

To our customers,

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April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

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# PCA7429G02

User's Manual

PROM Programming Adapter for M37272E8SP/  
M37272EFSP

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#### **Precautions to be taken when using this product**

- This product is a development supporting unit for use in your program development and evaluation stages. In mass-producing your program you have finished developing, be sure to make a judgment on your own risk that it can be put to practical use by performing integration test, evaluation, or some experiment else.
- In no event shall Renesas Solutions Corporation be liable for any consequence arising from the use of this product.
- Renesas Solutions Corporation strives to renovate or provide a workaround for product malfunction at some charge or without charge. However, this does not necessarily mean that Renesas Solutions Corporation guarantees the renovation or the provision under any circumstances.
- This product has been developed by assuming its use for program development and evaluation in laboratories. Therefore, it does not fall under the application of Electrical Appliance and Material Safety Law and protection against electromagnetic interference when used in Japan.

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## To use the product properly

### Precautions for Safety:



- Both in this User's Manual and on the product itself, several icons are used to insure proper handling of this product and also to prevent injuries to you or other persons, or damage to your properties.
- The icons' graphic images and meanings are given in "Chapter 1. Precautions for Safety" (page 4). Be sure to read this chapter before using the product.

# Chapter 1. Precautions for Safety

In both the user's manual and on the product itself, several icons are used to insure proper handling of this product and also to prevent injuries to you or other persons, or damage to your properties.

This chapter describes the precautions which should be taken in order to use this product safely and properly. Be sure to read this chapter before using this product.

## 1.1 Safety Symbols and Meanings



### **WARNING**

If the requirements shown in the "WARNING" sentences are ignored, the equipment may cause serious personal injury or death.



### **CAUTION**

If the requirements shown in the "CAUTION" sentences are ignored, the equipment may malfunction.

### **IMPORTANT**

It means important information on using this product.

In addition to the three above, the following are also used as appropriate.

△ means WARNING or CAUTION.

Example: ⚡ **CAUTION AGAINST AN ELECTRIC SHOCK**

⊘ means PROHIBITION.

Example: ⚠ **DISASSEMBLY PROHIBITED**

● means A FORCIBLE ACTION.

Example: 🔌 **UNPLUG THE POWER CABLE FROM THE RECEPTACLE.**

The following pages describe the symbols "WARNING", "CAUTION", and "IMPORTANT".

## **WARNING**

### **Warnings for Use Environment:**



- This equipment is to be used in an environment with a maximum ambient temperature of 35°C. Care should be taken that this temperature is not exceeded.
- Select the proper programming mode of the PROM programmer.

## **CAUTION**

### **Cautions to Be Taken for This Product:**



- Do not disassemble or modify this product. Disassembling or modifying this product can cause damage. Disassembling and modifying the product will void your warranty.
- Use caution when handling this product. Be careful not to apply a mechanical shock such as falling.
- Do not directly touch the connector pins of this product.
- Be careful with the static electricity when handling this product and the MCU.

### **When not using this product for a long time:**

- (1) Attach the connector pins of this product to the conductive sponge.
- (2) Put it into a conductive polyvinyl, and keep it in the package case shipped from the factory.
- (3) Store it in the place where humidity and temperature are low and direct sunshine does not strike.

## **IMPORTANT**

### **When Using The Product:**

- Attach this product to the IC socket on the PROM programmer properly.
- Insert the MCU to the IC socket of this product properly.
- When inserting and pulling out the MCU, be sure to keep the IC socket side above and horizontal.
- Be sure to set the programming area according to your PROM programmer.
- Do not use the PROM programmer's device identification code readout function.

## 2. Introduction

This product is a PROM programming adapter for 8-bit microcomputers of 7200 Series. The adapter is a tool that can be used to write a program into internal ROM of microcomputers using a commercially available PROM programmer.

This manual describes the specifications and operational procedures of PCA7429G02.

Figure 2.1 shows the external view of the PCA7429G02 and its constituent parts.

