# OTP64164F-80

## *User's Manual*

Rev.1.00 Mar. 1995

* This manual contains important information necessary for the safe use of the OTP64164F-80. It should be read before use.
* Please keep it in an easily accessible place, near the OTP64164F-80F at all times.

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# NOTICE

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# 1. OVERVIEW

The OTP64164F-80 is a conversion adapter used to write program data to the ROM(OTP) contained in the MSM64P164-GS-K(Package Type : QFP80-P-1414-0.65-K) using a general PROM writer (note1).

Data can be written into or read from the ROM(OTP) like an EPROM by inserting the OTP64164F-80 into the socket of a general PROM writer (note2) before inserting the MSM64P164-GS-K into the socket of the OTP64164F-80. (See the figure 1)

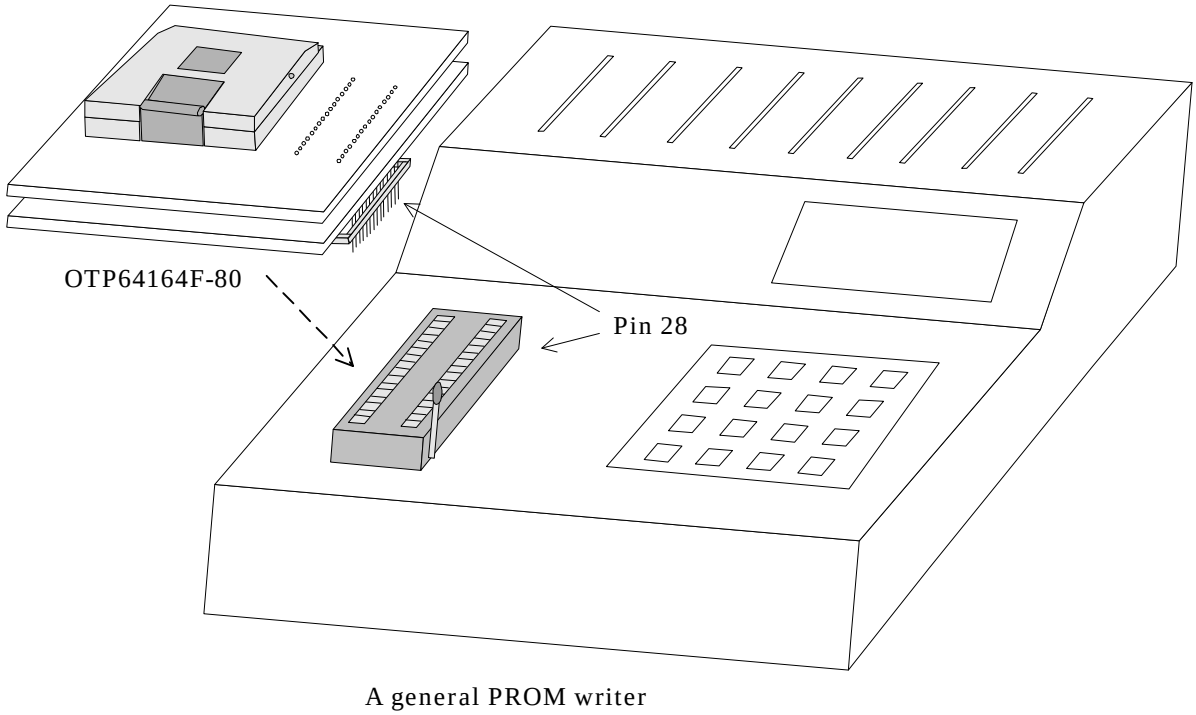


**Figure 1. Mounting OTP64164F-80**

note1 : We recommend using a PROM writer Model 1866A from MINATO and a PROM writer R4945/TR4943 from ADVANTEST.

note2 : Be sure to insert the OTP64164F-80 into the socket of the general PROM writer in the specified direction as shown in the figure 1 above. Otherwise, the OTP64164F-80 may be damaged.

# 2. WRITING PROGRAM DATA

Turn the SW1 of the OTP64164F-80 to “D”.

Make the pin 1 facing to the mark “▲” of the socket when inserting the MSM64P164-GS-K into the socket of the OTP64164F-80. (See the figure 2)

When writing program data (note3), set the ROM type of the PROM writer to the intel fast writing mode (Vpp=12.5V, program pulse width:1ms) for the 27C256 type PROM.

Specify the writing address range to 0000H~0FDFH.

