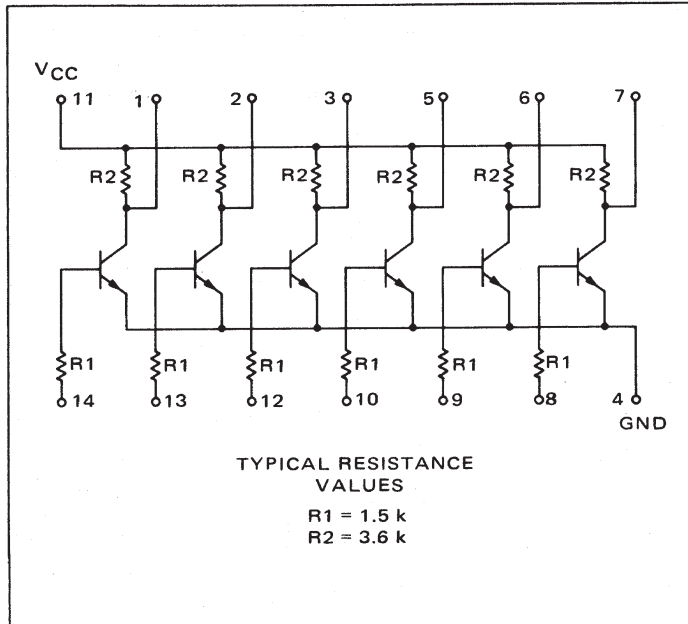


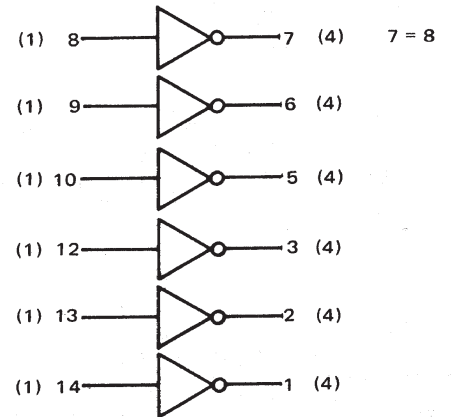
# HEX INVERTERS

# PLASTIC mW MRTL MC700P/800P series

## MC9718P • MC9818P

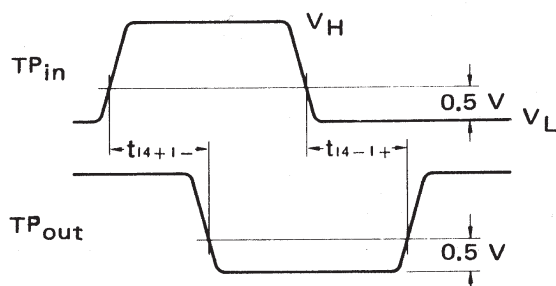
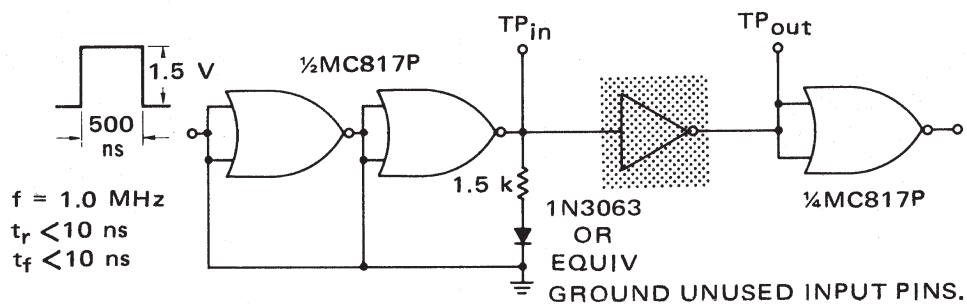


Six individual circuits are contained in a single package. Each provides the simple inversion function.