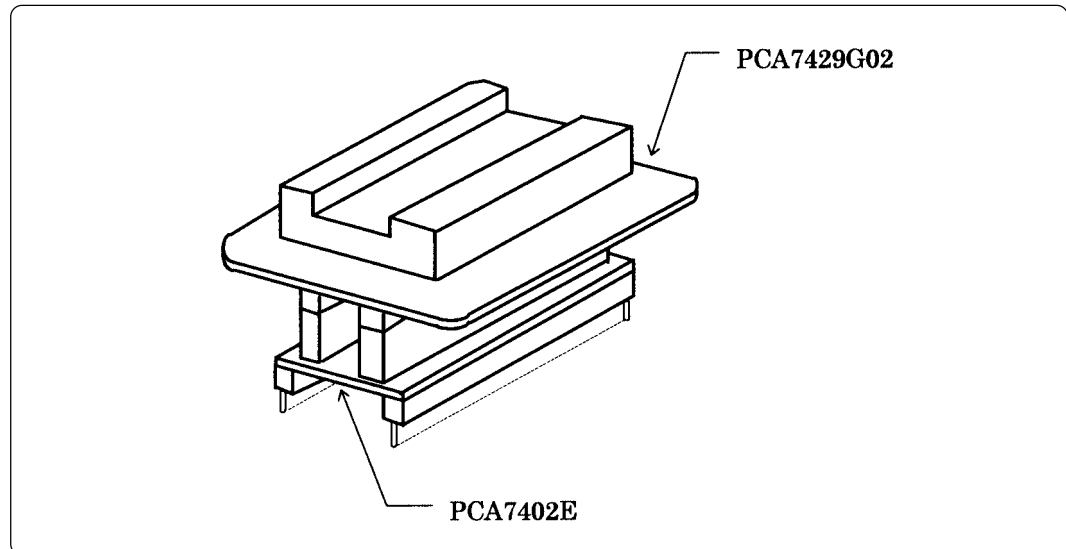


Figure 2.1 External view and constituent parts of PCA7429G02

### 2.1 Things to Check When Unpacking

This product consists of following parts. Check to see that it contains all of the components shown in Table 2.1 below.

Table 2.1 Contents

Main unit	PCA7429G02
Connector	PCA7402E (32-pin)
User's manual	PCA7429G02 User's Manual (This manual)

If any part is missing or there is any doubt about your product package, contact your local distributor.



### 3. Specifications

Table 3.1 lists specifications of the PCA7429G02.

