

# OTP63180LF-176

## *User's Manual*

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Rev.1.00 Jan. 1997

- \* This manual contains important information necessary for the safe use of the OTP63180LF-176. It should be read before use.
- \* Please keep it in an easily accessible place, near the OTP63180LF-176 at all times.

Oki Electric Industry Co.,Ltd.

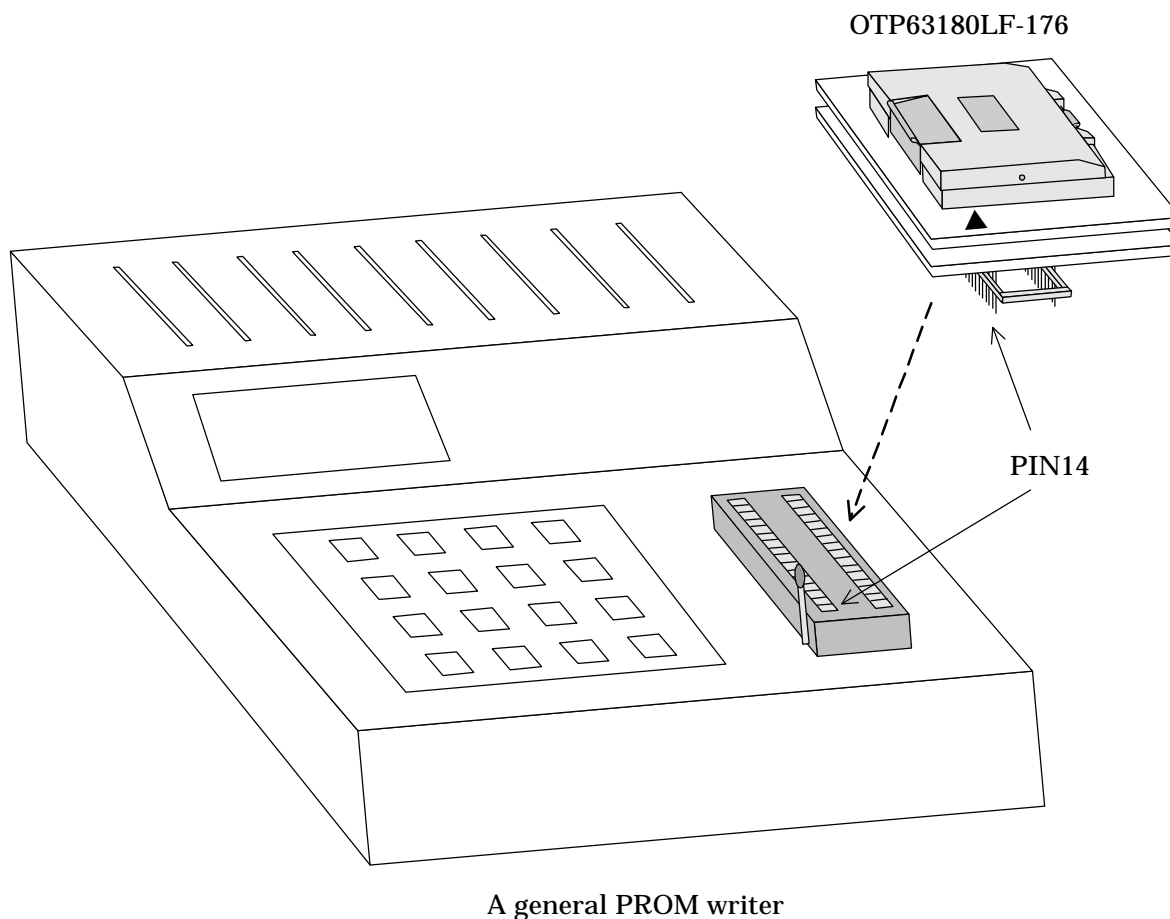
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## 1. OVERVIEW

The OTP63180LF-176 is a conversion adapter used to write program data to the ROM(OTP) contained in the MSM63P180-GS-BK(Package Type : TQFP176-P-2424-0.50-BK) using a general PROM writer (note1).

Data can be written into or read from the ROM(OTP) like an EPROM by inserting the OTP63180LF-176 into the socket of a general PROM writer (note2) before inserting the MSM63P180-GS-BK into the socket of the OTP63180LF-176. (See the figure 1)



**Figure 1. Mounting OTP63180LF-176**

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 OTP63180LF-176 into the socket of the general PROM writer in the specified direction as shown in the figure 1 above. Otherwise, the OTP63180LF-176 may be damaged.