$t_{pd} = 27 \text{ ns}$   
 $P_D = 7.0 \text{ mW (Input High)}$  Number In Parenthesis Indicates  
 $3.0 \text{ mW (Input Low)}$  Loading Factor

## SWITCHING TIMES TEST CIRCUIT AND WAVEFORMS



ELECTRICAL CHARACTERISTICS

Test procedures are shown for one inverter only.  
The other inverters are tested in the same manner.

| ELECTRICAL CHARACTERISTICS                                                                             |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
|--------------------------------------------------------------------------------------------------------|------------------------------------|-----------------|-----------------|------------------|------------------|-----------------|-------|-----|-------------|-----|-------|-----|-------|-----|-----------------------------------------------|
| Test procedures are shown for one inverter only.<br>The other inverters are tested in the same manner. |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
| TEST VOLTAGE VALUES                                                                                    |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
| (Volts)                                                                                                |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
| @ Test                                                                                                 |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
| Temperature                                                                                            |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
| MC9818P                                                                                                | 0°C                                | V <sub>in</sub> | V <sub>on</sub> | V <sub>BOT</sub> | V <sub>off</sub> | V <sub>CC</sub> |       |     |             |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
| MC9718P                                                                                                | +25°C                              | V <sub>in</sub> | V <sub>on</sub> | V <sub>BOT</sub> | V <sub>off</sub> | V <sub>CC</sub> |       |     |             |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
| MC9718P                                                                                                | +75°C                              | V <sub>in</sub> | V <sub>on</sub> | V <sub>BOT</sub> | V <sub>off</sub> | V <sub>CC</sub> |       |     |             |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
| MC9718P                                                                                                | +15°C                              | V <sub>in</sub> | V <sub>on</sub> | V <sub>BOT</sub> | V <sub>off</sub> | V <sub>CC</sub> |       |     |             |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
| MC9718P                                                                                                | +25°C                              | V <sub>in</sub> | V <sub>on</sub> | V <sub>BOT</sub> | V <sub>off</sub> | V <sub>CC</sub> |       |     |             |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
| MC9718P                                                                                                | +55°C                              | V <sub>in</sub> | V <sub>on</sub> | V <sub>BOT</sub> | V <sub>off</sub> | V <sub>CC</sub> |       |     |             |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |
| Characteristic                                                                                         | Symbol                             | Pin Under Test  | MC9818P         |                  |                  |                 |       |     | MC9718P     |     |       |     |       |     | TEST VOLTAGE<br>APPLIED TO PINS LISTED BELOW: |
|                                                                                                        |                                    |                 | Test Limits     |                  |                  |                 |       |     | Test Limits |     |       |     |       |     |                                               |
|                                                                                                        |                                    |                 | 0°C             |                  | +25°C            |                 | +75°C |     | +15°C       |     | +25°C |     | +55°C |     |                                               |
|                                                                                                        |                                    |                 | Min             | Max              | Min              | Max             | Min   | Max | Min         | Max | Min   | Max | Min   | Max | Unit                                          |
| Input Current                                                                                          | I <sub>in</sub>                    | 14*             | -               | 150              | -                | 140             | -     | 150 | -           | 150 | -     | 150 | -     | 150 | μAdc                                          |
| Output Current                                                                                         | I <sub>A4</sub>                    | 1               | 570             | -                | 570              | -               | 535   | -   | 570         | -   | 570   | -   | 570   | -   | μAdc                                          |
| Output Voltage                                                                                         | V <sub>out</sub>                   | 1               | -               | 400              | -                | 350             | -     | 400 | -           | 300 | -     | 400 | -     | 320 | mVdc                                          |
| Saturation Voltage                                                                                     | V <sub>CE(sat)</sub>               | 1               | -               | 250              | -                | 250             | -     | 220 | -           | 230 | -     | 220 | -     | 320 | mVdc                                          |
| Switching Time                                                                                         | t <sub>on</sub> + t <sub>off</sub> | 1, 14           | -               | -                | 90               | -               | -     | -   | -           | 90  | -     | -   | -     | -   | ns                                            |
|                                                                                                        |                                    |                 |                 |                  |                  |                 |       |     |             |     |       |     |       |     |                                               |

Ground inputs of inverters not under test. Other pins not listed are left open.  
\* To simulate worse case conditions, the output of inverter under test is tied to the output of another inverter which has its input taken to V<sub>BOT</sub>.