*Table 3.1 Specifications of PCA7429G02*

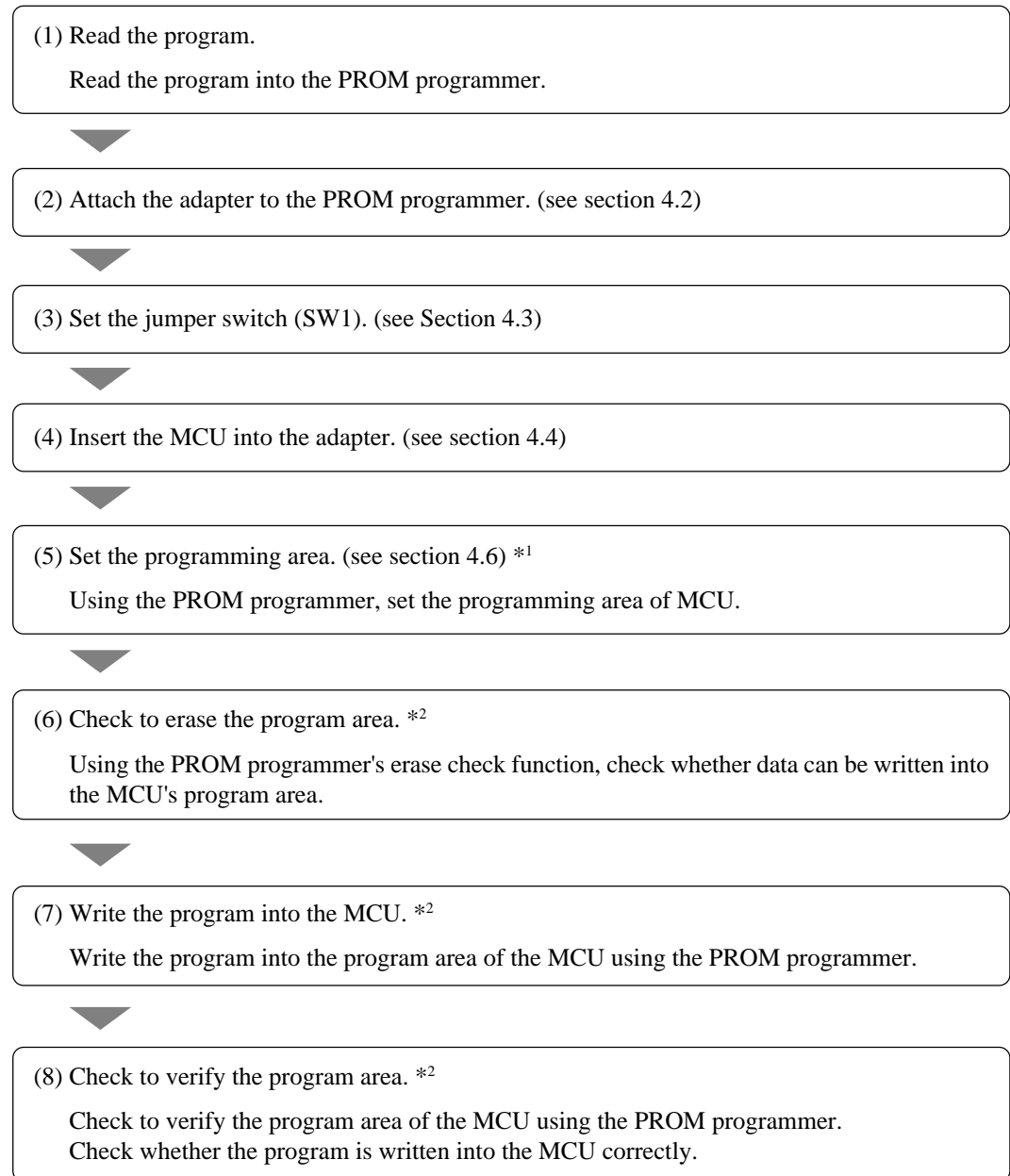
MCU type		M37272E8SP, M37272EFSP
Operating clock frequency		8MHz (Supplied by the ceramic oscillator mounted on the adapter)
Power supply		Supplied from $V_{CC}$ of PROM programmer
MCU socket		IC59-4206-G4 (Yamaichi Electronics Co., Ltd.)
Board configuration	PCA7429G02	Board to insert the programmable MCU (IC socket is mounted on this board.)
	PCA7402E	Board to connect to the PROM programmer (Standard 32-pin pin-header is mounted on it.)

## 4. How to Write the Program

This chapter describes procedures you need to follow when writing a program. For details on how to operate the PROM programmer, refer to the user's manual included with the PROM programmer.

### 4.1 Programming Procedure

Follow procedures (1) to (8) to write a program.



Notes:

\*1 Be sure to set the programming area. Otherwise the mode's shift to the programming mode may not be performed successfully. The erase check function etc. may not also be performed completely.

\*2 For some PROM programmers, steps (6) to (8) are automatically performed.

## 4.2 Attaching Adapter to PROM Programmer

As shown in Figure 4.1, attach the adapter's bottom board (PCA7402E) to the IC socket of PROM programmer, with the pin No. 1 of the adapter matched to the pin No. 1 of the IC socket .

