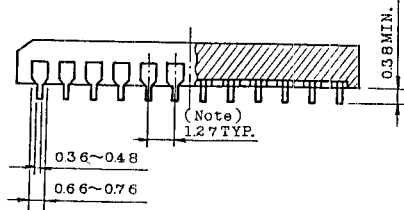
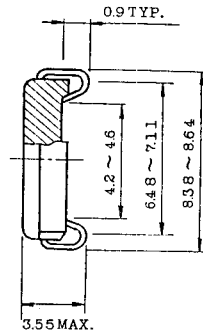
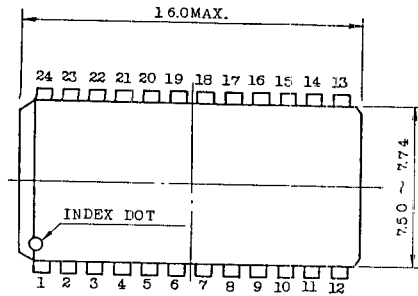


Note : Each lead pitch is 2.54mm.
All leads are located within 0.25mm of the true longitudinal position with respect to No.1 and No.22 leads.

TC5562P/J-35, TC5562P/J-45 TC5562P/J-55

• Plastic SOJ

Unit in mm



Note: Each lead pitch is 1.27mm.

All leads are located within 0.12mm of the true longitudinal position with respect to No. 1 and No. 24 leads.

Note: Toshiba does not assume any responsibility for use of any circuitry described; no circuit patent licenses are implied, and Toshiba reserves the right, at any time without notice, to change said circuitry.
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