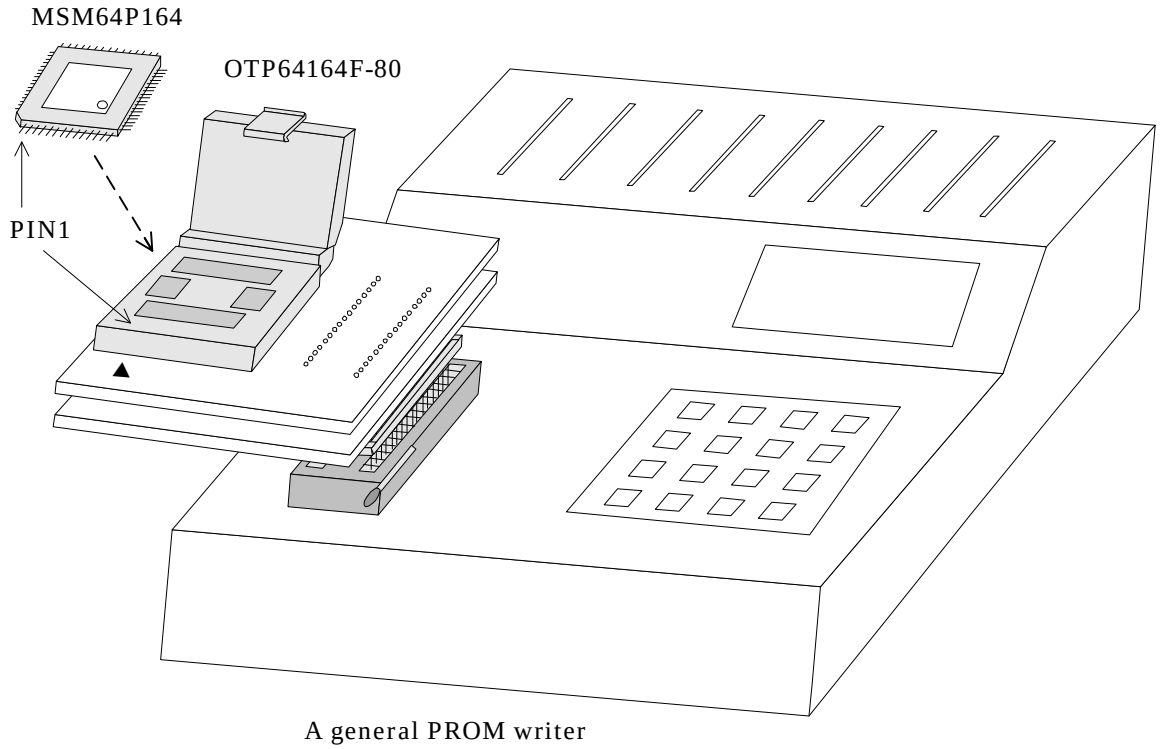


**Figure 2. Mounting MSM64P164**

note3 : The MSM64P164 dose not contain ID code. Don’t set up ID mode (product identification mode) when writing data using a general PROM writer. Otherwise, an error will occur.

# 3. WRITING SECURITY FLAG

The security flag is used to inhibit reading program data from the MSM64P164-GS-K.

When writing a security flag, write “00” to the address location “0000” after setting the SW1 of the OTP64164F-80 to “S” .

Note that in this case, verification may be impossible and an error may occur in the PROM writer.

[ NOTES ]

1. Set the SW1 of the OTP64164F-80 to “D” when writing program data.
2. It is impossible to verify the security flag after writing “00” to the security flag. Therefore, when setting a security flag, first write program data after setting the SW1 to “D” . Then write “00” after setting the SW1 to “S”. It is impossible to overwrite the existing program data if a new program is written when the SW1 is set to “S”.
3. Write program data to the locations 0000H~0FDFH using a PROM writer that can specify the writing address. Data in 0000H~0FDFH may be damaged if data is written into 0FE0~7FFFH.
4. For more information on the MSM64P164, see the MSM64P164 User’s Manual.

■ Recommended operating conditions

| Parameter | Condition | Rated Value | | | Unit |
|---|---|---|---|---|---|
| | | Min | Typ | Max | |
| Power supply voltage | - | 4.75 | 5.00 | 5.25 | V |
| Program power supply voltage | Read operation | 4.75 | 5.00 | 5.25 | V |
| | Programming operation | 12.00 | 12.50 | 13.50 | V |
| Operating temperature | - | 5 | - | 40 | °C |
| Operating humidity | ( without condensation ) | 30 | - | 80 | % |