**Be careful when attaching to the PROM programmer because incorrect insertion can cause fatal damage to the MCU.**

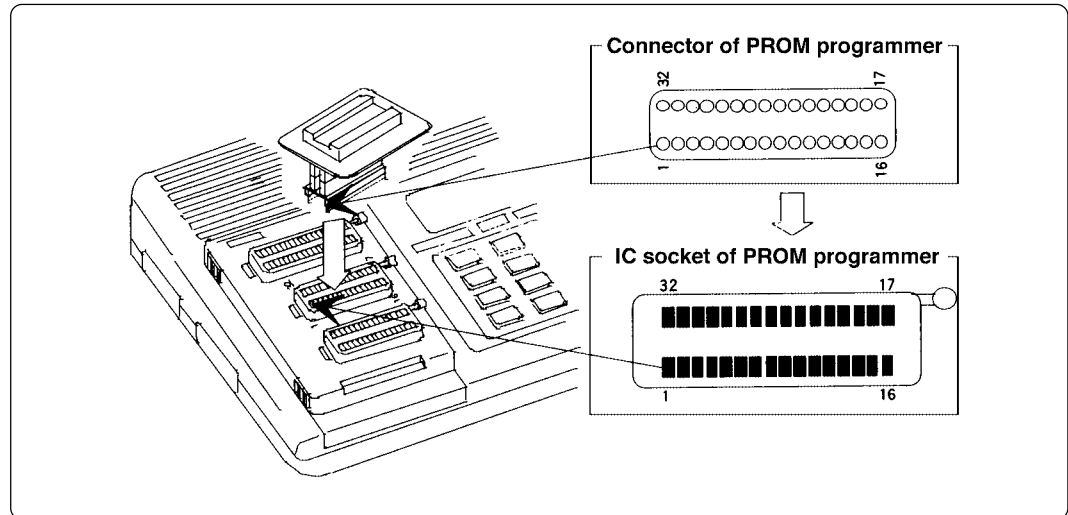


Figure 4.1 Attaching adapter to PROM programmer

### 4.3 Setting Jumper Switches

Switch settings for SW1 is shown in Table 4.1 and Figure 4.2 below.

Table 4.1 Switch settings for SW1

MCU type name	SW1
M37272E8SP	E8
M37272EFSP	EF

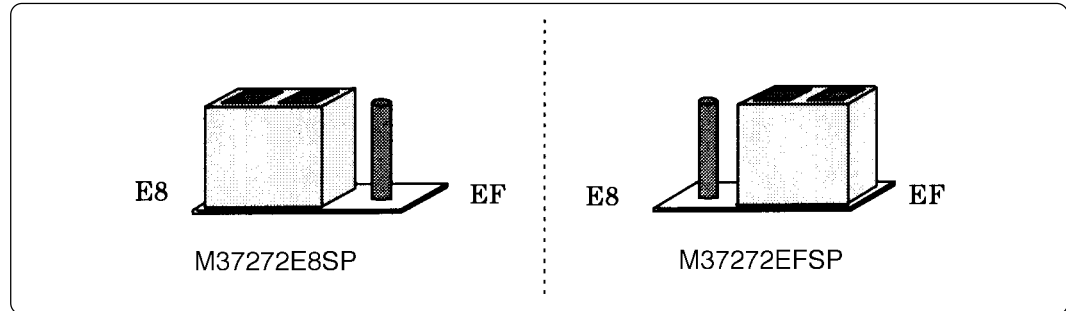


Figure 4.2 Switch settings for SW1

### 4.4 Inserting MCU into Adapter

As shown in Figure 4.3 insert the MCU into the IC socket, with the pin No. 1 of the MCU matched to the pin No. 1 of the IC socket on the adapter.