## 2. WRITING PROGRAM DATA

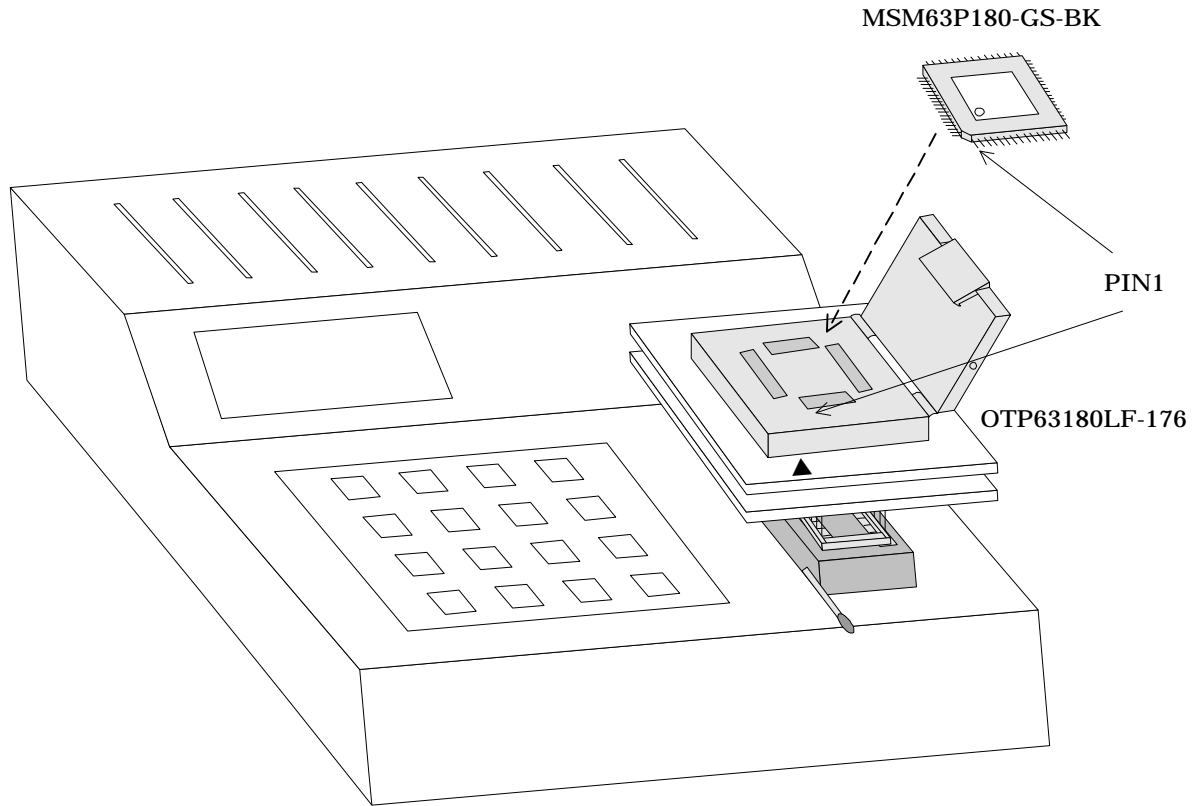
Turn the SW1 of the OTP63180LF-176 to "D".

Make the pin 1 facing to the mark "▲" of the socket when inserting the MSM63P180-GS-BK into the socket of the OTP63180LF-176. (See the figure 2)

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

Specify the writing address range to 0000H~3FFFH.

And, when turning the SW2 of OTP63180LF-176 to "H", upper 8 bits of program data is written. When turning the SW2 of OTP63180LF-176 to "L", lower 8 bits of program data is written.



A general PROM writer

**Figure 2. Mounting MSM63P180**

note3 : The MSM63P180 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 MSM63P180-GS-BK.

When writing a security flag, write "00" to the address location "0000" after setting the SW1 of the OTP63180LF-176 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 OTP63180LF-176 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~3FFFH using a PROM writer that can specify the writing address. Data in 0000H~3FFFH may be damaged if data is written into 4000~7FFFH.
4. For more information on the MSM63P180, see the MSM63P180 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	-	30	-	80	%