**Be careful when inserting the MCU because incorrect insertion can cause fatal damage to the MCU.**

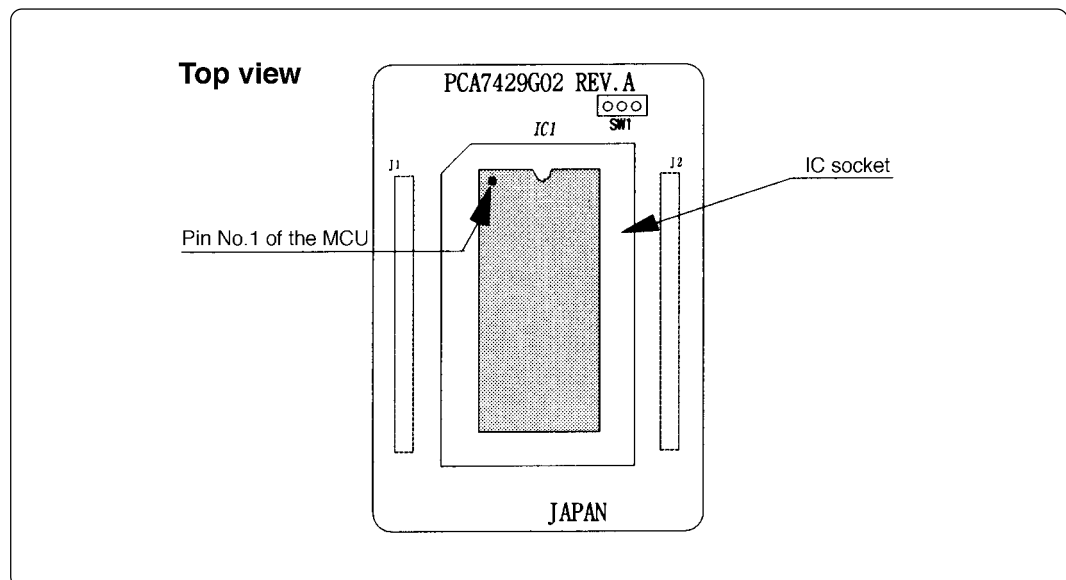


Figure 4.3 Inserting MCU

## 4.5 Precautions When Handling Adapter

Don't touch the connector in the IC socket and the pins on the PROM programmer connector. Otherwise it can cause an electrical insulation failure because of dirt.

When not using, attach the connector pins of this product to the conductive sponge as it was shipped from the factory.

## 4.6 Setting Programming Area

Always be sure to specify the programming area before writing the program into the MCU. This is also required for devices programmed using a PROM programmer.

*Table 4.2 Programming Areas*

MCU type name	MCU area	PROM programmer		ROM area of MCU
		Device	Programming area	
M37272E8SP	OSD ROM area	M5M27C101	1400 <sub>16</sub> : 3BFF <sub>16</sub>	1400 <sub>16</sub> : 3BFF <sub>16</sub>
	Internal ROM area		8000 <sub>16</sub> : FFFF <sub>16</sub>	8000 <sub>16</sub> : FFFF <sub>16</sub>
M37272EFSP	OSD ROM area		11400 <sub>16</sub> : 13BFF <sub>16</sub>	11400 <sub>16</sub> : 13BFF <sub>16</sub>
	Internal ROM area		1000 <sub>16</sub> : FFFF <sub>16</sub>	1000 <sub>16</sub> : FFFF <sub>16</sub>

## 5. Recommended PROM Programmers

The PROM programmers listed in Table 5.1 are recommended for the adapter. Using the actual product, we have verified that these PROM programmers can be used to write programs without problem. Nonconformity occurred by using other PROM programmers can not be supported. For the latest type of the PROM programmer, please contact the manufacturer to confirm whether it can be used for your product.

*Table 5.1 Recommended PROM programmers*

Manufacturer	Type name	Device	Programming voltage (VPP)
Advantest	R4945	M5M27C101 mode	12.5V
	R4945A		

# 6. Memory Map

Figures 6.1 and 6.2 show the MCU and the PROM programmer memory maps (programming areas).

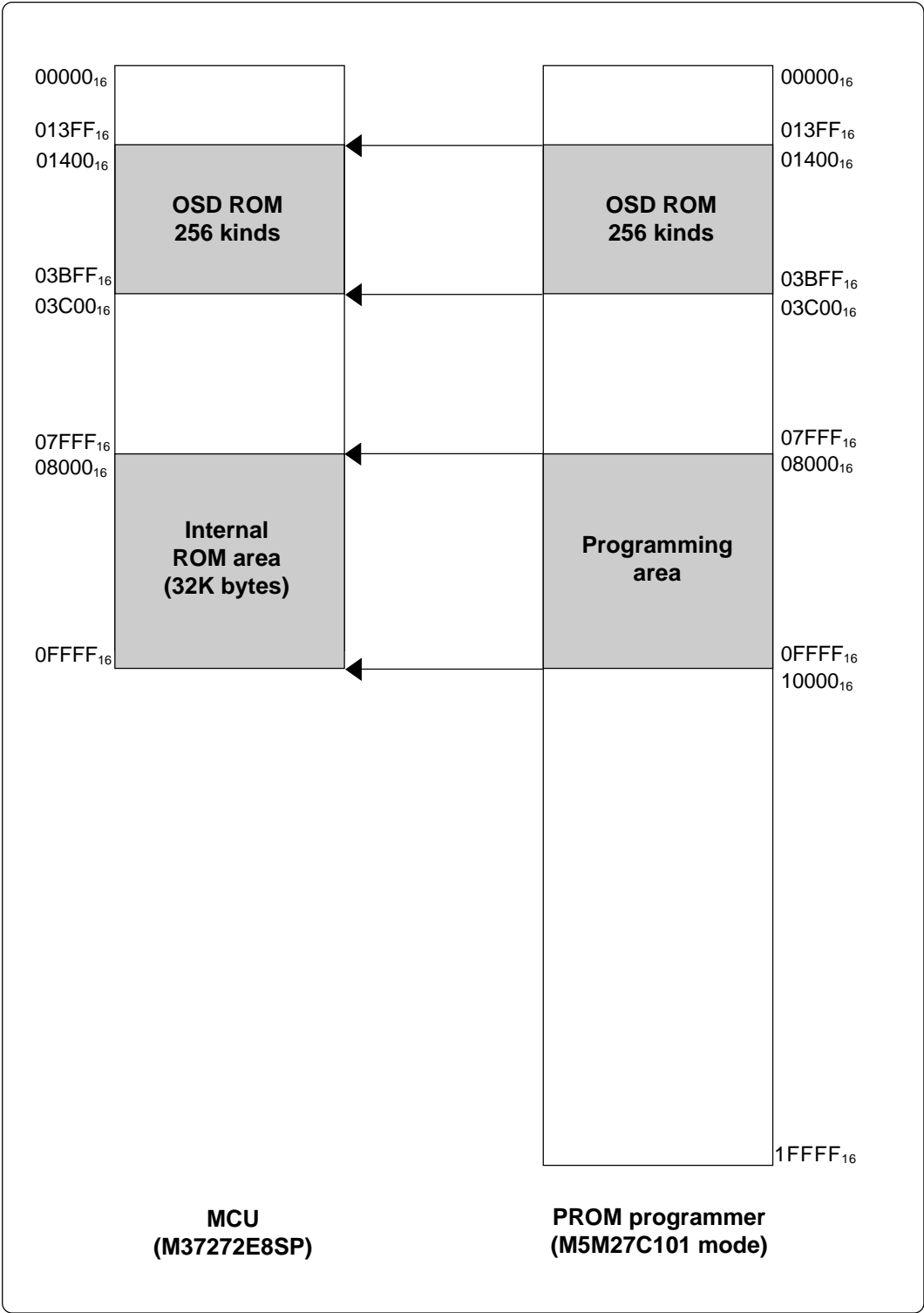


Figure 6.1 Memory map (M37272E8SP)

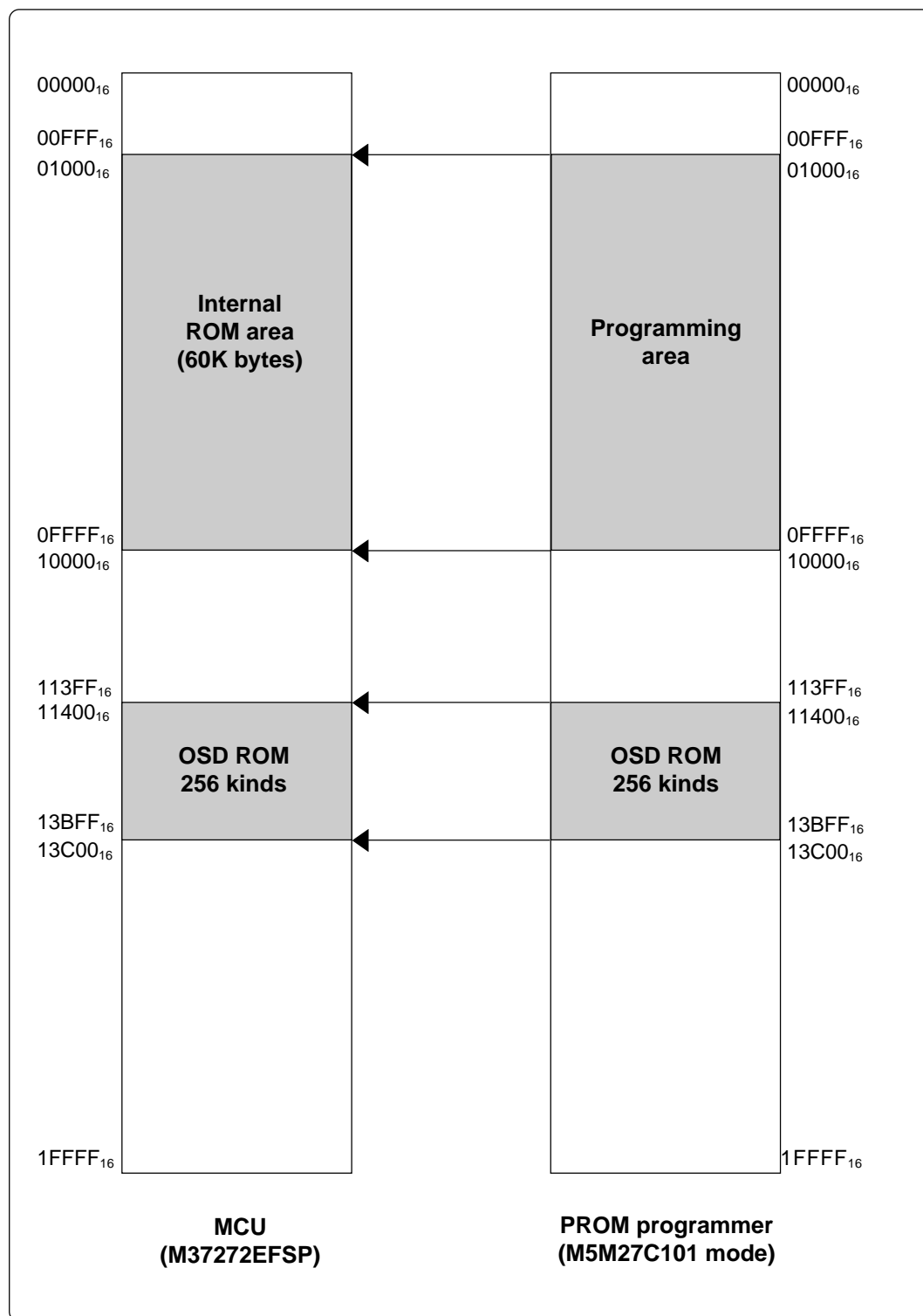


Figure 6.2 Memory map (M37272EFSP)

## 7. How to Request for Support

After checking this manual, fill in the following information and email to your local distributor.

For prompt response, please specify the following information:

(1) Contact address

- Company name
- Department
- Responsible person
- Phone number
- Fax number
- E-mail address

(2) Product information

- Name of the programming adapter
- Serial number
- Date of purchase
- Target MCU
- Symptoms (Fails blank check/Cannot write a program/Fails verification etc.)
- Detailed symptoms
- How often does the problem occur? (2 out of 10 etc.)
- When did the problem start to occur? (Since purchase/Used to work correctly)
- Type name of the PROM programmer (Advantest R4945A etc.)
- Specified device when writing to PROM (M27C101 etc.)
- Specified programming area when writing to PROM
- Switch settings of the adapter when writing to PROM



# PCA7429G02 User's Manual

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Rev.1.00  
September 1, 2003  
REJ10J0249-0100Z

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# PCA7429G02 User's Manual



**Renesas Electronics Corporation**

1753, Shimonumabe, Nakahara-ku, Kawasaki-shi, Kanagawa 211-8668 Japan

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